SWAP Marine Litter Training – Fiji

Sustainable Coastlines – May 2023

Activity report

Sustainable, transformative, and resilient for a Blue Pacific

SPREP PROE

SWAP MARINE LITTER TRAINING – FIJI

ACTIVITY REPORT

SUSTAINABLE COASTLINES

MAY 2023

Contents

I. Introduction

Since 2018, Sustainable Coastlines has been delivering a long-term citizen science programme in New Zealand to collect open-access scientific data on marine litter and use it to turn insights into action. The Litter Intelligence Programme, New Zealand's first national litter database, was designed in close collaboration with Statistics New Zealand (StatsNZ) and the Department of Conservation (DoC) to help build a better understanding of the litter problem - because ultimately, we cannot understand what we do not measure.

As part of the "Committing to Sustainable Waste Actions in the Pacific (SWAP)" project, that aims to improve sanitation, environmental, social, and economic conditions in Pacific Island countries and territories through proper waste management, Sustainable Coastlines and its Litter Intelligence Programme is delivering a Pilot Manine Litter Project in five pacific island countries: Fiji, Samoa, Solomon Islands, Tonga, and Vanuatu with the objective to strengthen communities and local authorities' capacity around Marine Litter. In particular, to deliver training and workshops to monitor the evolution of Marine Litter pollution and produce awareness materials to inform and educate on the issue of Marine Litter.

Sustainable Coastlines is providing in person training for communities and associations involved in the implementation of the SWAP Marine Litter Pilot Projects, to enable them to conduct statistically sound beach litter surveys and audits during clean-up activities, and to enable them to record this data using the Litter Intelligence online application for Marine Litter data sharing. The training is being delivered through workshops that provide training on methodology and the use of the online data collection application for recording beach litter data. Additionally, Sustainable Coastlines is working on producing awareness and training materials to inform and educate associations and communities on the issue of Marine Litter involved in the SWAP Marine Litter Pilot Project in Fiji, Samoa, Solomon Islands, Tonga and Vanuatu.

This is the second report about the delivery work done in the field as part of the SWAP Marine Litter Pilot Project. In Suva, FIji, Sustainable Coastlines delivered one engagement day, 2 in person training workshops and 2 litter surveys and audits activities. The report outlines the activities and community groups in Suva that took part in the training workshops and the beach litter surveys and data collected. This report includes the training material delivered, and photos of the field work.

II. Training Day 1 – USP Foreshore, Fiji

2.1. Agenda

MARINE LITTER TRAINING Tuesday 02 May 2023 Location: USP Campus and USP Foreshore beach, Suva, Fiji		
Time (Fiji Time)	**Topic**	**Resource Person**
9:00 am – 10:00am	Welcome and registrations, meeting with Pacific Ocean Litter Youth group (POLYP) at the University	Mrs Julie Pillet SPREP, SWAP Project Coordinator Mrs Memoree Imo SPREP, SWAP Assistant Mr Ben Knight and Miss Caitlyn Prince Sustainable Coastlines
10:00am – 11:30am	Litter Intelligence Training with POLYP Youth	Ben Knight, Sustainable Coastlines
12.00am – 12.30pm	Survey at USP Foreshore with POLYP Youth	Ben Knight, Sustainable Coastlines Caitlyn Prince, Sustainable Coastlines
12.30 pm - 1.30 pm	Audit at USP Foreshore with POLYP Youth	Ben Knight, Sustainable Coastlines Caitlyn Prince, Sustainable Coastlines

2.2. Attendees

13 participants from Pacific Ocean Litter Youth Group along with attended the Marine Litter Training delivered at USP, Suva Fiji on Tuesday 02 May 2023 and the launch of the Fiji Litter Pilot Project developed under the Committing to Sustainable Waste Actions in the Pacific (SWAP) Project. The training and launch of the Litter Pilot Project were delivered by Julie Pillet, Ben Knight and Caitlyn Prince. The registration form of attendees from the community is shown in appendix 1.

Pacific Ocean Litter Youth Group Training Day 1 at USP Campus

2.3. Activities

The Marine Litter Training with the Pacific Ocean Litter Youth Group on how to conduct a marine litter survey and audit. The activities conducted during this day were:

1) Presentation of the Marine Litter Problem;
2) Introduction to the training. The PPT Presentation used for this introduction is attached to this report in Appendix 2;
3) Analysis of the beach selected for the Marine Litter Pilot Project;
4) Setting up of the litter audit and survey area;
5) Collecting litter from the litter survey area;
6) Litter audit.

These activities are illustrated below:

<table>
<tr><th>Presentation on the Marine Litter Problem</th><th>Analysis of the beach selected for the Marine Litter Pilot Project</th></tr>
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<tr><th colspan="2">Setting up of the litter audit and survey area</th></tr>
<tr><td>  </td><td>  </td></tr>
</table>

Collecting litter from the survey area	
	
Litter audit	
	

2.4. Results, USP Foreshore, Suva, Fiji

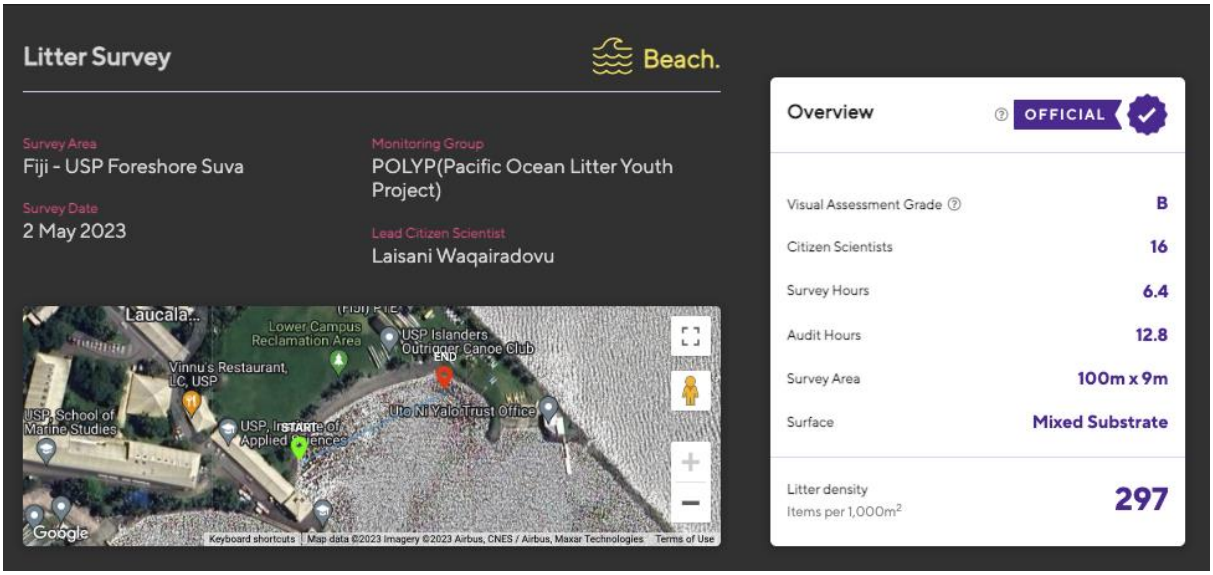
Litter survey data can be accessed through the following link:
https://litterintelligence.org/data/survey?id=2361

Survey Area: 100m x 9m surveyed.

Rubbish Volume collected: 125 Litres.

Rubbish Weight collected: 41.20 Kilograms.

Litter density of the site: 297 Items per 1,000m^2.



III. Day 2 – Public engagement and presentation at USP

3.1. Agenda

MARINE LITTER TRAINING Wednesday 03 May 2023 Location: USP Campus		
Time (Fiji Time)	**Topic**	**Resource Person**
9:30am – 10:00am	Pilot projects discussion	Mrs Julie Pillet SPREP, SWAP Project Coordinator Mr Ben Knight and Miss Caitlyn Prince Sustainable Coastlines
11:30am – 12:30pm	POLYP Planning Session to discuss / conform the methodology to be used in line with the other SWAP Marine Litter Pilot Projects	Pacific Ocean Litter Youth Project (POLYP) - USP & Suva Harbour Foundation - Suzanne Turaganiwai SPREP, SWAP - Julie Pillet and Memoree Imo Sustainable Coastlines - Ben Knight
1:00pm – 3:00pm	Public engagement and presentation at USP including the activities detailed below	Mrs Julie Pillet SPREP, SWAP Project Coordinator Sustainable Coastlines Ben Knight, Sustainable Coastlines
15-minute	Presentation of the Marine Litter SWAP Project and the regional activities	Mrs Julie Pillet SPREP, SWAP Project Coordinator
5-minutes	Awareness Video on Marine Litter	Mrs Julie Pillet SPREP, SWAP Project Coordinator
20-minute	Presentation of Sustainable Coastlines and the Litter Intelligence Programme	Miss Caitlyn Prince Sustainable Coastlines
20-minutep	Presentation from USP of the Fiji Coastal Litter Pilot Project	Mr Andrew Paris & Mrs Suzanne Turaganiwai USP, OSPAR, Pacific Ocean Litter Youth Project (POLYP) - USP & Suva Harbour Foundation
30-minute	Q/A	All participants

3.2. Artwork Exhibition

For awareness purposes, POLYP produced artworks with the litter collected during their clean-up activities. Below are some pieces of their artworks.


Crab


DAMN... I HATE MICRO PLASTICS.


MY FISH
IS YOUR FISH

IV. Training Day 3 – Suva Point Beach, Suva, Fiji.

4.1. Agenda

MARINE LITTER TRAINING Thursday 4th May 2023 Location: Suva Point Beach, Suva, Fiji		
Time (Fiji Time)	**Topic**	**Resource Person**
10:00 am - 11.00am	Litter Intelligence Training with the Harbour Foundation, Uto Ni Yalo Trust, Wantok Moana, University of the South Pacific, Pacific Blue Foundation / iTaukei Women in Conservation	Mr. Ben Knight & Miss Caitlyn Prince Sustainable Coastlines
11:00am - 1:00pm	Litter Intelligence Survey and Audit in Suva Point	Mr. Ben Knight & Miss Caitlyn Prince Sustainable Coastlines
1:00pm - 2:00pm	Lunch – discuss and network	SWAP Project
2:00pm - 2.30pm	Litter Intelligence Data submission and reflexion Discussion of next steps	Mr. Ben Knight & Miss Caitlyn Prince Sustainable Coastlines

4.2. Attendees

A total of 7 participants attended the Marine Litter Training delivered in Suva Point Beach, Suva, Fiji on Thursday 04 of May 2023 and the launch of the Fiji Marine Litter Pilot Project developed under the Committing to Sustainable Waste Actions in the Pacific (SWAP) Project. The registration form of attendees from the community is shown in appendix 1.

The workshop was delivered by Sustainable Coastlines (Ben Knight and Josh Borthwick). Attendee groups were: Harbour Foundation, Uto Ni Yalo Trust, Wantok Moana, University of the South Pacific, Pacific Blue Foundation / iTaukei Women in Conservation and the Secretariat for the Pacific Regional Environment Programme (SPREP) as detailed in appendix 3.

Participants to the Training Day 2 delivered in Suva Point Beach

4.3. Activities

The marine litter training in Suva Point on how to conduct a marine litter survey and audit. The activities conducted during this day were:

1) Presentation of the Marine Litter Problem;
2) Introduction to the training. The PPT Presentation used for this introduction is attached to this report in Appendix 2;
3) Analysis of the beach selected for the Marine Litter Pilot Project;
4) Setting up of the litter audit and survey area;
5) Collecting litter from the survey area;
6) Litter audit.

These activities are illustrated below:

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<tr><td colspan="2">Picking up of litter from the survey area</td></tr>
<tr><td>  </td><td>  </td></tr>
</table>

Litter audit	
	

4.4. Results Suva Point Beach, Suva, Fiji

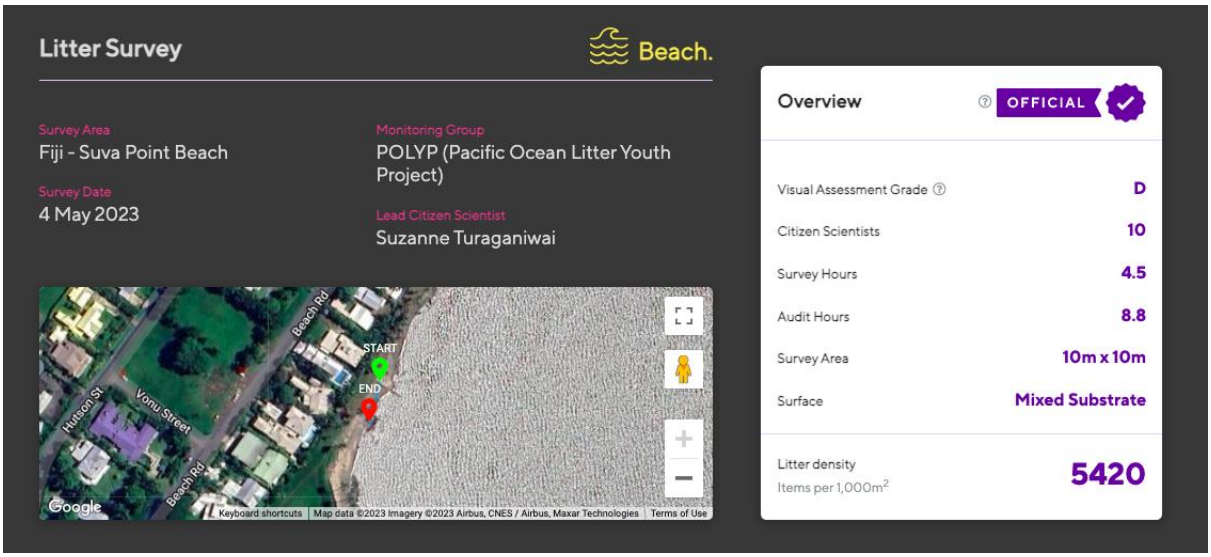
Litter survey data can be accessed through the following link:
https://litterintelligence.org/data/survey?id=2365

Survey Area: 10m x 10m surveyed.

Rubbish Volume collected: 150 Litres.

Rubbish Weight collected: 43.56 Kilograms.

Litter density of the site: 5,420 Items per 1,000m^2.



V. Day 4 – Visit to Pacific Harbour

5.1. Agenda

Visit to Pacific Harbour Friday 05 May 2023 Location: Suva, Fiji		
Time (Fiji Time)	**Topic**	**Resource Person**
9:00am - 11:00am	Sustainable Coastlines and USP visits Pacific Harbour - CANCELLED	This activity was cancelled due to a participant getting COVID for the safety of all participants

VI. De-briefing meeting

A de-briefing meeting was arranged online (video conference) on Wednesday the 17th May, 2023 from 9am to 10am, with Mrs Julie Pillet from WMPC, SWAP Project Coordinator, Mrs Memoree Imo, SPREP, SWAP Project, Mrs. Suzanne Turaganiwai from Pacific Ocean Litter Youth Project (POLYP) - USP & Suva Harbour Foundation, and Mr. Ben Knight & Miss Caytlin Prince from Sustainable Coastlines.

This meeting was to discuss: Highlights & successes (What worked?) and improvement opportunities (What held us back/didn't work?). A photo of the MIRO board used in the debriefing is available in appendix 3.

The main highlights and successes are:

- Good organisation and delivery of the trainings
- Good volunteer engagement, participants were keen to receive logins and enjoyed the training
- Two leads submitted their first survey
- Su and Andrew facilitated the participation of great attendees and shared data collection of previous years.

The main improvement opportunities, and what held us back:

- Wrong email addresses provided prevented people from getting their logins on time - Run Salesforce Registration for all trainings
- Doing plastic free catering was challenging
- One of the training sites was heavy littered thus survey area has to be reduced - ensuring site visits prior to survey sites where possible will help to plan
- Completion certificates were not handed out
- A whole week of training for participants can be too tiring - ensure that breaks during theory and 1min wake up activities are always included
- Low attendance to the second training, a potential opportunity to invite others to join
- Projector cable not working, venue wifi and internet issues - Ensure equipment cables, location wifi and settings are working for the delivery of the trainings

- App issues uploading the photos on the first survey - Inform Sustainable Coastlines about the photo issues to find a cause and fix
- Venue was a challenge due to rain and fans
- Ben got Covid which meant the last day activity couldn't go ahead for the safety of all participants - Prevention strategies: Bring RAT Covid test and watchout for symptoms, ensure Covid safe protocols are always followed.

