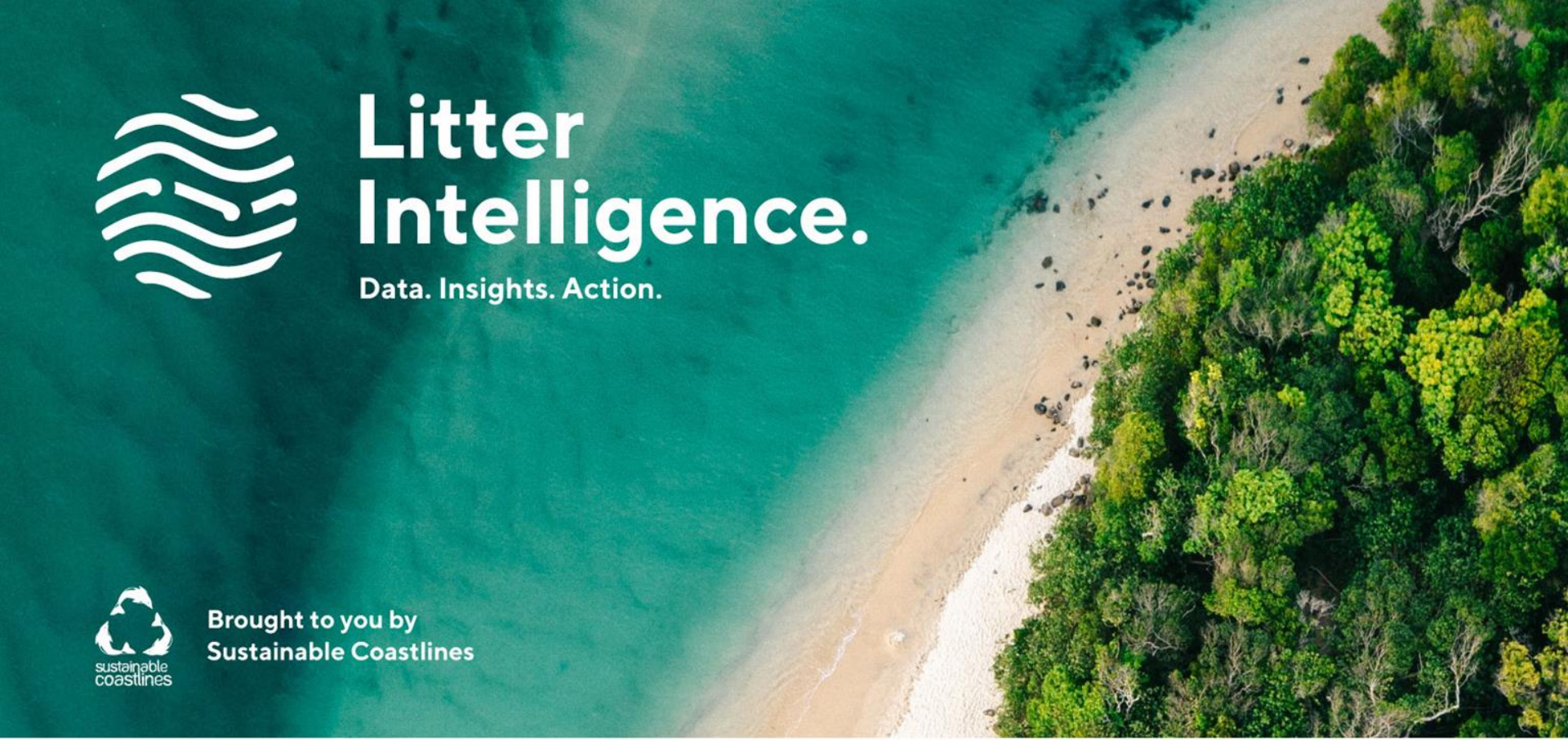
Litter Intelligence.

Data. Insights. Action.



Brought to you by
Sustainable Coastlines

IN COLLABORATION WITH

Ministry for the Environment
Manatū Mō Te Taiao

Stats NZ
Tatauranga Aotearoa

Department of Conservation
Te Papa Atawhai

About Sustainable Coastlines

sustainable coastlines

PURPOSE

Reducing ocean litter together.

APPROACH

We inspire change in mindsets, behaviour, policies and practices, through community engagement and citizen science.

IMPACT

60% less coastal litter by 2030.

