



Beach Litter Data Collection

'HOW TO' GUIDE FOR CITIZEN SCIENTISTS

OFFICIAL VERSION

1.3

WHY ARE WE DOING THIS?

Litter is no good. Marine litter is particularly nasty. So how do we stop it? The good news is, we have a solution. It's going to take some effort, it's going to mean working together.

With some funding from the good folks at the Ministry for the Environment, and help from some experts at the Department of Conservation and Statistics New Zealand, charity group Sustainable Coastlines is managing the design, build and rollout of a national beach litter database. Sounds mighty fine, right?

Well it is: Data from beach litter surveys will prove the problem, once and for all. We can't fix it until we understand it. With the right information we can all make the right decisions to stop litter.

Citizen Scientist 'Monitoring Groups' (that's you, by the way) are crucial to the success of this project. We're helping groups set up long-term litter 'Monitoring Sites' at more than 108 beaches all over Aotearoa. For the first time, 'Citizen Scientists' like you can submit litter data directly to our government at their highest standard.

The way we collect litter data is simple, but scientific, and we'll help you with that too. Your data will also form part of a national litter

education programme, where students and their teachers will learn about the issue and get involved at their local coastline. Plus, all the results will be freely and openly available to everyone.

In short: Sign-up to be a Citizen Scientist, and with our support, you'll help solve New Zealand's litter problem.

IN COLLABORATION WITH



A BASIC SUMMARY

 **108** Monitoring Sites
AROUND AOTEAROA

 **1** Litter Survey Area
PER 'MONITORING SITE'

 **100** Metres long
SURVEY LENGTH ALONG BEACH

 **20** Metres wide
SURVEY WIDTH

 **102** Litter categories
COUNT & WEIGHT PER CATEGORY

 **4** Times per year
MONITORING FREQUENCY

EQUIPMENT

To complete your litter survey and data collection activity in a safe and scientifically rigorous fashion, you'll need the following equipment. Wherever possible Sustainable Coastlines will supply this equipment, however any lost or broken equipment will need to be replaced by your Citizen Science 'Monitoring Group'.

FOR LITTER SURVEY

- Tape measures 100m and 20m
- Posts x 9 + Mallet
- Fluoro paint for post tops
- Reusable rubbish sacks x 5
- Gloves x 15 pairs

FOR LITTER AUDIT

- Bins + lids (for sorting litter)
- Large bag with handles (for sorting and weighing)
- 2 litre 'Ice cream' square containers (for sorting)
- Digital scales (kitchen + hook type)
- 5mm sieve
- Heavy duty tarpaulin
- Clipboard, pencils, eraser, markers, pencil case

SAFETY EQUIPMENT

- First Aid Kit
- Hi viz vests x 10
- Safety glasses x 1
- Hand sanitiser
- Eye wash kit
- Sharps bin
- Sunscreen 1L
- Back pack (for carrying safety gear)

For remote locations we may supply additional safety gear

HEALTH & SAFETY

Cleaning-up the beach and collecting litter data is fun, and is generally a relatively safe activity. There are, however, several risks to be aware of that can easily be eliminated, isolated or minimised through good planning. All official Litter Surveys as part of this project need to have a Health & Safety Plan. Your Sustainable Coastlines rep will help you complete a **Health & Safety Plan** specific to your Monitoring Site. Please familiarise yourself with this before beginning any activity so that you are well prepared.



CHOOSE YOUR MONITORING SITE

Your Sustainable Coastlines rep will work with you to choose the best beach area for long-term monitoring. This is your 'Monitoring Site'.

Sustainable Coastlines will also help you complete the necessary Health & Safety Plan for working safely at your site.



SET-UP YOUR SURVEY AREA

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

Start at the most apparent high tide mark. From your start point, measure 100 metres along the beach to your end point.¹

Measure 10 metres either side of the start and end points, and set up flags to mark the corners of this area.² This 100 by 20 metre space is your 'Survey Area'.

Your 'Citizen Scientists' will only need to pick-up litter from this area for now (they can clean-up the rest of the beach afterwards!).



COMPLETE YOUR LITTER SURVEY

Brief your 'Citizen Scientists' on Health & Safety and how to complete the survey. Provide clean-up equipment. Where possible, complete your survey at low tide. This should take 30 mins - 2 hours.

Collect all visible litter from the beach. Items under 5mm can be collected, but this can be too time consuming.

If you find **less than 10 items**, extend the area length by 100m & continue to survey. Extend the length again if needed.

Leave behind all dangerous, large and organic litter.



AUDIT YOUR LITTER

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

Sort all litter from the survey area into the categories provided. If items under 5mm have been collected, use the sieve to separate these so that they aren't counted or weighed.

Group items from each category in one of your sorting bins. Count the items and take the total weight of all items in the category.



RECORD YOUR RESULTS

Make sure you record the item count, weight (grams) and confidence level for both these on the **Litter Data** form provided.

Include visual assessment grades (A-D) for the beach and for plastic resin pellets.

Also remember to complete the site specific information on the **Site Details** form provided. These details can change over time, so it's important to complete this for each survey.



REPEAT FOUR TIMES A YEAR

So that we can get long-term data on the litter problem, it is important that the survey is repeated every 3 months.

Make sure you follow steps 1 to 4 each time, and complete the survey in exactly the same place each time so we can compare data!

1. If your 'Survey Area' will take over two hours to complete, reduce length to 50 or 20 metres, whichever is the greatest you can achieve during that time limit.
2. If beach is less than 20m wide, record the width of beach that you can safely access and set-up flags for your survey area accordingly.