Next steps:

- Check with the community groups, litter disposal plan
- Send Janice Taga a login
- Confirm that Kit is to be left in Vanuatu
- Bring RAT Covid tests for future trainings
- Ben to send app bug report for investigation to SC team
- Double check baggage number and weight allowance
- Trial a more field based approach to the theory when/if venue not suitable
- Ben to send Kit inventory list to Suzzane
- SC staff to bring completion certificates to be handed out in person

Appendices

- Appendix 1: Registration Form – Day 1 – USP Foreshore, Suva, Fiji
- Appendix 2: PPT Presentations
- Appendix 3: Registration Form – Day 2 – Fiji - Suva Point Beach - Suva, Fiji King Solomon Hotel, Honiara, Guadalcanal
- Appendix 4: Debrief Miro Board

Appendix 1: Registration Form – Day 1, USP Foreshore, Suva, Fiji

Name	Organisation	Email	Phone Contact
Waisiki Sevakarua	USP	676icebreaker@gmail.com	(679) 8646791
Savaira Rayawa	USP - POLYP	savairarayawa12@gmail.com	(679) 2911075
Merelesita Fong	USP - POLYP	merelesitaafong@gmail.com	(679) 8792668
Ana Fung	USP - POLYP	anafung000@gmail.com	(679) 7827758
Ollie Zoti	USP - POLYP	rakena2017@gmail.com	(679) 7825162
Ratu Anare Davetanawalu	USP - POLYP	manadaveta3.0@gmail.com	(679) 7338286
Andrew Paris	WAITT Institute	andrew.w.paris@gmail.com	(679) 8335274
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Ruci Colata	USP - POLYP	rucicolata85@gmail.com	(679) 7508801
Sophia Ravai	USP - POLYP	sophia05tehillah@gmail.com	(679) 7223973
Masilina Koloba	USP - POLYP	klbms27@gmail.com	(679) 9771349
Laisani Waqairadovu	USP - POLYP	saniwaqa97@gmail.com	(679) 7675638
Suzanne Turaganiwai	USP - POLYP	turaganiwaisuzanne@gmail.com	(679) 5000995
Julie Pilet	SPREP	juliep@sprep.org	(685) 21929
Memoree Imo	SPREP	memoreei@sprep.org	(685) 21929

Appendix 2: PPT Presentations

1. Lead Citizen Scientist Training Workshop Slides 2023 SWAP pilot.pptx

2. LI intro presentation for SWAP Pilot 2023.pptx

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Citizen Scientist Training Workshop

OFFICIAL VERSION 2.0

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Today’s agenda

1. **Welcome & Introductions** – 20 min
2. **Programme Background** – 10 min
3. **Equipment Overview** – 10 min
4. **Conducting Your Litter Survey** – 15 min
5. **Working Offline** – 10 min
6. **Health & Safety** – 10 min
7. **Hazardous Waste** – 10 min
8. **Conducting Your Litter Audit** – 10 min
9. **Review & Submit** – 10 min
10. **Questions & Discussion** – 15 min

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Welcome & Introductions

Get to know everyone. Your name, organisation, and what motivates you to be here?

Insert 3-4 relevant photos that help to introduce yourself to your workshop participants

Insert monitoring group logo here

Programme Background

Get to know Sustainable Coastlines and the Litter Intelligence programme.

About Sustainable Coastlines

PURPOSE

REDUCING OCEAN LITTER TOGETHER

IMPACT

60% LESS COASTAL LITTER BY 2030

Approach

WE INSPIRE CHANGE IN MINDSETS, BEHAVIOUR, POLICIES AND PRACTICES, THROUGH COMMUNITY ENGAGEMENT & CITIZEN SCIENCE

REFERENCE

Sustainable Coastlines > Our Impacts
sustainablecoastlines.org/about/our-impacts/

10th

MOST WASTEFUL COUNTRY

URBAN WASTE PRODUCTION PER CAPITA

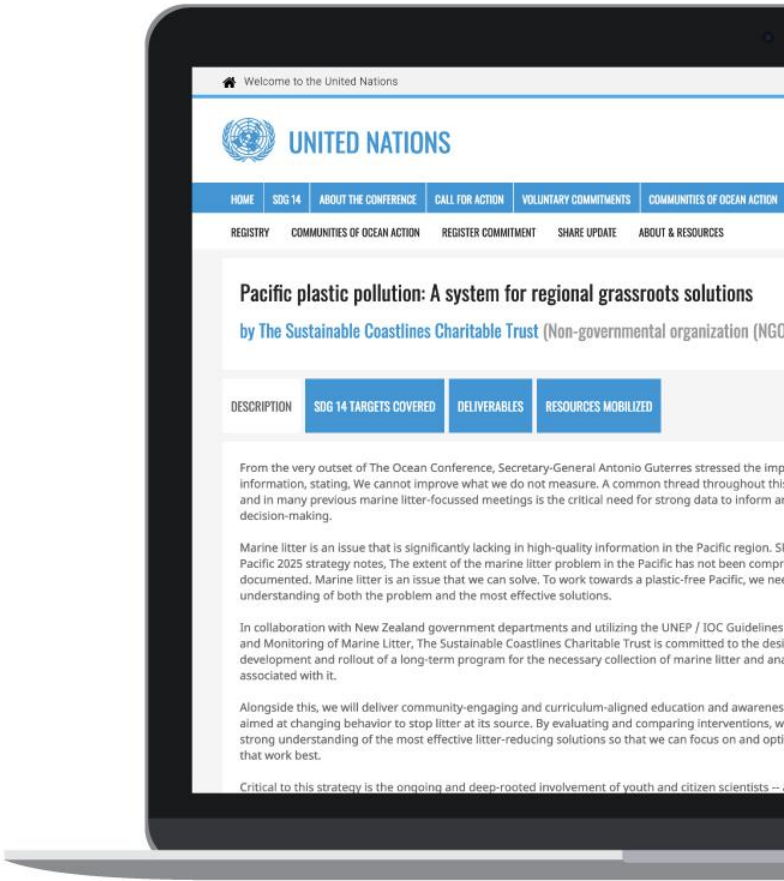
REFERENCE

World Bank “What a Waste 2.0” Report, 2018

We know litter is a problem. Why measure it?

“We cannot improve what we do not measure”

ANTÓNIO GUTERRES, UN SECRETARY GENERAL
THE OCEAN CONFERENCE, NEW YORK, JUNE 2017

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PROGRAMME PURPOSE
Inspire and inform better decisions for a world without litter.

Government partners

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Ministry for the Environment
Manatū Mō Te Taiao

Three-year fund for programme design, development and rollout.

Environmental reporting.

Stats NZ
Tatauranga Aotearoa

Co-design of data quality assurance and controls.

Environmental reporting.

Department of Conservation
Te Papa Atawhai

Co-design of localised adapation to UNEP/IOC methodology.

Peer review of changes / adaptations to methodology.

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Programme Overview

OBJECTIVE #1

Understand the problem

Design & build national litter database

Train & support Citizen Scientists to collect data

Litter data made widely accessible

Data findings inform better decision-making

Data informs more targeted education

Data proves effectiveness of education

OBJECTIVE #2

Optimise solutions

Design & build litter education for curriculum

Train & support Educators to deliver education

Litter education taught throughout school system

Behaviour change reduces litter problem

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Success Stories

OCT 2019 — NOV 2019 — NOV 2020 — JUNE 2021

"The data set that is being provided by Sustainable Coastlines is a huge advantage to the Ministry for the Environment as a public policy tool, as it shows the areas that are most problematic and highlights to us the things that can be fixed."

HON DAVID PARKER
MINISTER FOR THE ENVIRONMENT

Litter Intelligence.
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Our Promise To You

OPEN & FREE ACCESS
TO ALL DATA, FOREVER

IMMEDIATE ACCESS
TO YOUR DATA

SCIENTIFICALLY RIGOROUS
BUT ALWAYS EASY TO USE

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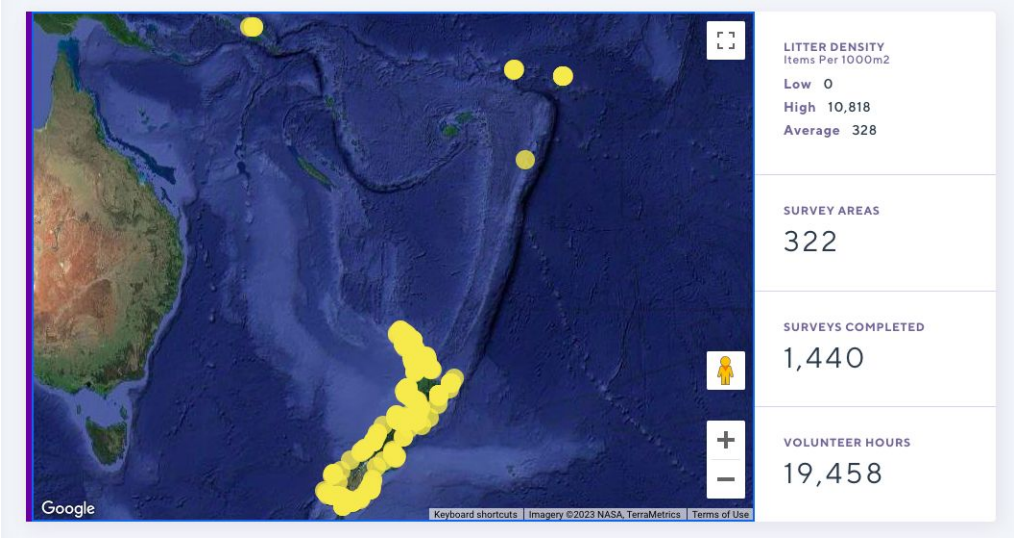
Interactive Exercise # 1

Visit the Insights page of the Litter Intelligence website. Find:

- The nearest survey area to where you live?
- The most common litter item across all countries and surveys?

insights.litterintelligence.org



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Equipment Overview

Become familiar with the equipment which makes up the Litter Intelligence kit.

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Health & Safety equipment

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Survey equipment

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Audit equipment

Litter Intelligence.
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Data sheets

Litter Intelligence.
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Litter Categories

FOR REFERENCE DURING AUDIT

OFFICIAL VERSION 3.0

How to use this

After your litter survey, take your rubbish to a safe and sheltered location to audit. Categorise your litter according to the categories below, copying the appropriate fields over to your **Audit Data** sheet and recording the count and weight as you go.

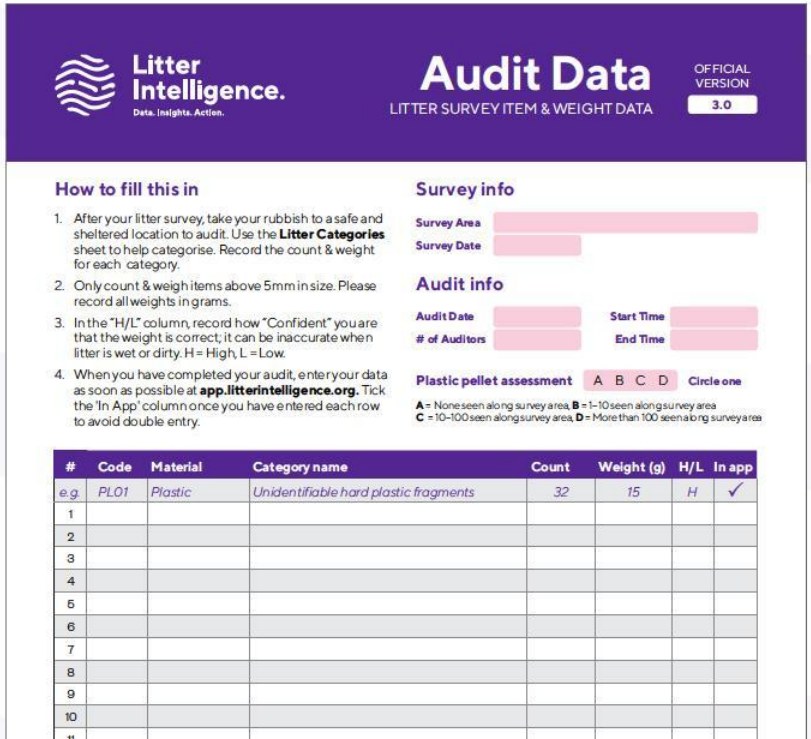
Health & Safety

Important instructions for some litter categories. Look for the icons below in the **H&S** column and follow instructions during your audit.

Biohazard: Only count item, do not weigh. Only trained leaders to touch.

Take extra caution. Only adults to touch.

Code	Plastic	H&S	Notes & Examples
PL24.14	Bacterial habitat wheels		
PL13	Baskets, crates & trays		Includes fish bins
PL01	Bottle caps & lids		Toothpaste caps, nozzles, tops
PL01.01	Bottle neck rings		Milk bottle rings
PL01.02	Bottle seals & tabs		
PL02	Bottles <=2 L		
PL03	Bottles, drums, jerrycans & buckets > 2 L		
PL24.06	Cable ties & zip ties		
PL10	Cigarette lighters		Vapes, vaping devices
PL11	Cigarettes, butts & filters		Butts, filters
PL24.03	Clothes pegs		
PL12.1	Cosmetics and medical packaging		Inhalers, cosmetics, pill packets, condom wrappers, chapstick. Excludes syringes
PL05	Drink package rings		Six-pack rings, ring carriers
PL22	Fibreglass fragments		
PL17	Fishing gear		Plastic lures, traps & pots, glow sticks, knife handles, snifters, burley pots, berley pots, light sticks, cyalume sticks
PL18	Fishing line		Monofilament line & braid
PL20	Fishing net		



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Audit Data

LITTER SURVEY ITEM & WEIGHT DATA

OFFICIAL VERSION 3.0

How to fill this in

1. After your litter survey, take your rubbish to a safe and sheltered location to audit. Use the **Litter Categories** sheet to help categorise. Record the count & weight for each category.
2. Only count & weigh items above 5mm in size. Please record all weights in grams.
3. In the "H/L" column, record how "Confident" you are that the weight is correct; it can be inaccurate when litter is wet or dirty. H = High, L = Low.
4. When you have completed your audit, enter your data as soon as possible at **app.litterintelligence.org.** Tick the 'In App' column once you have entered each row to avoid double entry.

Survey info

Survey Area

Survey Date

Audit info

Audit Date

Start Time

# of Auditors

End Time

Plastic pellet assessment A B C D Circle one

A = None seen along survey area, **B** = 1–10 seen along survey area
C = 10–100 seen along survey area, **D** = More than 100 seen along survey area

#	Code	Material	Category name	Count	Weight (g)	H/L	In app
e.g.	*PL01*	*Plastic*	*Unidentifiable hard plastic fragments*	*32*	*15*	*H*	✓
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

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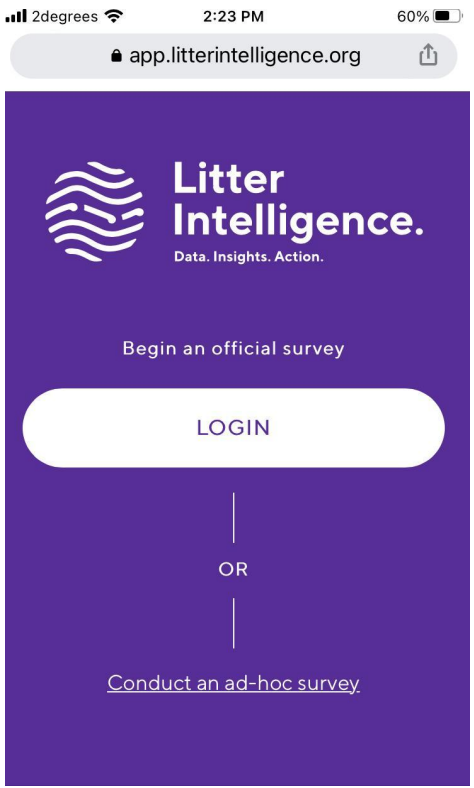
Interactive Exercise # 2

Open your web browser on your phone or computer and go to app.litterintelligence.org and bookmark this web address.