In numbers

1,800,016
LITRES OF LITTER REMOVED

238,385
VOLUNTEER HOURS
(CLEAN-UPS & SURVEYS)

108,235
EDUCATION & TRAINING HOURS

2,390
LITTER INTELLIGENCE SURVEYS COMPLETED

As of 7 May 2024

10th

MOST WASTEFUL COUNTRY

URBAN WASTE PRODUCTION PER CAPITA

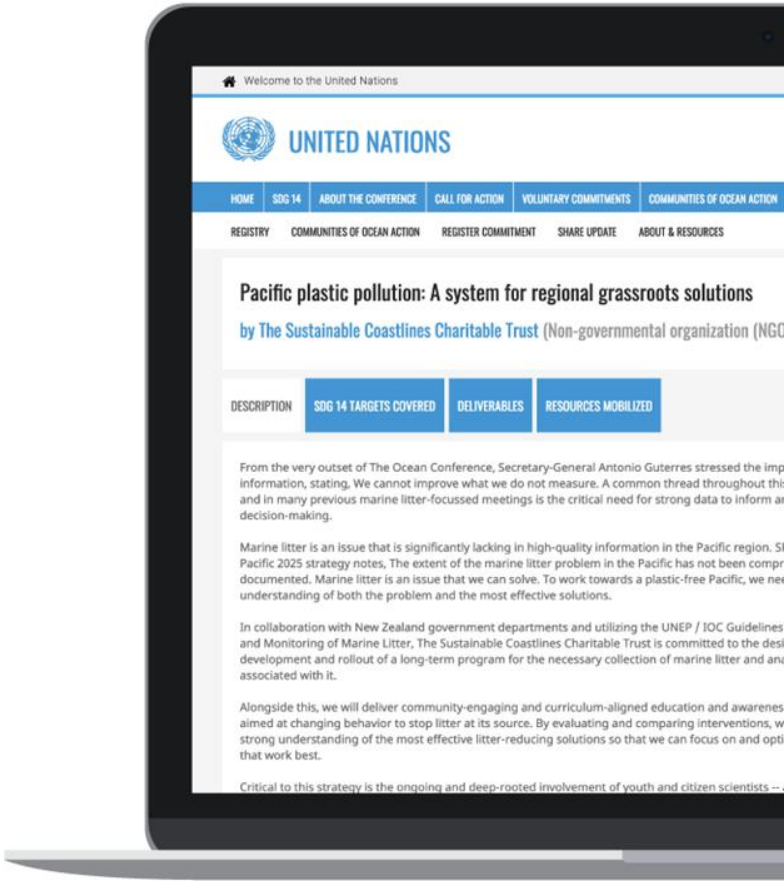
REFERENCE

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




sustainable coastlines
Litter Intelligence.
Data. Insights. Action.
PROGRAMME PURPOSE
Inspire and inform better decisions for a world without litter.

Litter Intelligence.
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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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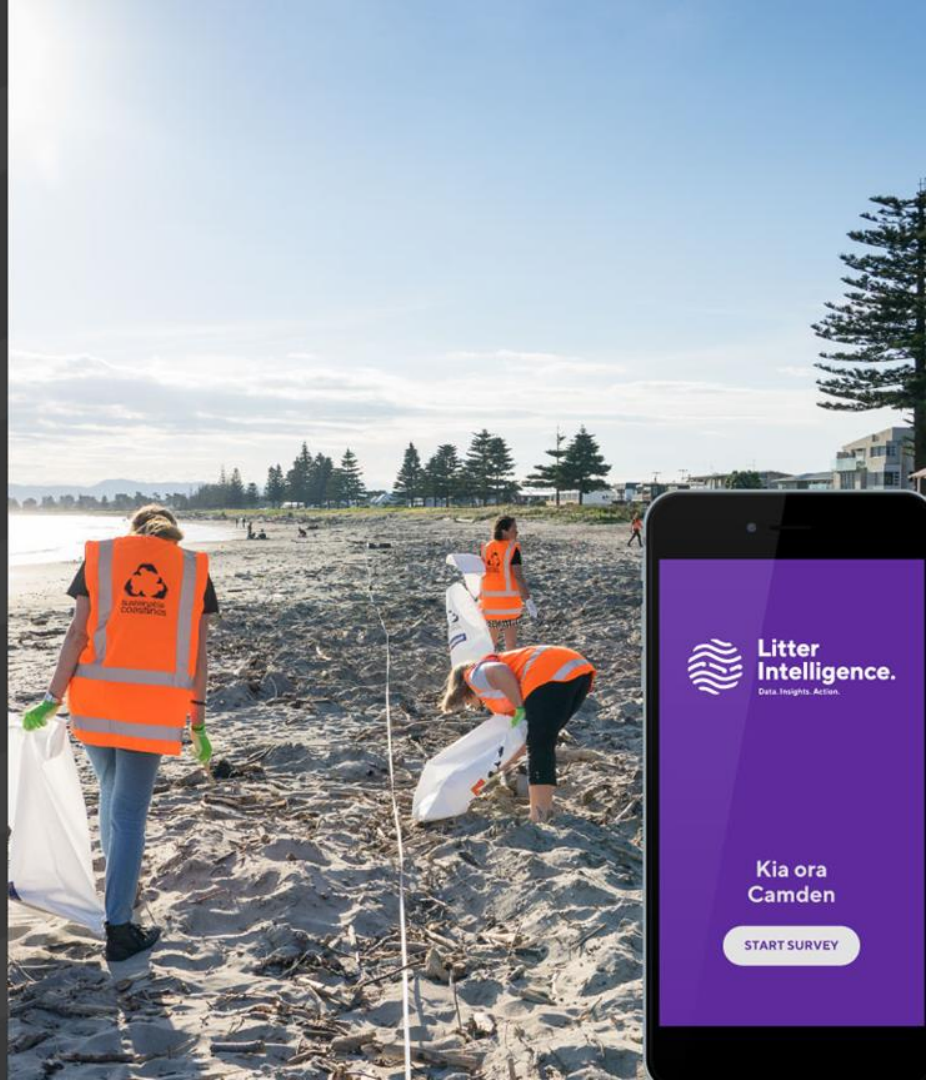
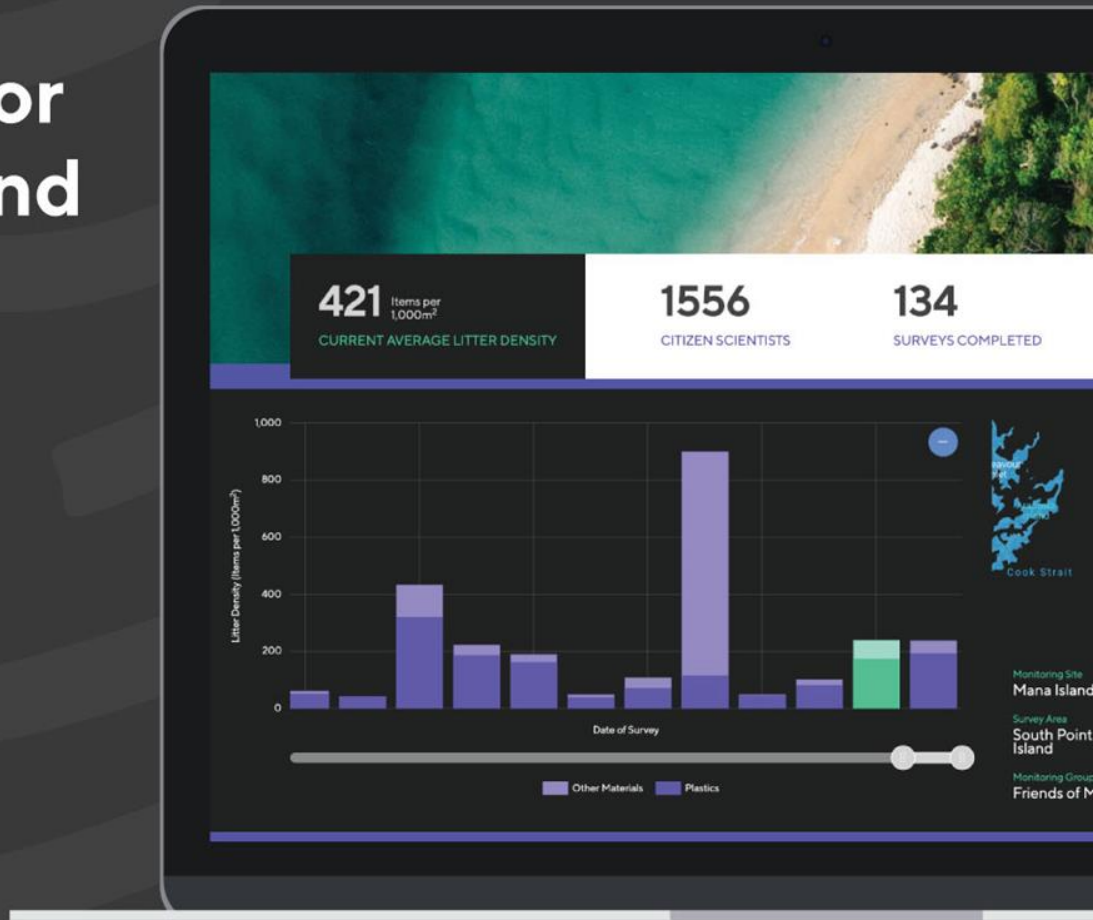


Insights.