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How to Conduct Your Litter Survey

Set up and conduct a litter survey on their chosen beach through the data entry app for a new or existing survey area.

www.litterintelligence.org

The monitoring process

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Set-up survey area

1

2

Survey & remove litter

Repeat four times/year

3

Audit litter

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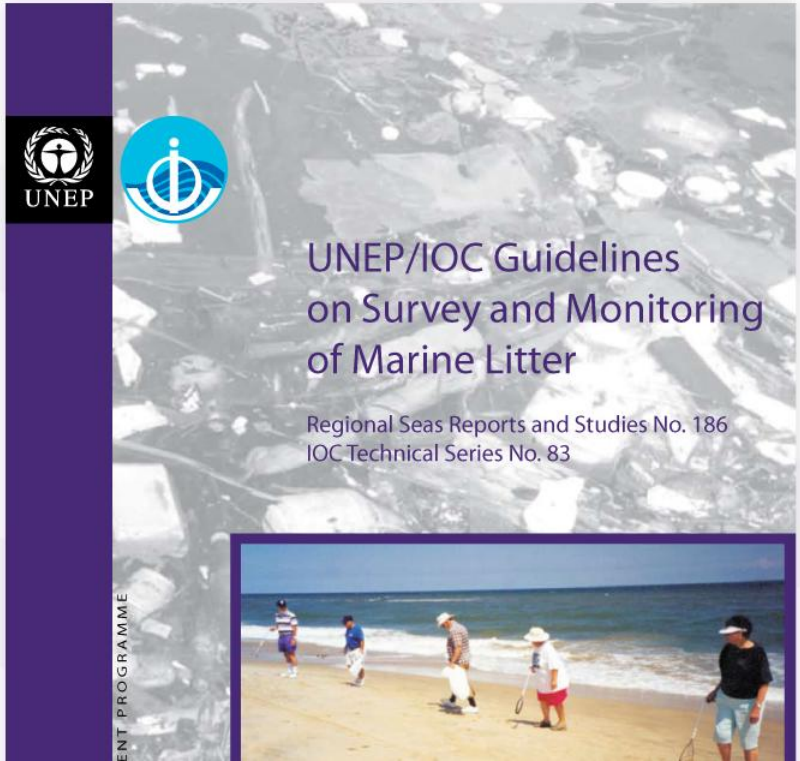
The methodology

Localised adaptation of the **United Nations Environment Program / Intergovernmental Oceanographic Commission** Guidelines on Survey and Monitoring of Marine Litter.

- Measures **litter flux**
- Global comparability
- Reporting on SDGs
- Rigorous, high quality data
- Great for citizen science



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What are we monitoring?

Litter flux
How fast is litter accumulating at your survey area?

Litter composition
What materials and products is the litter at your survey area comprised of?

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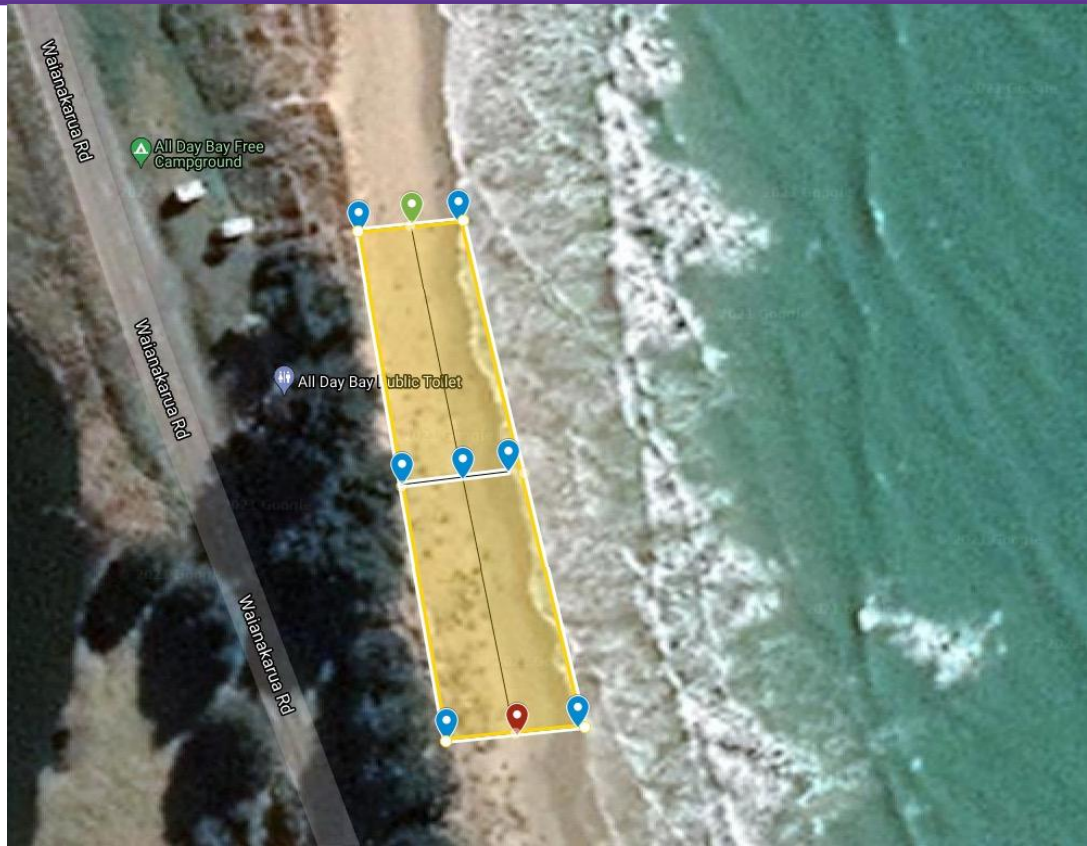
Survey area set up

Survey Area:

- 100 metres long
- 20 metres wide, maximum
- Start point is centered in aggregation zone
- Record start and end point GPS coordinates (Green & Red pins)



Litter Intelligence.
Data. Insights. Action.

Identify litter aggregation zone

Litter Intelligence.
Data. Insights. Action.

Mark start point of survey

Litter Intelligence.
Data. Insights. Action.

Measure 10m above and below

Litter Intelligence.
Data. Insights. Action.

Measure out the survey area

Litter Intelligence.
Data. Insights. Action.

Mark out at 50m and 100m

Litter Intelligence.
Data. Insights. Action.

Take three photos

Litter Intelligence.
Data. Insights. Action.

Photo 1: along the survey area

Litter Intelligence.
Data. Insights. Action.

Photo 2: towards the water

Litter Intelligence.
Data. Insights. Action.

Photo 3: towards the beach head

Litter Intelligence.
Data. Insights. Action.

Beach visual assessments

A No litter present

B Predominantly free with some minor instances

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Plastic resin plastics

Plastic resin pellets shown here for size.

Example of a site with a Grade D rating.

- **A** **None present:** No pellets seen along the survey area.
- **B** **Predominantly free:** 1–10 pellets seen along the survey area.
- **C** **Widespread:** 10–100 pellets seen along the survey area.
- **D** **Heavily affected:** More than 100 pellets seen along the survey area.

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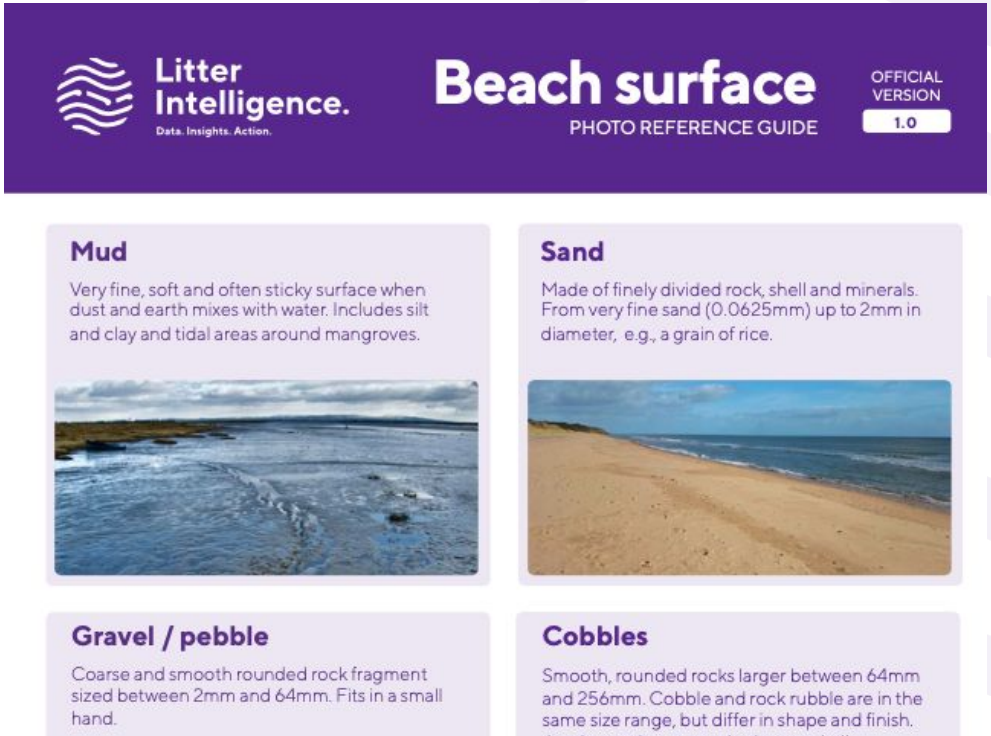
Beach Surface

Print and bring along to your survey to help categorise the beach surface.



Litter Intelligence.
Data. Insights. Action.

Record suvey area details

Litter Intelligence.
Data. Insights. Action.

Survey set-up complete

Litter Intelligence.
Data. Insights. Action.

Have surveyors form into a muster line

Litter Intelligence.
Data. Insights. Action.

Complete two full sweeps of the beach

Litter Intelligence.
Data. Insights. Action.

Record presence of large & dangerous items

Litter Intelligence.
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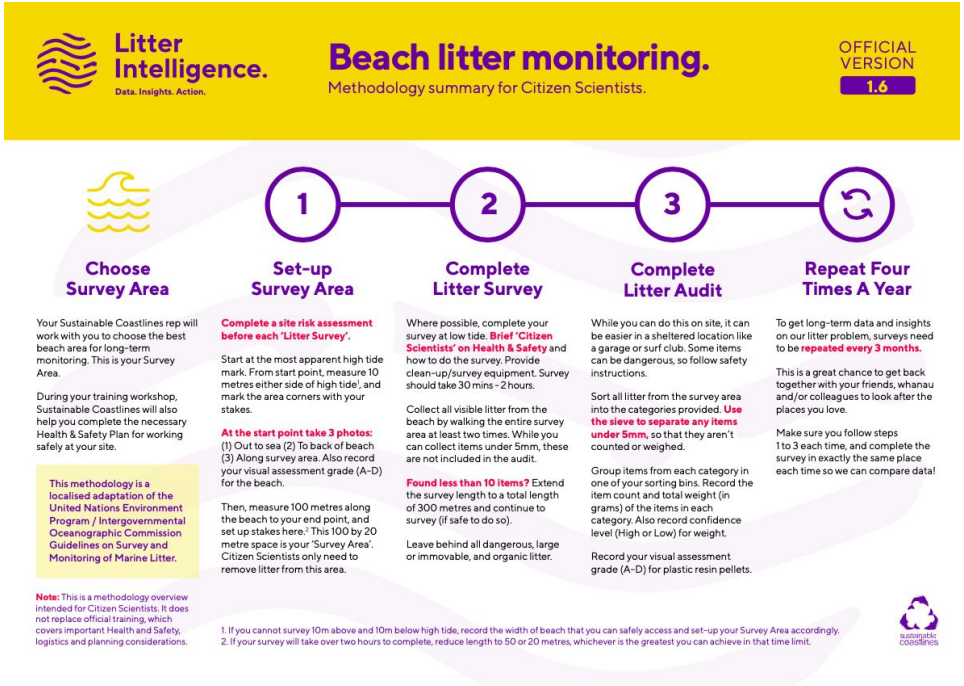
Interactive Exercise # 3

- Visit the Litter Intelligence website and find the beach survey methodology summary.
- Remember to print and bring a copy of this document along to your survey as a reminder.

www.litterintelligence.org/about/beach-monitoring/



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Beach litter monitoring.
Methodology summary for Citizen Scientists.

OFFICIAL VERSION 1.6

Choose Survey Area

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

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

This methodology is a localised adaptation of the United Nations Environment Program / Intergovernmental Oceanographic Commission Guidelines on Survey and Monitoring of Marine Litter.

1 Set-up Survey Area

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

Start at the most apparent high tide mark. From start point, measure 10 metres either side of high tide[1], and mark the area corners with your stakes.

At the start point take 3 photos: (1) Out to sea (2) To back of beach (3) Along survey area. Also record your visual assessment grade (A-D) for the beach.

Then, measure 100 metres along the beach to your end point, and set up stakes here.[2] This 100 by 20 metre space is your 'Survey Area'. Citizen Scientists only need to remove litter from this area.

2 Complete Litter Survey

Where possible, complete your survey at low tide. **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 beach by walking the entire survey area at least two times. While you can collect items under 5mm, these are not included in the audit.

Found less than 10 items? Extend the survey length to a total length of 300 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 surf club. 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 need to be **repeated 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!

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. If you cannot survey 10m above and 10m below high tide, record the width of beach that you can safely access and set-up your Survey Area accordingly.
2. If your survey will take over two hours to complete, reduce length to 50 or 20 metres, whichever is the greatest you can achieve in that time limit.

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Working Offline

Become familiar with the process of working in remote areas without mobile reception.

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Using your handheld GPS

We have shipped handheld GPS units to each group

- They are all set up and ready for you to use
- Use the handheld GPS to record the start and end point coordinates for any new survey areas
- Use the handheld GPS to locate the start and end point for existing survey areas

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Using your handheld GPS

Most handheld GPS units work in a similar way. For the eTrex you can:

- Access the main menu using button 4
- Toggle between menu options using the toggle (3)
- It's recommended to read the user manual and have a go at navigating the functions prior to your survey

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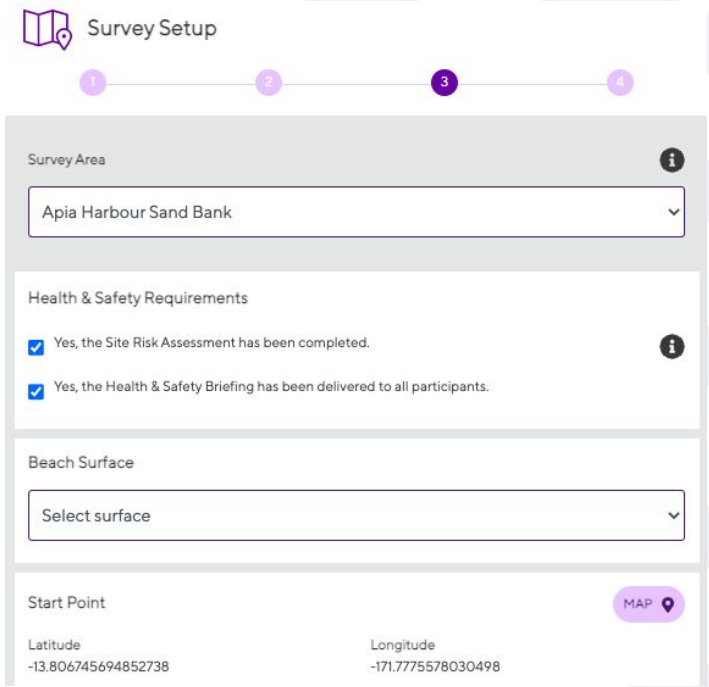
Survey area coordinates

If you are planning to survey an existing survey area:

- You can find the GPS coordinates for an existing survey area in the web app.
- Enter these coordinates into the handheld GPS as a new ‘waypoint’ using the ‘Waypoint Manager’ menu.
- Use the handheld GPS to navigate to the start and end point for the existing survey areas.



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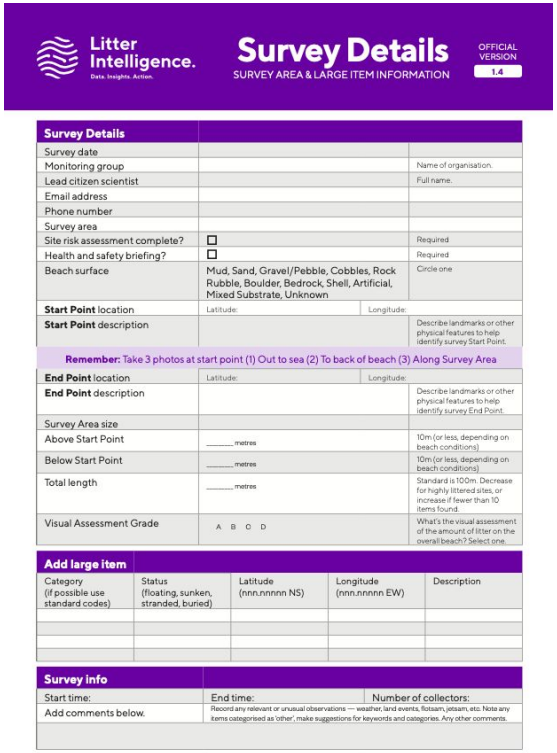
Recording your survey data

- Use the “Survey Area and Large Items” data sheet to record your survey data manually at the beach
- Enter the survey data into the web app when you are back in wifi or mobile data coverage
- Your data can be entered into the webapp using a mobile device or desktop computer once you are back in wifi or mobile data coverage



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Survey Details
SURVEY AREA & LARGE ITEM INFORMATION

OFFICIAL VERSION 1.4

Survey Details			
Survey date			
Monitoring group			Name of organisation.
Lead citizen scientist			Full name.
Email address			
Phone number			
Survey area			
Site risk assessment complete?	☐		Required
Health and safety briefing?	☐		Required
Beach surface	Mud, Sand, Gravel/Pebble, Cobbles, Rock Rubble, Boulder, Bedrock, Shell, Artificial, Mixed Substrate, Unknown		Circle one
Start Point location	Latitude:	Longitude:	
Start Point description			Describe landmarks or other physical features to help identify survey Start Point.

Remember: Take 3 photos at start point (1) Out to sea (2) To back of beach (3) Along Survey Area

End Point location	Latitude:	Longitude:	
End Point description			Describe landmarks or other physical features to help identify survey End Point.
Survey Area size			
Above Start Point	_____ metres		10m (or less, depending on beach conditions)
Below Start Point	_____ metres		10m (or less, depending on beach conditions)
Total length	_____ metres		Standard is 100m. Decrease for highly littered sites, or increase if fewer than 10 items found.
Visual Assessment Grade	A B C D		What's the visual assessment of the amount of litter on the overall beach? Select one.

Add large item

Category (if possible use standard codes)	Status (floating, sunken, stranded, buried)	Latitude (nnn.nnnnn NS)	Longitude (nnn.nnnnn EW)	Description

Survey info		
Start time:	End time:	Number of collectors:
Add comments below.	Record any relevant or unusual observations — weather, land events, flotsam, jetsam, etc. Note any items categorised as 'other', make suggestions for keywords and categories. Any other comments.	

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Health & Safety

Understand the processes & procedures to conduct a litter survey and audit safely.

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How to assess risk

Risk Assessment Matrix – Rate as Very Low, Low, Moderate, High or Critical

	Very unlikely to happen	Unlikely to happen	Possibly could happen	Likely to happen	Very likely to happen
Catastrophic (Fatal)	Moderate	Moderate	High	Critical	Critical
Major (Disability)	Low	Moderate	Moderate	High	Critical
Moderate (Hospitalization)	Low	Moderate	Moderate	Moderate	High
Minor (First Aid)	Very Low	Low	Moderate	Moderate	Moderate
Superficial (No treatment)	Very Low	Very Low	Low	Low	Moderate

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How to manage risk

How you will control the hazard – E or M

Most Effective	**E – Eliminate**	
	Remove it completely from the event or workspace	**If not reasonably practicable:**
	M - Minimize	
	Substitute the hazard	**Minimize the risk, so far is reasonably practicable, by taking 1 or more of these actions that is the most appropriate**
	Isolate the hazard	
	Use engineering controls	
	Use adaptive controls	**If a risk remains you must minimize remaining risk, as far is reasonably practicable**
Least Effective	**Use personal protective equipment (PPE)**	**If risk remains then minimize using PPE**

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Health and safety briefing

Asbestos **Extreme caution**

Sharps **Extreme caution**

Coastal terrain **Walk with care**

Bee / wasp nests **Keep away**

Nesting birds **Keep away**

Wear proper H&S gear

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Emergency Procedures

- Tsunami
- Earthquake
- First Aid
- Covid safety

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Hazardous Waste

Understand how to safely handle hazardous waste & substances found in your survey.

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Handling sanitary items

Only count item. Do not weigh.

Only trained leaders to touch.

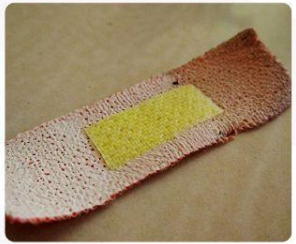
Nappy wipes

Nappy

Toilet paper / tissues

Face masks

Plasters / bandages / sports tape



Condom

Tampon / pads

Tampon applicator

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Asbestos Safety

Do not touch!

Extremely hazardous material.

Exterior cladding

Corrugated roofing, guttering and spouting

Decramastic tiles

Piping

Insulation and lagging

Imitation brick cladding

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Asbestos Safety

WHAT TO DO IF YOU FIND ASBESTOS OR ASBESTOS CONTAINING MATERIALS (ACM)

- **Do not touch it!**
- Notify our staff immediately.
- Take photographs of the item and note its location.
- Notify the local council of its presence using the app Snap, Send, Solve.

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Handling medical sharps

Extreme caution.

High biohazard risk.

Examples of medical sharps.

Watch out for non-obvious sharps like lancets

Wear gloves

Don't put in rubbish or recycling bins.

Don't overfill container

Put it in sharp end first


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Let's go to
the beach!

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Litter Audit

Become familiar with the audit methodology, the **Litter Identification Guide** and common unusual litter items (+ exercise).

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Sort by material then by category

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Data. Insights. Action.

Use sieve to exclude items smaller than 5mm

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Count and weigh items in each category, zeroing the scales each time

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Record on paper and in the app

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Audit Data

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Audit Data

LITTER SURVEY ITEM & WEIGHT DATA

OFFICIAL VERSION 3.0

How to fill this in

1. After your litter survey, take your rubbish to a safe and sheltered location to audit. Use the **Litter Categories** sheet to help categorise. Record the count & weight for each category.
2. Only count & weigh items above 5mm in size. Please record all weights in grams.
3. In the "H/L" column, record how "Confident" you are that the weight is correct; it can be inaccurate when litter is wet or dirty. H = High, L = Low.
4. When you have completed your audit, enter your data as soon as possible at **app.litterintelligence.org.** Tick the 'In App' column once you have entered each row to avoid double entry.

Survey info

Survey Area

Survey Date

Audit info

Audit Date **Start Time**

# of Auditors **End Time**

Plastic pellet assessment A B C D **Circle one**

A = None seen along survey area, **B** = 1–10 seen along survey area
C = 10–100 seen along survey area, **D** = More than 100 seen along survey area

#	Code	Material	Category name	Count	Weight (g)	H/L	In app
e.g.	*PL01*	*Plastic*	*Unidentifiable hard plastic fragments*	*32*	*15*	*H*	✓
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

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Litter Categories

Plastic

Bacterial habitat wheels
Baskets, crates & trays
Bottle caps & lids
Bottle neck rings
Bottle seals & tabs
Bottles <= 2 L
Bottles, drums, jerrycans & buckets
Cable ties & zip ties
Cigarette lighters
Cigarettes, butts & filters
Clothes pegs
Drink package rings
Fibreglass fragments
Fishing gear
Fishing line
Fishing net
Food containers
Food wrappers
Gardening & farming related
Gloves
Hangers & retail packaging
Lollipop sticks
Cosmetics and medical packaging
Mesh bags
Parking tickets & receipts
Pens & Stationery
Plastic bags
Plastic buoys
Plastic sheeting
Plastic utensils
Plastic vehicle parts
Resin pellets
Rope
Safety & construction related
Shotgun wadding & shells
Strapping bands & tape
Straws
Syringes
Toys, Sport, & Recreation
Unidentifiable hard plastic fragments
Unidentifiable soft plastic fragments
Other Plastic (specify)

Foamed Plastic

Ear plugs
Foam buoys
Foam glazier spacers
Foam sponge
Polystyrene cups or food packs
Polystyrene insulation or packaging
Toys, Sport, & Recreation
Unidentifiable foamed plastic fragments
Other Foamed Plastic (specify)

Fabric & Textiles

Backpacks & bags
Canvas, sailcloth & sacking (hessian)
Carpet & furnishing
Clothing, towels and linen
Footwear & shoes
Rope, line or string (natural)
Other Cloth
Unidentifiable Cloth Fragments

Glass & Ceramic

Bottles & jars
Construction material
Fluorescent light tubes
Glass buoys
Glass or ceramic fragments
Light globes/bulbs
Tableware
Other Glass & Ceramic (specify)

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Litter Categories cont'd

Metal

Aluminium drink cans
Bottle caps, lids & pull tabs
Fishing related
Foil wrappers
Gas bottles, drums & buckets (> 4 L)
Metal vehicle parts
Other cans & containers (<= 4L)
Sharps, needles, lancets, metal catheters
Tableware
Construction material
Unidentifiable metal fragments
Other Metal (specify)

Paper & Cardboard

Cardboard boxes
Cups, food trays & wrappers
Tetrapaks
Fireworks
Paper, newspapers & paper receipts
Unidentifiable paper & cardboard fragments
Other Paper & Cardboard (specify)

Wood

Corks
Fishing traps and pots
Matches and wooden fireworks parts
Processed timber & pallet crates
Wooden utensils
Other Wood (specify)

Rubber

Sports & Recreation
Chewing gum
Condoms
Gloves
Inner-tubes and rubber sheet
Rubber bands
Rubber footwear
Tyres
Construction & Automotive
Unidentifiable rubber fragments
Other Rubber (specify)

Other

Appliances & electronics
Batteries (Household)
Batteries (Non-household)
Boat parts
Cotton buds
Faeces
Paraffin or wax
Personal care items
Sanitary items
Other (specify)

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All materials
Broad vs specific categories

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Plastic
Bottle tops/lids, neck rings, & seal tabs

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Plastic
Fishing related

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All materials
Unidentifiable fragments

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Plastic
Food wrappers

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All materials ‘Other’ category

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Cotton buds vs lollipop sticks

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Interactive Exercise # 4

- Visit the Litter Intelligence website and find the Litter Category Sheet and Audit Data Sheets.
- Remember to print and bring a copy of these documents along to your survey.

www.litterintelligence.org/about/beach-monitoring/

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Litter Categories

FOR REFERENCE DURING AUDIT

OFFICIAL VERSION 3.4

How to use this document

After your litter survey, take your rubbish to a safe and sheltered location to audit. Categorise your litter according to the categories below, copying the appropriate fields over to your **Audit Data** sheet and recording the count and weight as you go.

Health & Safety

Important instructions for some litter categories. Look for the icons below in the **H&S** column and follow instructions during your audit.

Take extra caution. Only adults to touch.

Biohazard: Only count, do not weigh. Only trained leaders to touch.

Code	Plastic	H&S	Notes & Examples
PL24.14	Bacterial habitat wheels		
PL13	Baskets, crates & trays		Includes fish bins
PL01	Bottle caps & lids		Toothpaste caps, nozzles, tops
PL01.01	Bottle neck rings		Milk bottle rings
PL01.02	Bottle seals & tabs		
PL02	Bottles <= 2 L		
PL03	Bottles, drums, jerrycans & buckets > 2 L		
PL24.06	Cable ties & zip ties		
PL10	Cigarette lighters		Vapes, vaping devices
PL11	Cigarettes, butts & filters		Butts, filters
PL24.03	Clothes pegs		
PL12.1	Cosmetics and medical packaging		Inhalers, cosmetics, pill packets, condom wrappers, chapstick. Excludes syringes
PL05	Drink package rings		Six-pack rings, ring carriers
PL22	Fibreglass fragments		
PL17	Fishing gear		Plastic lures, traps & pots, glow sticks, knife handles, snifters, burley pots, berley pots, light sticks, cyalume sticks
PL18	Fishing line		Monofilament line & braid
PL20	Fishing net		
PL06	Food containers		Fast food, cups, lunch boxes, bread bag tags, coffee cups & lids, plastic fish, soy sauce packets, condiment packets
PL07.01	Food wrappers		Candy, muesli bars, candies, lolly wrappers, fruit sticker
PL24.07	Gardening & farming related		Plant bags & pots, hose, plastic pipes, plant label, weed matting, vine ties, tubes, esophagus clip, oesophagus clip, bolus, drench capsule, capsules
PL09	Gloves		
PL24.11	Hangers & retail packaging		Retail packets, coat hangers, barcodes, tags, RFID, hooks, labels, silica pouches, gel sachet
PL24.04	Lollipop sticks		Lolly stick
PL15	Mesh bags		Vegetable, oyster nets & mussel bags, nets, netting, fruit, elasticated mesh
PL24.10	Parking tickets & receipts		Wristbands
PL24.02	Pens & Stationery		Plastic pencils, glue sticks, binders, folders, laminating sheets, clips, vivids

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Review & Submit

Understand the post-survey & audit process.

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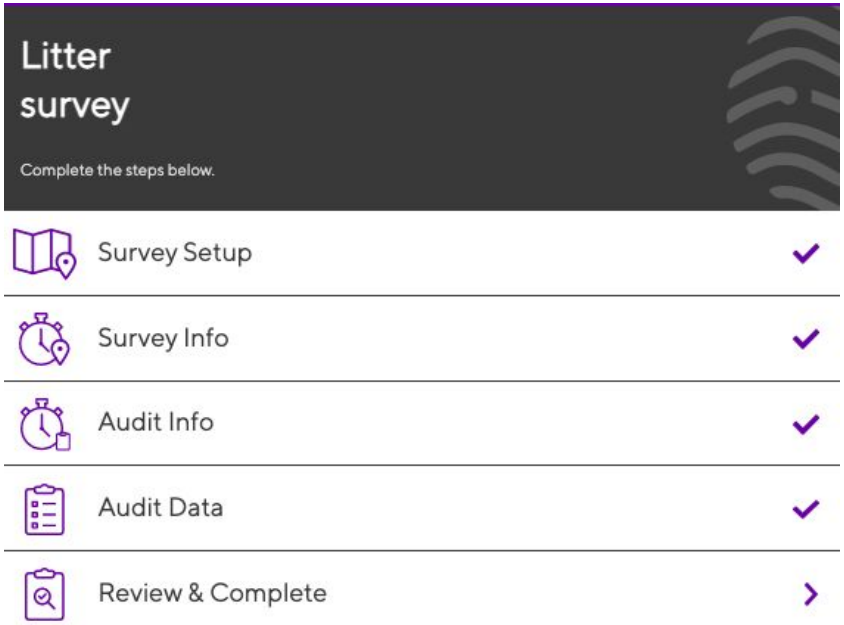
Review your data

- Before you submit your data you'll need to review it in the web app.
- Review your data via the **'Review & Complete'** menu.
- This is an important last step that ensures data quality and accuracy.
- If you find any errors you can edit the data by navigating back to the 'Survey Home' menu and then into the relevant menu from there



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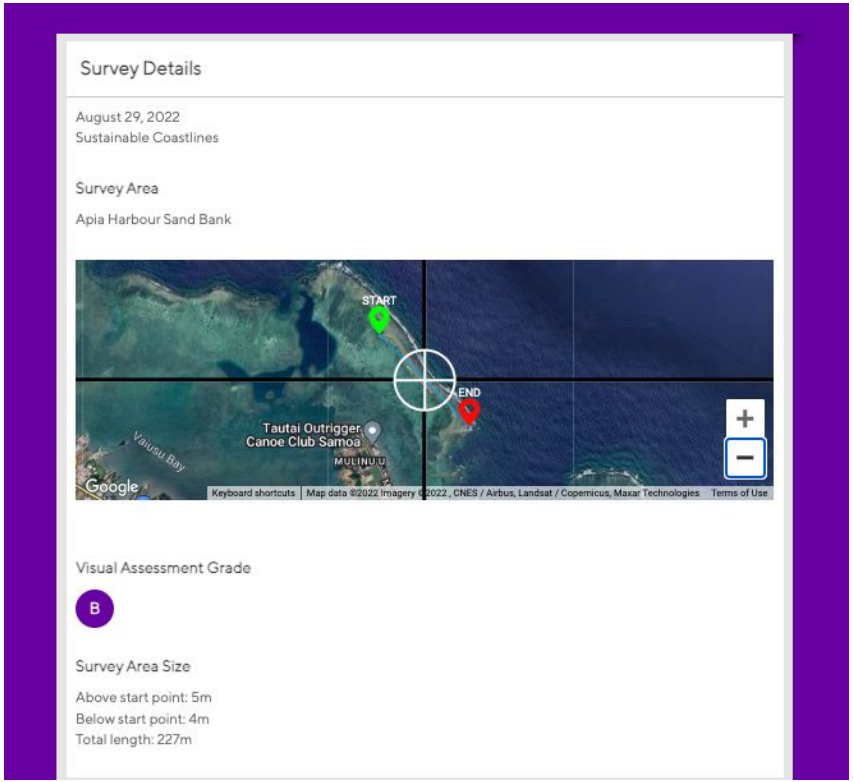
Check Survey Area data

- Is the **Survey Area** displayed on the map correct?
- Is the **Survey Area Size** dimensions correct?