Smart technology for data visualisation and powerful insights.



Litter Intelligence.
Data. Insights. Action.

Action.

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

Litter Intelligence.
Data. Insights. Action.

The monitoring process

Government partners.

Ministry for the Environment
Manatū Mō Te Taiao

Four-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 changes/adaptations to methodology.

Global recognition

sustainable coastlines | Litter Intelligence.

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 project updates at GPML meetings.

SPREP
Secretariat of the Pacific Regional Environment Programme

Presented at Pacific Environment Forum, 2019.

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

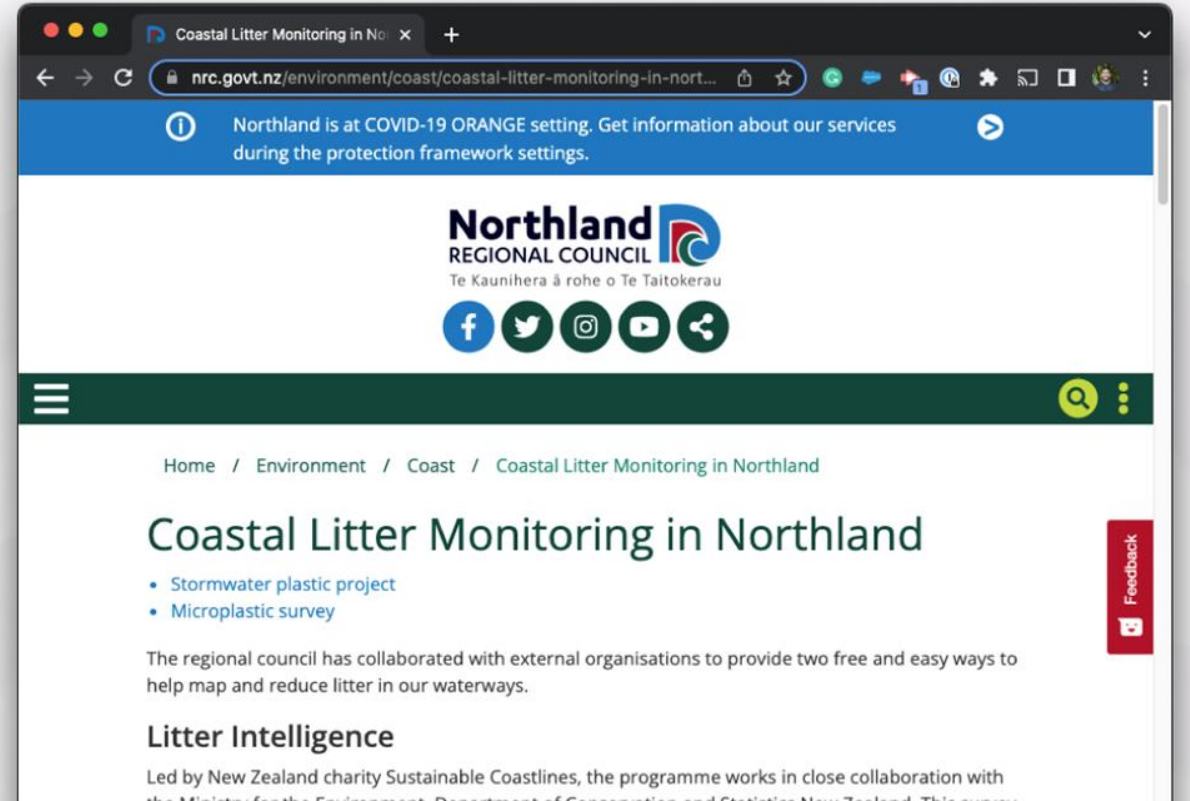
OCT 2019 — NOV 2019 — NOV 2020 — JUNE 2021