TIP: If you find any errors you can edit the data by navigating back to the ‘Survey Home’ menu and then into the relevant menu from there.



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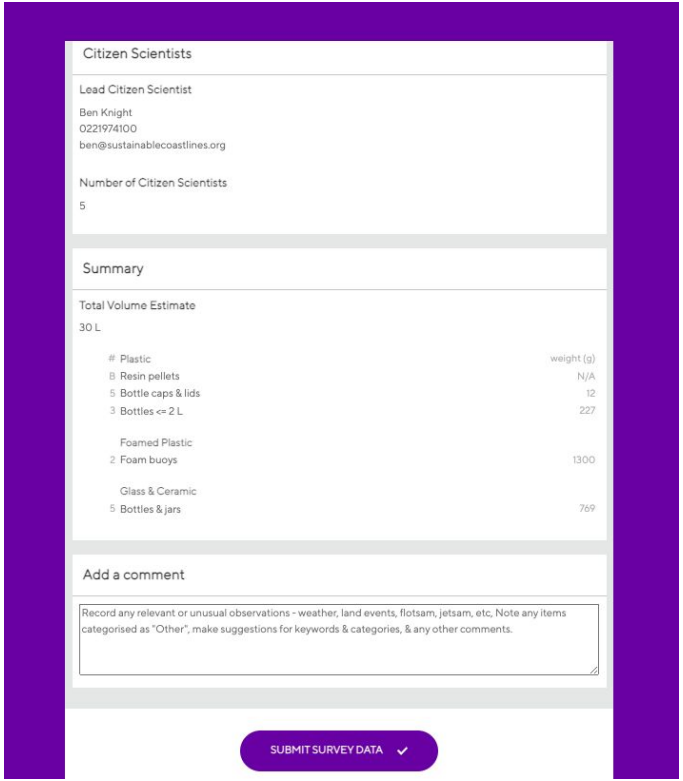
Review the audit data

- Check that the **litter categories, counts and weights** are correct.
- Add any relevant **comments** into the comments section.
- Once you have checked your data is correct, submit your survey using the **Submit Survey Data** button.



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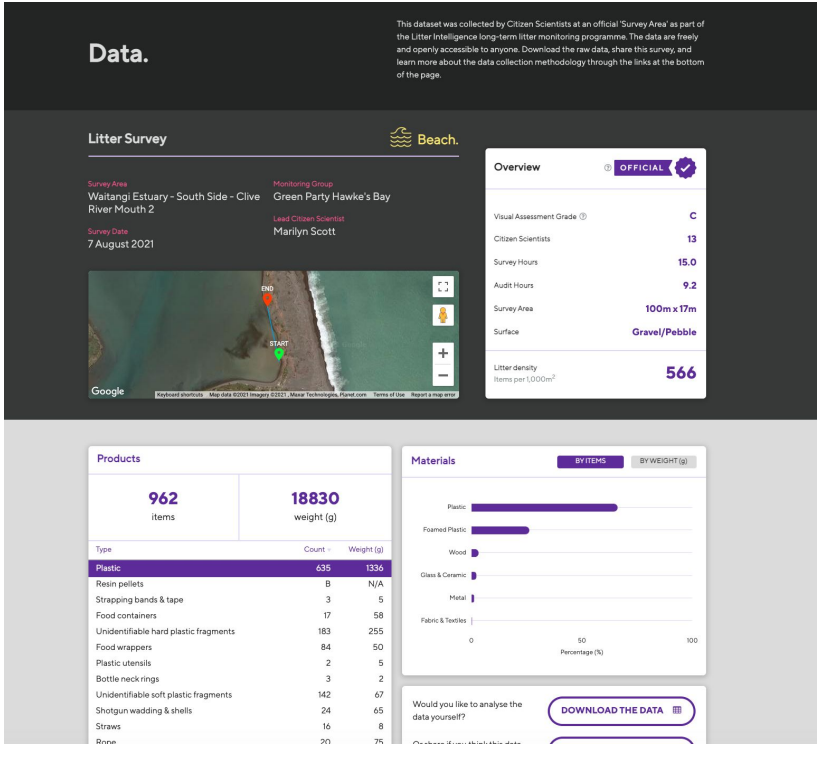
After your survey

- Contact us with any survey specific queries or issues.
- You will receive an **email with a link to your data.**
- We will follow-up with you to verify the data & make it publicly available.
- Join our Citizen Scientists Facebook group.



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Questions & Discussion

Understand any gaps in knowledge from our audience.


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Thanks!

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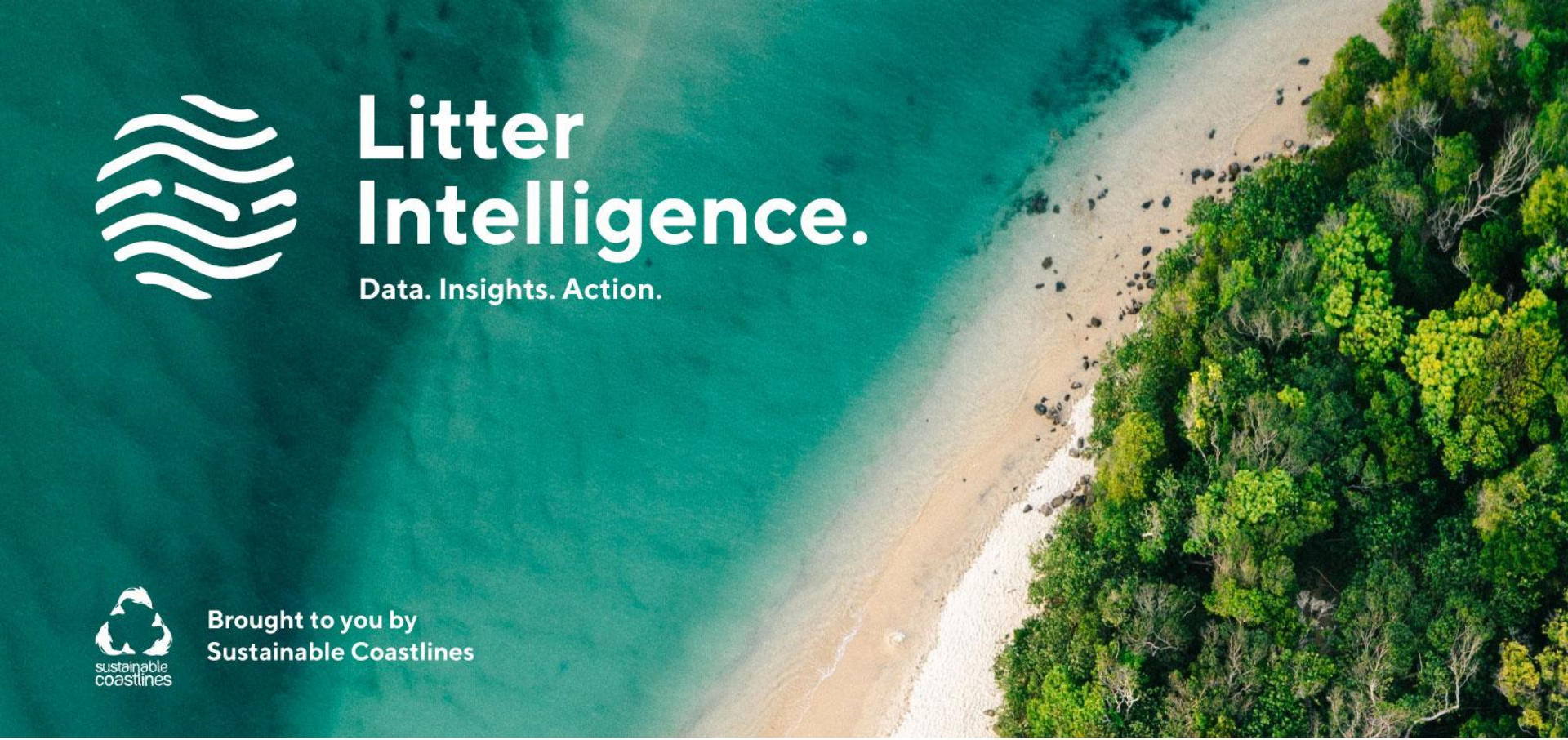

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IN COLLABORATION WITH

Ministry for the Environment
Manatū Mō Te Taiao

Stats NZ
Tatauranga Aotearoa

Department of Conservation
Te Papa Atawhai

What we do

PURPOSE

REDUCING OCEAN LITTER TOGETHER

IMPACT

60% LESS COASTAL LITTER BY 2030

Approach

WE INSPIRE CHANGE IN MINDSETS, BEHAVIOUR, POLICIES AND PRACTICES, THROUGH COMMUNITY ENGAGEMENT & CITIZEN SCIENCE

REFERENCE

Sustainable Coastlines > Our Impacts
sustainablecoastlines.org/about/our-impacts/

10th

MOST WASTEFUL COUNTRY

URBAN WASTE PRODUCTION PER CAPITA

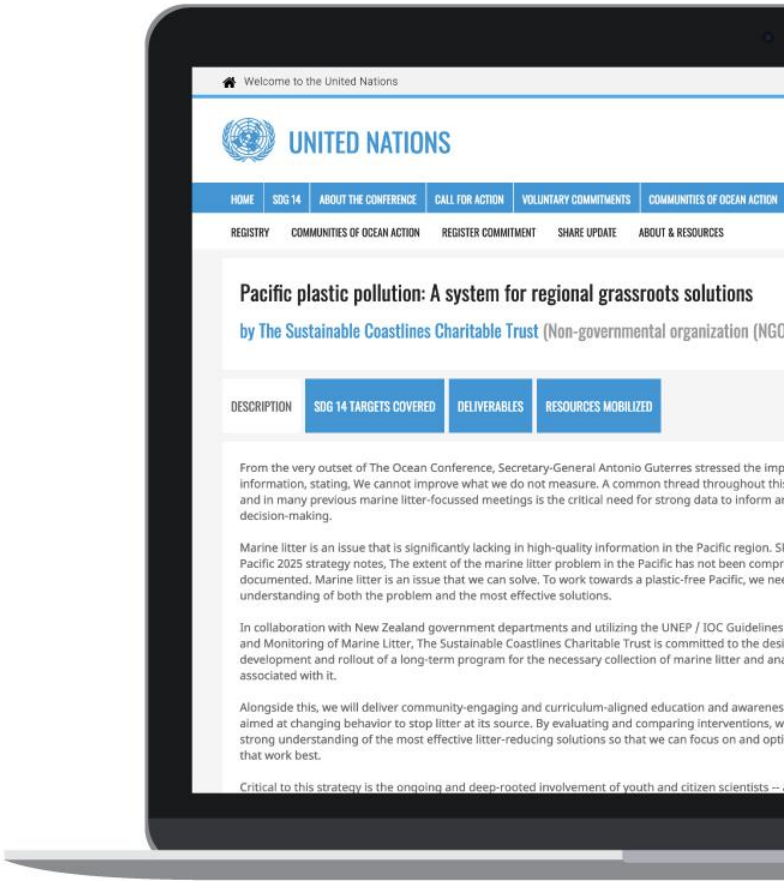
REFERENCE

World Bank “What a Waste 2.0” Report, 2018

We know litter is a problem. Why measure it?

“We cannot improve what we do not measure”

ANTÓNIO GUTERRES, UN SECRETARY GENERAL
THE OCEAN CONFERENCE, NEW YORK, JUNE 2017

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PROGRAMME PURPOSE
Inspire and inform better decisions for a world without litter.

Government partners

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Ministry for the Environment
Manatū Mō Te Taiao

Three-year fund for programme design, development and rollout.

Environmental reporting.

Stats NZ
Tatauranga Aotearoa

Co-design of data quality assurance and controls.

Environmental reporting.

Department of Conservation
Te Papa Atawhai

Co-design of localised adapation to UNEP/IOC methodology.

Peer review of changes / adaptations to methodology.

Global collaboration

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THE OCEAN CONFERENCE
UNITED NATIONS, NEW YORK, 5-9 JUNE 2017

Concept launched at the UN World Ocean Conference, 2017.

UN environment

Adapted from the UNEP/IOC global litter methodology.

Presented at UN Environment Assembly, 2019.

GPML
Global Partnership on Marine Litter

Regularly present updates at GPML meetings.

SPREP
Secretariat of the Pacific Regional Environment Programme

Presented at Pacific Environment Forum, 2019, and Clean Pacific Roundtable, 2022.

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Programme Overview

OBJECTIVE #1

Understand the problem

Design & build national litter database

Train & support Citizen Scientists to collect data

Litter data made widely accessible

Data findings inform better decision-making

Data informs more targeted education

Data proves effectiveness of education

OBJECTIVE #2

Optimise solutions

Design & build litter education for curriculum

Train & support Educators to deliver education

Litter education taught throughout school system

Behaviour change reduces litter problem

Data.

Long-term litter monitoring by trained Citizen Scientists.

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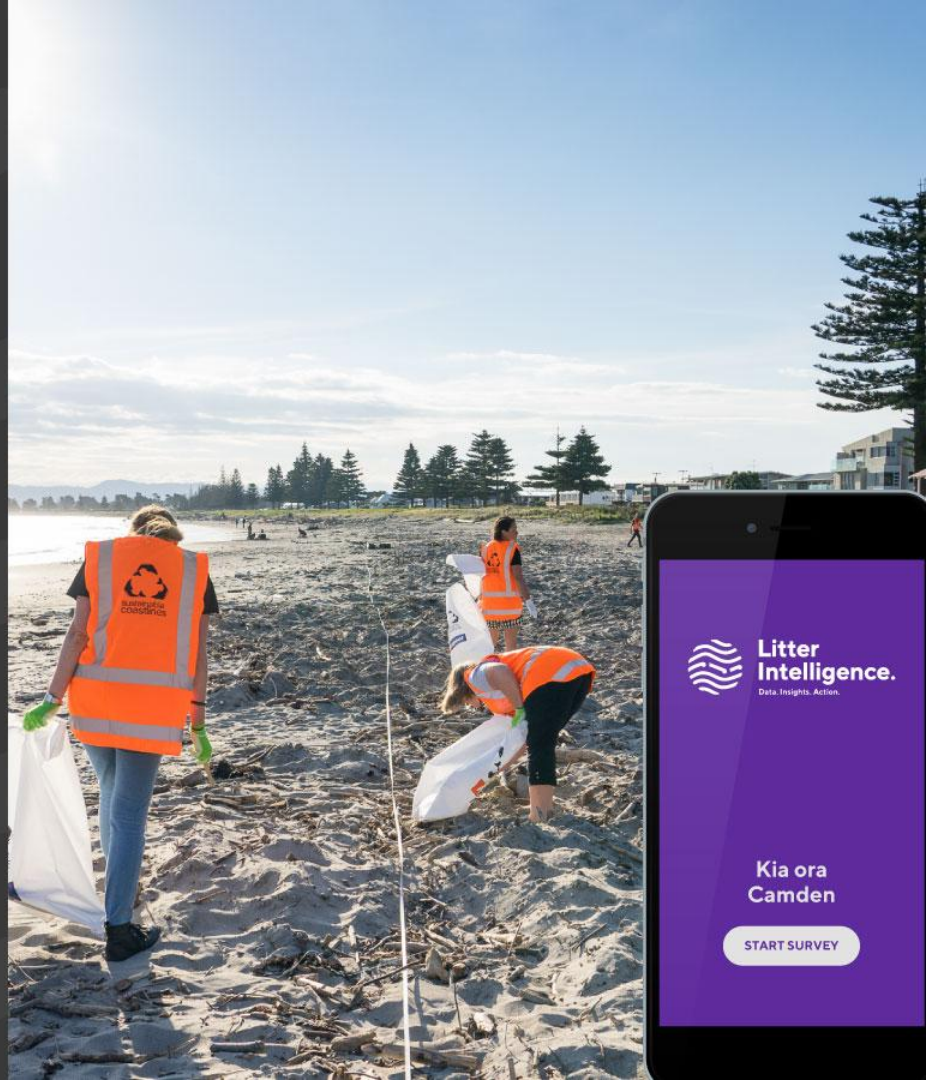
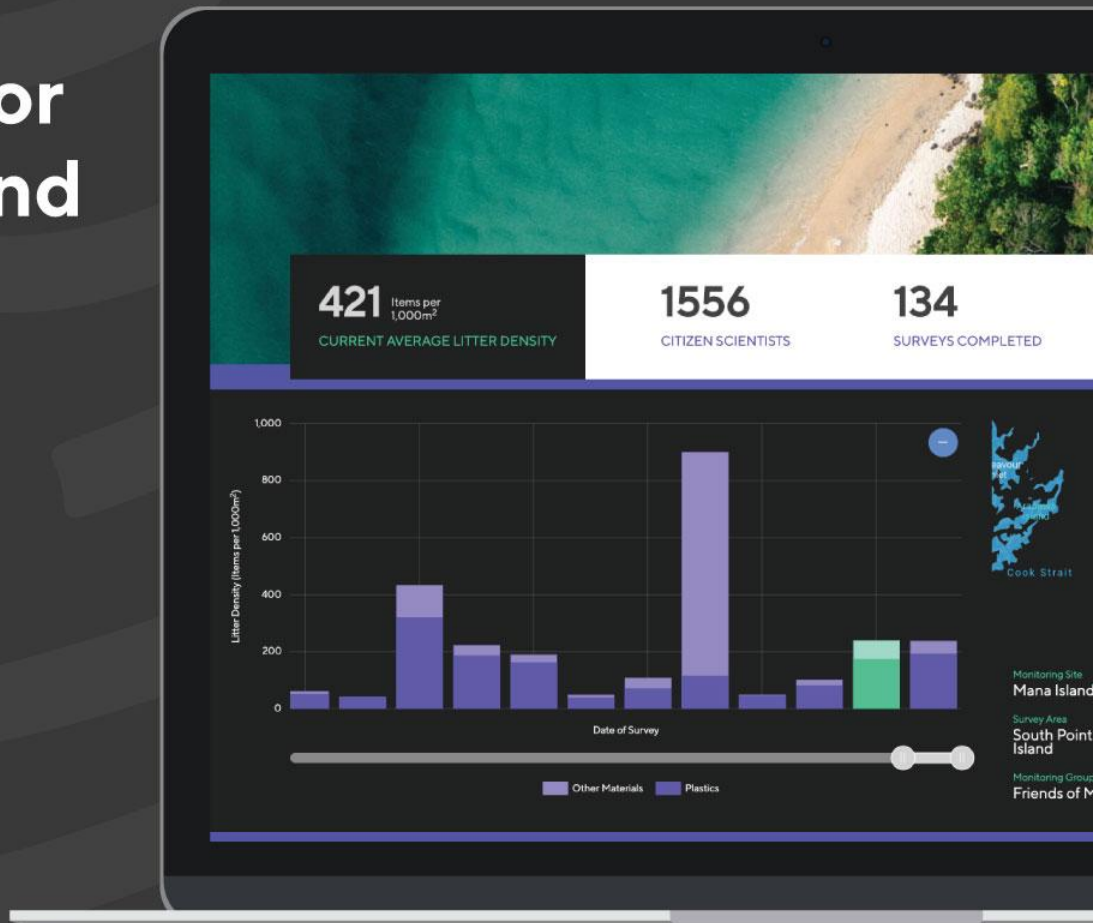


Insights.

Smart technology for data visualisation and powerful insights.



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Action.

‘Action Stories’ and schools Education Programme to solve the issue long-term.

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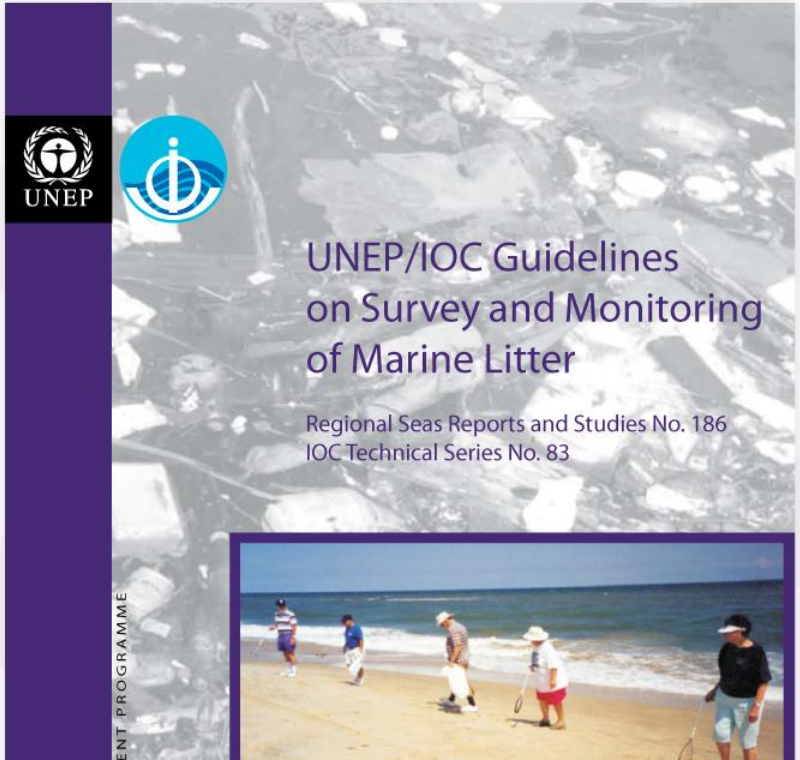
The methodology

Localised adaptation of the **United Nations Environment Program / Intergovernmental Oceanographic Commission** Guidelines on Survey and Monitoring of Marine Litter.

- Measures **litter flux**
- Global comparability
- Reporting on SDGs
- Rigorous, high quality data
- Great for citizen science



The monitoring process

sustainable coastlines

Litter Intelligence.

Set-up survey area

1

2

Survey & remove litter

Repeat four times/year

3

Audit litter

Data quality

- Quality Assurance
- Quality Controls
- Data Dictionary
- Open Data Policy
- Data Governance Group
- Privacy & Security

QAQC available at **litterintelligence.org**

SUSTAINABLE COASTLINES CHARITABLE TRUST

LITTER INTELLIGENCE
QUALITY ASSURANCE AND QUALITY CONTROLS

Version 1.0
Prepared by: Camden Howitt, Shawn Elise Tierney, Shelley Butt, Ben Knight
Date: 15 October 2020

Purpose of document:

This document provides an overview of the Quality Assurance measures and Quality Controls that have been established to ensure that the Litter Intelligence Citizen Science programme consistently produces high-quality, credible and scientifically rigorous data.

Our **Quality Assurance** measures are proactive, and include the systems and processes we have built into the Litter Intelligence programme, training and technology that aim to prevent and minimise errors, and ensure data quality.

Our **Quality Controls** are reactive and corrective processes that we have put in place to identify and resolve any data entry/user issues or errors, to ensure the data that appears on the Litter Intelligence platform is robust and can be trusted.

These measures are important for providing ongoing confidence in data collected through this programme, and more broadly to instill confidence and trust in Citizen Science data for the widest audience possible including environmental reporting.

The *Litter Intelligence Data Governance Group* will peer review this document and -- pending changes and approval -- this document will be published on the Litter Intelligence website to add to the credibility and transparency of the programme and its data.

Objectives:

Citizen scientist training levels

sustainable coastlines | Litter Intelligence.

Criteria & benefits

- Can assist with litter survey and audit processes.
- Can submit **'Ad Hoc'** litter surveys to the Litter Intelligence database.

- Attends 'Citizen Scientist' workshop.
- Organises and leads litter survey and audit activities, ensures data submitted to the platform meets 'Official' data standard.
- Has their own login to the platform, enabling them to submit **'Official'** data.
- Can earn 'Survey' badges.

- Attends 'Train the Trainer' workshop.
- Organises and runs 'Citizen Scientist' workshops and certifies/signs off Citizen Scientists who attended their workshops.
- Is a 'Lead' Citizen Scientist and has submitted a minimum of 2 surveys to the official database.
- Can earn 'Workshop' badges.

- Attends 'Certifier' workshop.
- Organises and runs 'Train the Trainer' workshops and certifies Trainers.
- Is 'Trainer' and has run a minimum of 2 x Citizen Scientist workshops and submitted a minimum of 8 x surveys to the official database.

Training required

NO TRAINING REQUIREMENTS*

CITIZEN SCIENTIST WORKSHOP

TRAIN THE TRAINER WORKSHOP

CERTIFIER WORKSHOP

Surveys

1 2 3 4 5 6 7 8

*Citizen Scientists with no training can continue to submit **'Ad Hoc'** litter surveys.

Success stories

GOVERNMENT

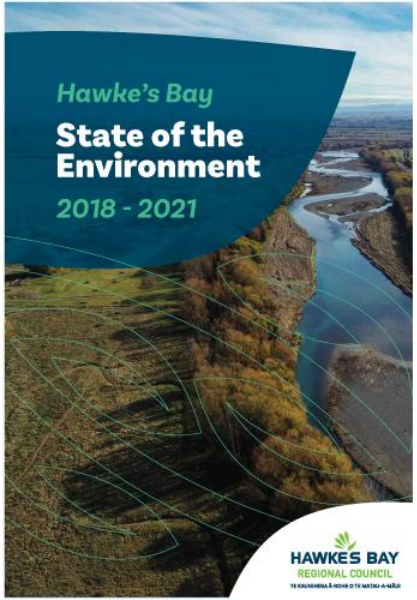
OCT 2019 — NOV 2019 — NOV 2020 — JUNE 2021

"The data set that is being provided by Sustainable Coastlines is a huge advantage to the Ministry for the Environment as a public policy tool, as it shows the areas that are most problematic and highlights to us the things that can be fixed."

HON DAVID PARKER
MINISTER FOR THE ENVIRONMENT

Success stories

LOCAL GOVERNMENT



Litter Intelligence

Globally, plastic has been found throughout coastal and marine environments, even in remote locations like the deep sea. In Hawke's Bay, plastic particles have been found in core samples in both estuarine and sandy beach environments.

Across 35 surveys since 2019, the Litter Intelligence programme[1] has found that plastic is the most common type of litter in the coastal environment, representing 76% of all rubbish items collected (Figure 14-10). Rubber, wood, glass, and ceramic were the heaviest types of rubbish collected, with wood contributing 59% of the total weight of rubbish collected.

Ahuriri Estuary had the highest litter density of the sites in the region, and Waitangi Estuary had the second highest (Figure 14-11). Both estuaries are important habitats for Hawke's Bay's coastal indigenous bird populations (see Biodiversity in Hawke's Bay section).

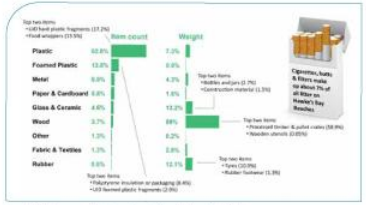


Figure 14-10. Summary of litter items found in Hawke's Bay Litter Intelligence surveys.

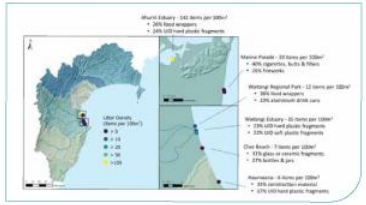


Figure 14-11. Litter density and top litter items at Litter Intelligence survey sites.

[1] The Litter Intelligence programme is an ongoing national citizen science initiative that monitors litter through standardised surveys around New Zealand. It is run by Sustainable Coastlines, established in May 2018 with funding from Ministry for the Environment's Waste Minimisation Fund.

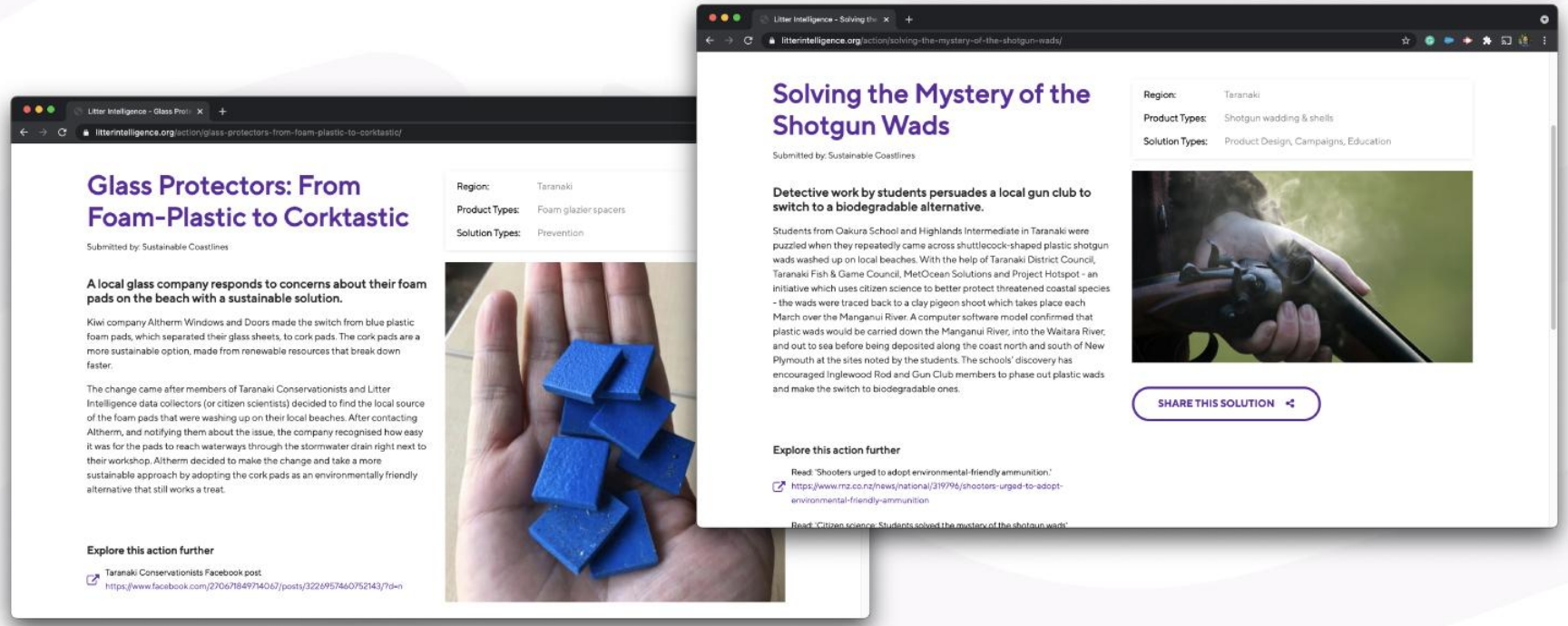
Ahuriri Estuary had the highest litter density of the sites in the region, and Waitangi Estuary had the second highest. Both estuaries are important habitats for Hawke's Bay's coastal indigenous bird populations.

HAWKES BAY
REGIONAL COUNCIL
TE KAUNIHERA Ā-ROHE O TE MATAU-A-MĀUI

STATE OF THE ENVIRONMENT
2018 -2021

Success stories

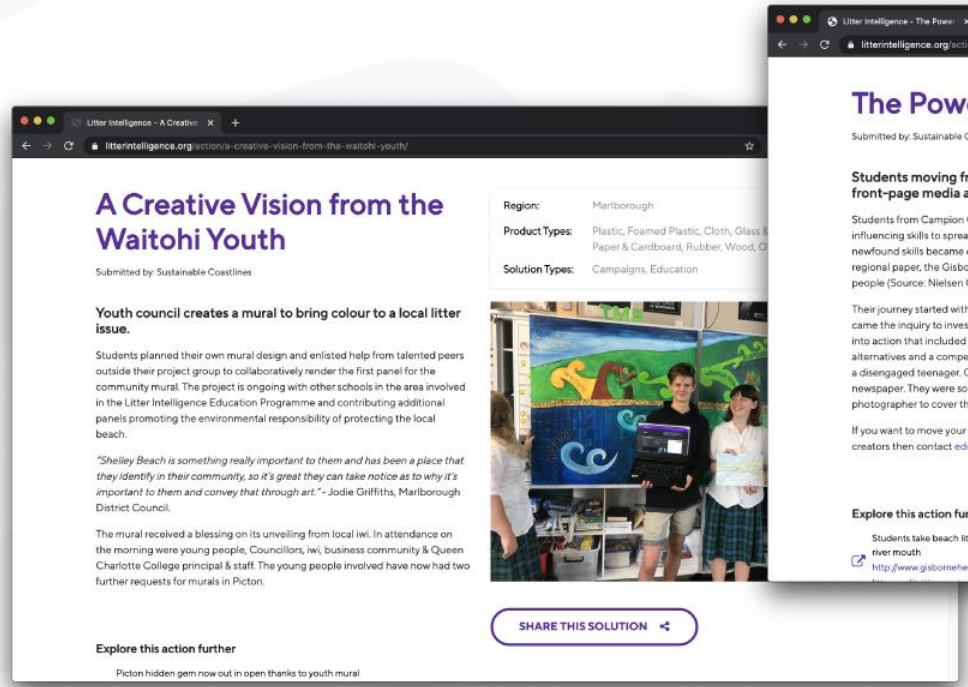
BUSINESS

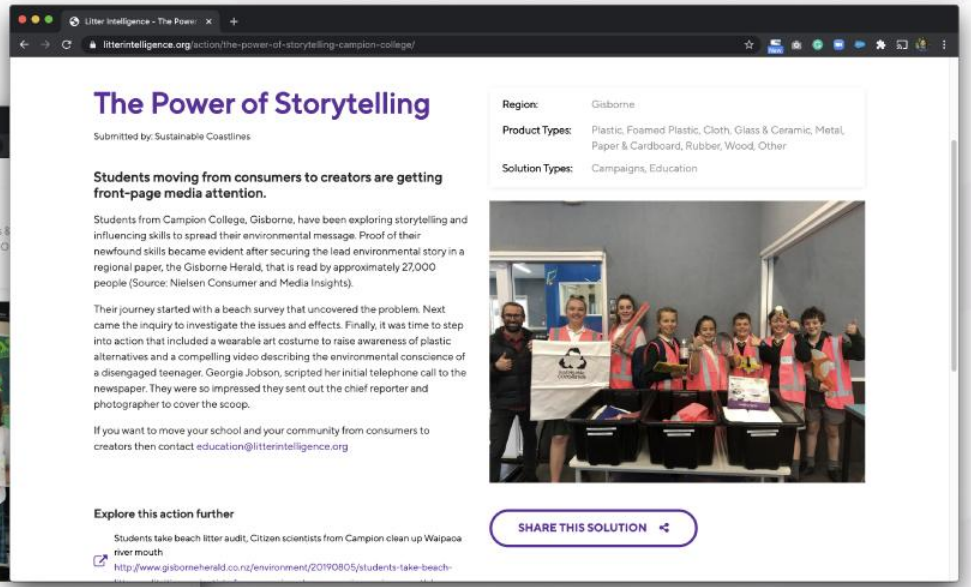


Success stories

COMMUNITY / NON-PROFIT

sustainable coastlines | Litter Intelligence.





All Location Types | **New Zealand** | All Litter Types | All Time

Filters

Reset Filters

Beach Freshwater Stormwater

All Location Types

New Zealand Reset

New Zealand

All Regions

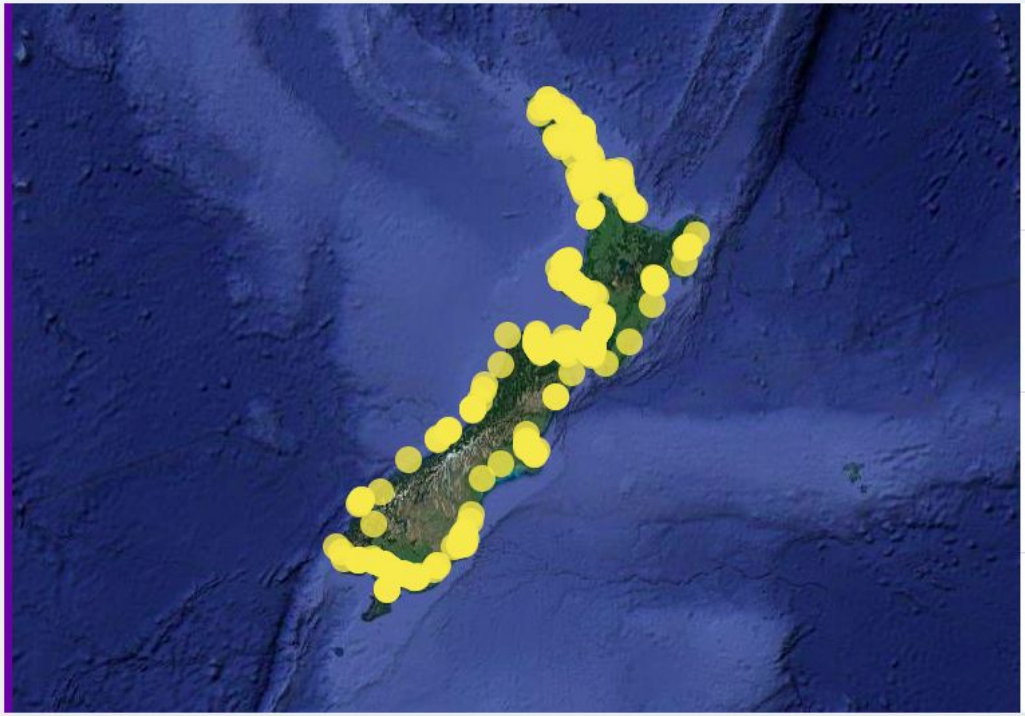
All Survey Areas

Apply Filter

All Litter Types

All Time

Survey Locations



LITTER DENSITY
Items Per 1000m2

Low 0
High 10,818
Average 314

SURVEY AREAS
312

SURVEYS COMPLETED
1,486

VOLUNTEER HOURS
19,131

Filters

Reset Filters

Beach Freshwater Stormwater

All Location Types

New Zealand Reset

New Zealand

All Regions

All Survey Areas

Apply Filter

All Litter Types

All Time

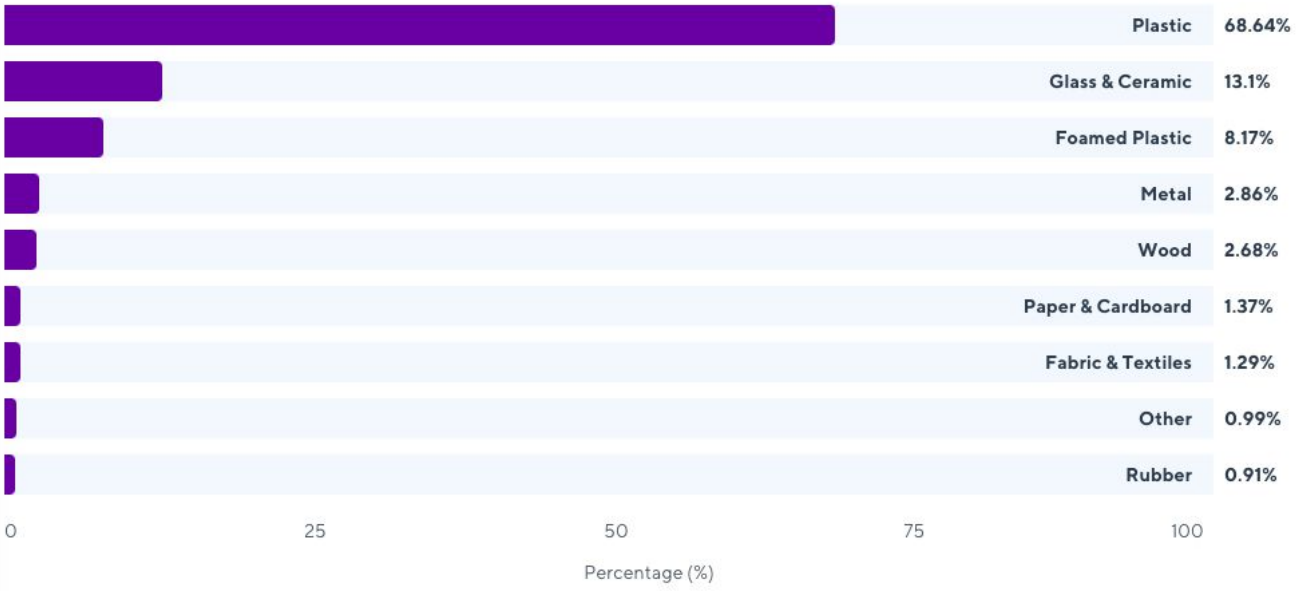
Materials & Products

TOTAL ITEM COUNT
426,974

TOTAL WEIGHT (KG)
9,822.93

PERCENTAGE OF TOTAL ITEMS

ITEMS WEIGHT



Filters

Reset Filters

Beach Freshwater Stormwater

All Location Types

New Zealand Reset

New Zealand

All Regions

All Survey Areas

Apply Filter

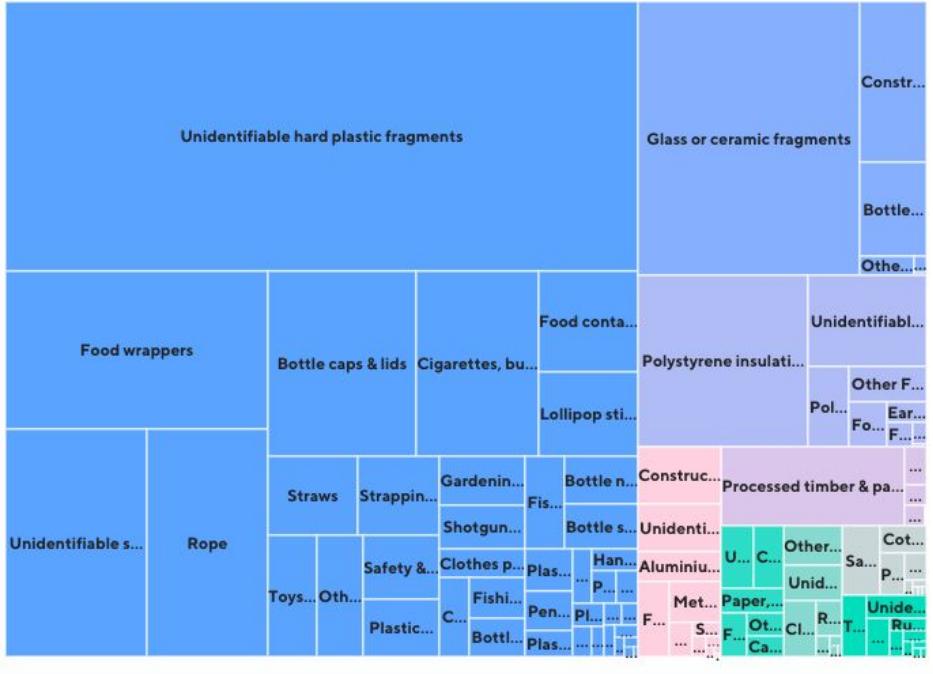
All Litter Types

All Time

Total Litter By Type

TOTAL ITEMS

ITEMS WEIGHT



Plastic	68.64%
Glass & Ceramic	13.1%
Foamed Plastic	8.17%
Metal	2.86%
Wood	2.68%
Paper & Cardboard	1.37%
Fabric & Textiles	1.29%
Other	0.99%
Rubber	0.91%

Filters Reset Filters

Beach Freshwater Stormwater

All Location Types

New Zealand Reset

New Zealand

All Regions

All Survey Areas

Apply Filter

All Litter Types

#	PRODUCT	MATERIAL	TOTAL ITEMS	% OF TOTAL
1	Unidentifiable hard plastic fragments	Plastic	120,091	28.13 %
2	Glass or ceramic fragments	Glass & Ceramic	42,961	10.06 %
3	Food wrappers	Plastic	29,333	6.87 %
4	Unidentifiable soft plastic fragments	Plastic	22,801	5.34 %
5	Polystyrene insulation or packaging	Foamed Plastic	20,466	4.79 %
6	Rope	Plastic	19,581	4.59 %
7	Bottle caps & lids	Plastic	19,395	4.54 %
8	Cigarettes, butts & filters	Plastic	16,007	3.75 %
9	Processed timber & pallet crates	Wood	10,214	2.39 %
10	Unidentifiable foamed plastic fragments	Foamed Plastic	7,651	1.79 %

1 - 10 of 111

All Location Types | **Samoa, Tonga, Wallis & Futuna, Fiji, Solomon Islands** | All Litter Types | All Time

Filters

Reset Filters

Beach Freshwater Stormwater

All Location Types

Samoa, Tonga, ... Reset

Samoa, Tonga, Wallis & Futuna, Fiji, Solomon Islands

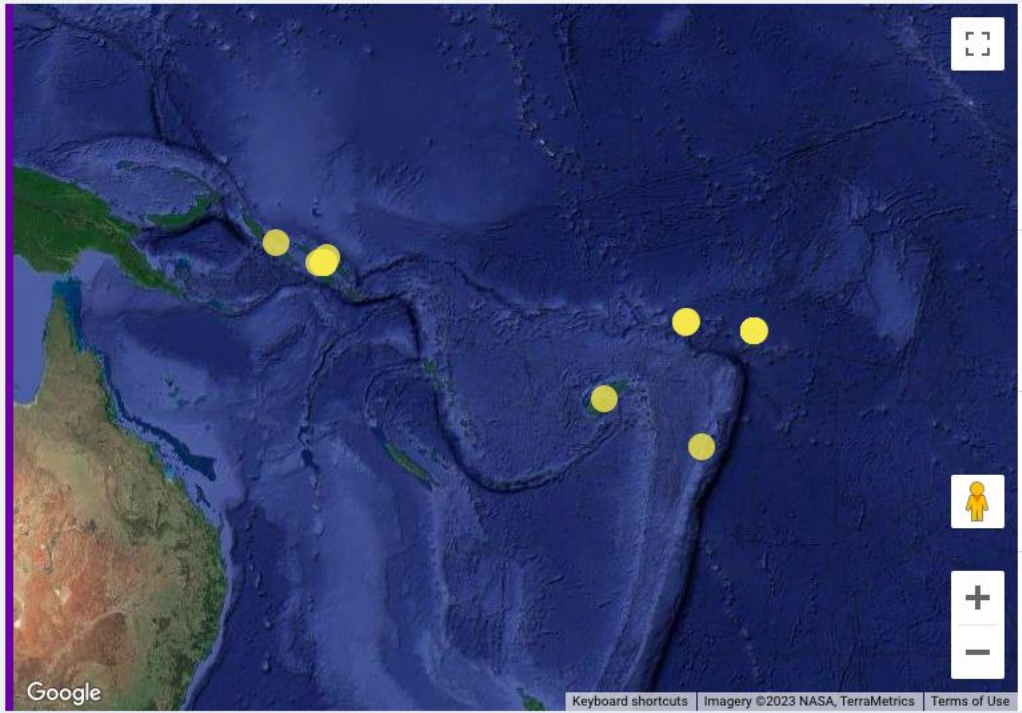
All Regions

All Survey Areas

Apply Filter

All Litter Types

Survey Locations



LITTER DENSITY
Items Per 1000m2

Low 69
High 74,666
Average 4,884

SURVEY AREAS
17

SURVEYS COMPLETED
19

VOLUNTEER HOURS
1,301

Filters Reset Filters

Beach Freshwater Stormwater

All Location Types

Samoa, Tonga, ... Reset

Samoa, Tonga, Wallis & Futuna, Fiji, Solomon Islands

All Regions

All Survey Areas

Apply Filter

All Litter Types

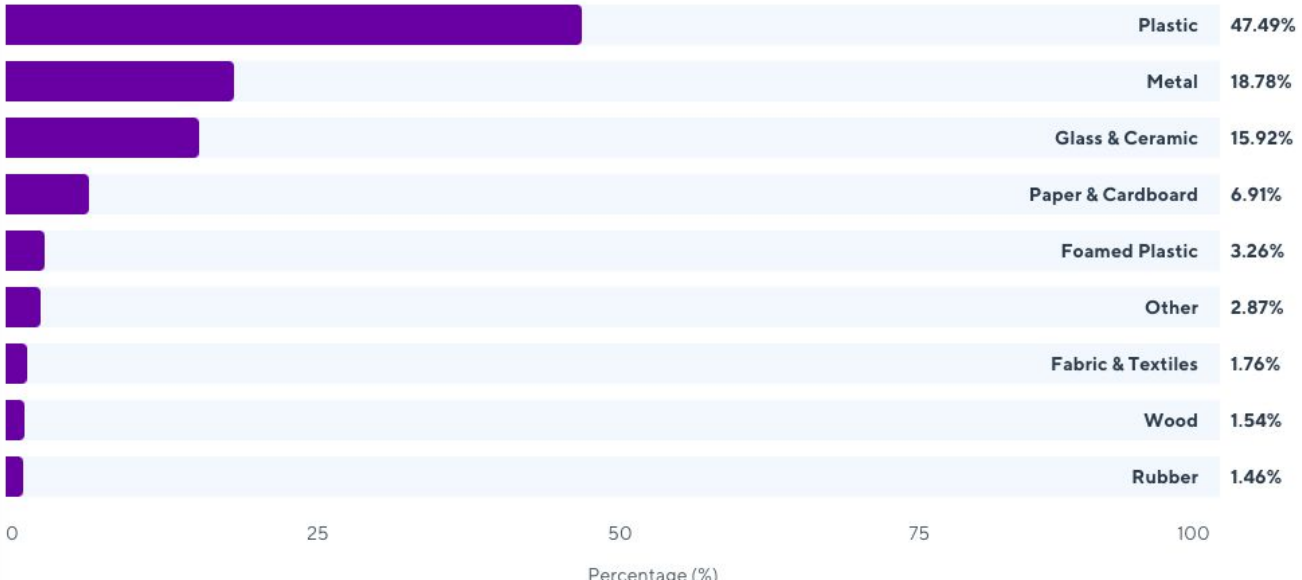
Materials & Products

TOTAL ITEM COUNT
21,837

TOTAL WEIGHT (KG)
1,714.44

PERCENTAGE OF TOTAL ITEMS

ITEMS WEIGHT



Filters

Reset Filters

Beach Freshwater Stormwater

All Location Types

Samoa, Tonga, ... Reset

Samoa, Tonga, Wallis & Futuna, Fiji, Solomon Islands

All Regions

All Survey Areas

Apply Filter

All Litter Types

Total Litter By Type

TOTAL ITEMS

ITEMS WEIGHT

- Plastic 47.49%
- Metal 18.78%
- Glass & Ceramic 15.92%
- Paper & Cardboard 6.91%
- Foamed Plastic 3.26%
- Other 2.87%
- Fabric & Textiles 1.76%
- Wood 1.54%
- Rubber 1.46%

Filters

Reset Filters

Beach Freshwater Stormwater

All Location Types

Samoa, Tonga, ... Reset

Samoa, Tonga, Wallis & Futuna, Fiji, Solomon Islands

All Regions

All Survey Areas

Apply Filter

All Litter Types

Litter Type

Take Action

LITTER TYPE - ITEMS

ITEMS WEIGHT

#	PRODUCT	MATERIAL	TOTAL ITEMS	% OF TOTAL
1	Bottles <= 2 L	Plastic	4,250	19.46 %
2	Glass or ceramic fragments	Glass & Ceramic	3,001	13.74 %
3	Aluminium drink cans	Metal	1,860	8.52 %
4	Food wrappers	Plastic	1,205	5.52 %
5	Bottle caps & lids	Plastic	1,118	5.12 %
6	Cups, food trays & wrappers	Paper & Cardboard	1,113	5.10 %
7	Other cans (<= 4 L)	Metal	1,086	4.97 %
8	Plastic bags	Plastic	827	3.79 %
9	Other Plastic	Plastic	507	2.32 %
10	Cigarettes, butts & filters	Plastic	485	2.22 %

Data.

This dataset was collected by Citizen Scientists at an official 'Survey Area' as part of the Litter Intelligence long-term litter monitoring programme. The data are freely and openly accessible to anyone. Download the raw data, share this survey, and learn more about the data collection methodology through the links at the bottom of the page.

Litter Survey

Beach.

Survey Area
USP foreshore

Survey Date
2 May 2023

Monitoring Group
POLYP(Pacific Ocean Litter Youth Project)

Lead Citizen Scientist
Laisani Waqairadovu

Overview

OFFICIAL

Visual Assessment Grade	B
Citizen Scientists	16
Survey Hours	6.4
Audit Hours	12.8
Survey Area	100m x 9m
Surface	Mixed Substrate

Litter density
Items per 1,000m^2 **297**

Litter
Intelligence.

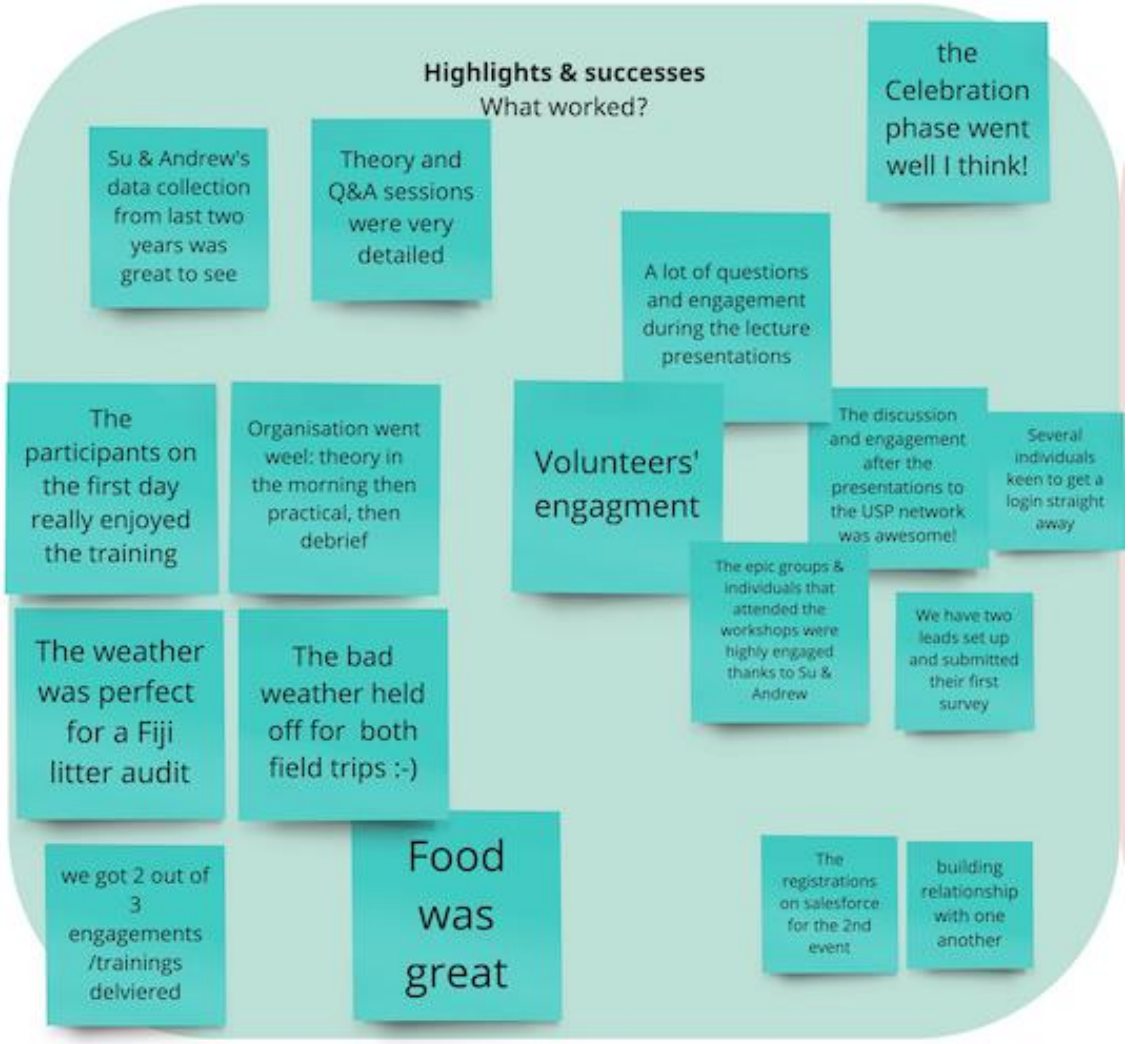
Data. Insights. Action.

Find out more and get involved
litterintelligence.org

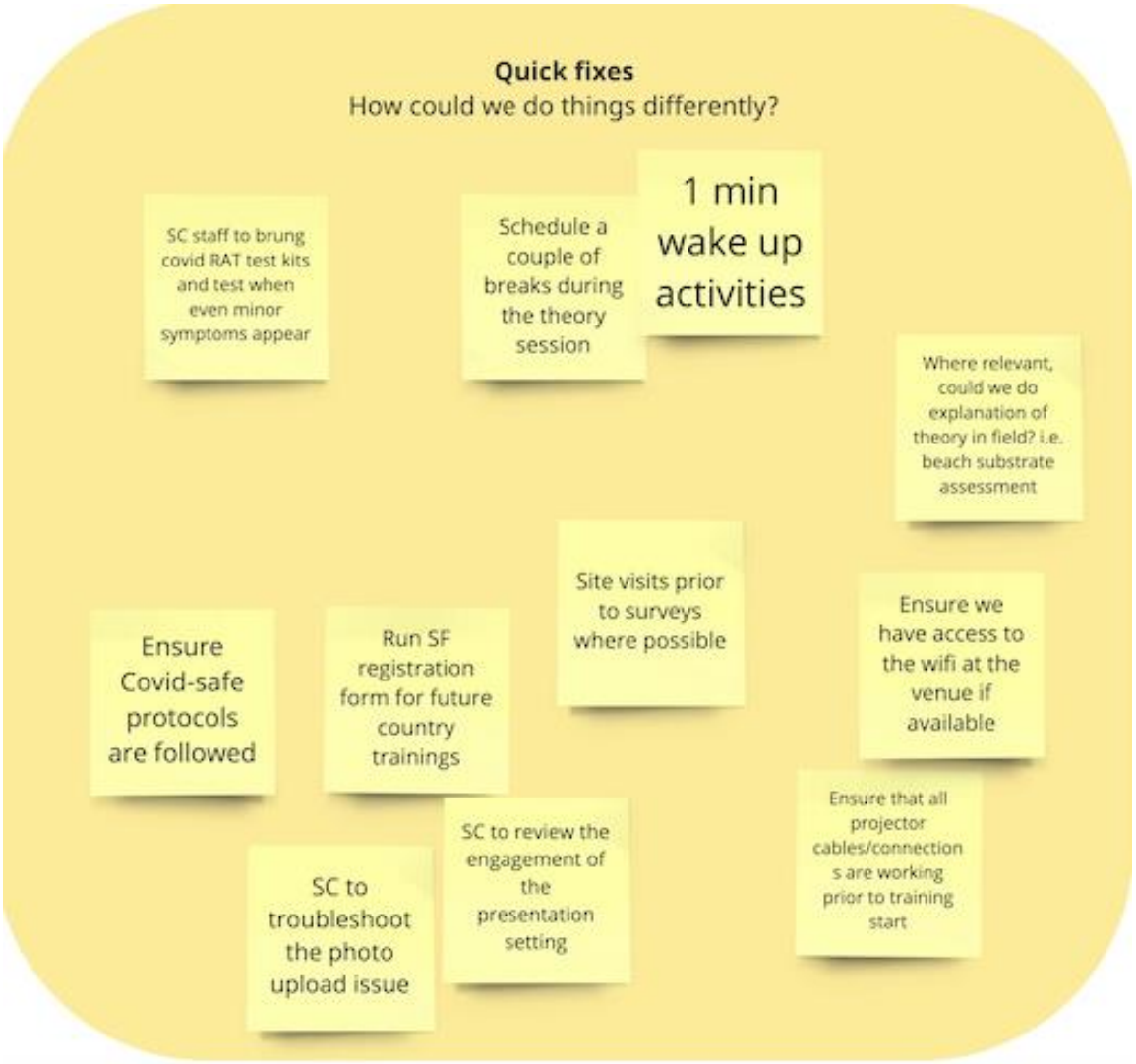
Appendix 3: Registration Form – Fiji - Suva Point Beach - Suva, Fiji

Name	Organisation	Email address	Phone
Kondeta Ah Sam	Uto Ni Yalo Trust	kondeetta@gmail.com	679-9932623
Nina Anna Talanoa	USP	ninatalanoa@outlook.com	679-7895505
Luisa Lewaqa	Wantok Moana	tameralewaqai@gmail.com	679-2388790
Mila Matairakula	Pacific Blue Foundation / iTaukei Women in Conservation	milamatairakula@gmail.com	679-9065519
Janice Taga	USP	janicetaga@gmail.com	679-7204015
Julie Pilet	SPREP	juliep@sprep.org	685- 21929
Memoree Imo	SPREP	memoreei@sprep.org	685- 21929

Appendix 4: Debrief Miro Board




Improvement Opportunities
What held us back/didn't work?
We couldn't connect. to the university/venue internet/wifi so were reliant on each person having mobile data for the interactive exercises
The email address provided by one of the trainees was incorrect so she didnt get her login email until a few days later
There were difficulties in going plastic free with the catering. Although, they were asked to bring less single use plastic, they still provided the spoons and cups
The site on the second training was heavily littered so we had to reduce the survey area size down to 10m which from a training perspective was not ideal but also provided a good talking point about managing workload/survey and volunteer effort
Ben got covid and potentially exposed others to it
Wifi challenges
Perhaps the training day is too long and tiring for the trainer doing a week of trainings
Less turnout on the second day of training than expected, could have reached more participants or invited more people
We forgot to/didnt hand out the completion certificates
We had some issues with uploading the site photos into the app on the first training
SC- The region Fiji wasn't able to be selected in the workshop SF activity so had to select other international
The projector cable was not working on the first day
The venue was challenging at times with the fans & the rain


Quick fixes
How could we do things differently?
SC staff to brung covid RAT test kits and test when even minor symptoms appear
Schedule a couple of breaks during the theory session
1 min wake up activities
Where relevant, could we do explanation of theory in field? i.e. beach substrate assessment
Site visits prior to surveys where possible
Ensure we have access to the wifi at the venue if available
Ensure Covid-safe protocols are followed
Run SF registration form for future country trainings
SC to review the engagement of the presentation setting
Ensure that all projector cables/connections are working prior to training start
SC to troubleshoot the photo upload issue


Actions
What should we do next?
Check in with group about rubbish disposal plan
Send Janice Taga a login
Confirm that Kit to be left in Vanuatu
Bring RAT tests and test at first sign of even mild symptoms
Ben to send app bug report to Bella/SC's BA for investigation
Double check baggage number & weight allowance
Trial a more field based approach to the theory component of the training if venue isn't suitable or group prefers to learn by doing.
Ben to send Suzanne the Kit inventory list to begin purchasing supplies for the project
SC staff to bring Lead Cit Sci completion certificates to Vanuatau and trial handing these out as part of the workshop wrap-up