"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



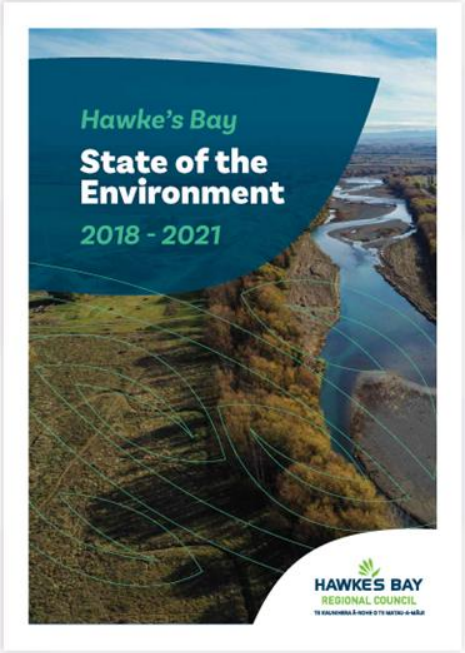
The programme works in close collaboration with the Ministry for the Environment, Department of Conservation and Statistics New Zealand. This survey takes place four times a year at various locations around Northland. The council monitoring site is in the Upper Hātea River, Whangārei Harbour.

Northland
REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

ONLINE REPORTING PAGE
ACCESSED JULY 2022

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.

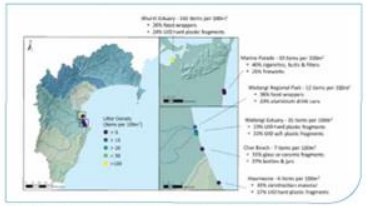


Figure 14-11: Litter density and top litter items at Litter Intelligence survey sites.

[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

LOCAL GOVERNMENT

"With numerous outfalls located around the Harbour, we not only need to be aware of what's entering our harbours through stormwater but also ensuring we're not inadvertently contributing to the deterioration of our marine and coastal environments" said Melidonis, referring also to over 700 litter items recorded in an area only the length of a rugby field, during quarterly Litter Intelligence surveys at 11 sites around Te Whanganui-a-Tara coastline.

Greater Wellington
Te Pane Matua Taiao

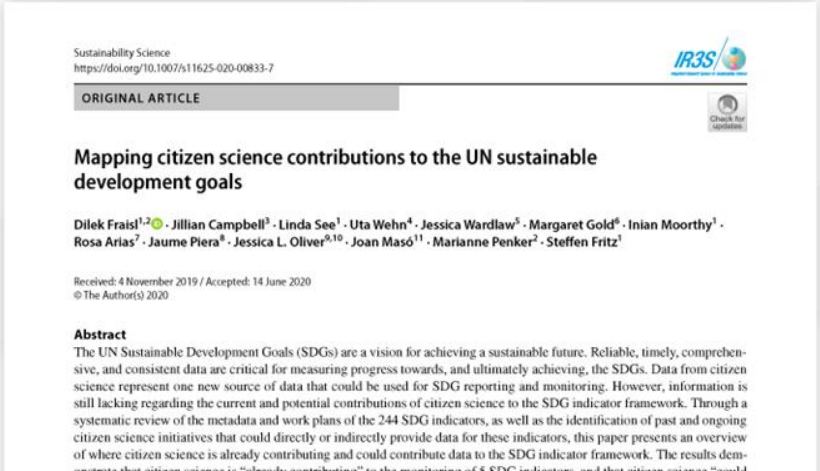
PRESS RELEASE
JUNE 2022

Success stories

GOVERNMENT

"Reliable, timely, comprehensive, and consistent data is critical for measuring progress towards, and ultimately achieving the United Nations Sustainable Development Goals."

SUSTAINABILITY SCIENCE (2020)
FRAISL, D., CAMPBELL, J., SEE, L. ET AL.



Sustainability Science
https://doi.org/10.1007/s11625-020-00833-7

ORIGINAL ARTICLE

Mapping citizen science contributions to the UN sustainable development goals

Dilek Fraisl[1,2] · Jillian Campbell[3] · Linda See[1] · Uta Wehn[4] · Jessica Wardlaw[5] · Margaret Gold[6] · Inian Moorthy[1] · Rosa Arias[7] · Jaume Piera[8] · Jessica L. Oliver[9,10] · Joan Masó[11] · Marianne Penker[2] · Steffen Fritz[1]

Received: 4 November 2019 / Accepted: 14 June 2020
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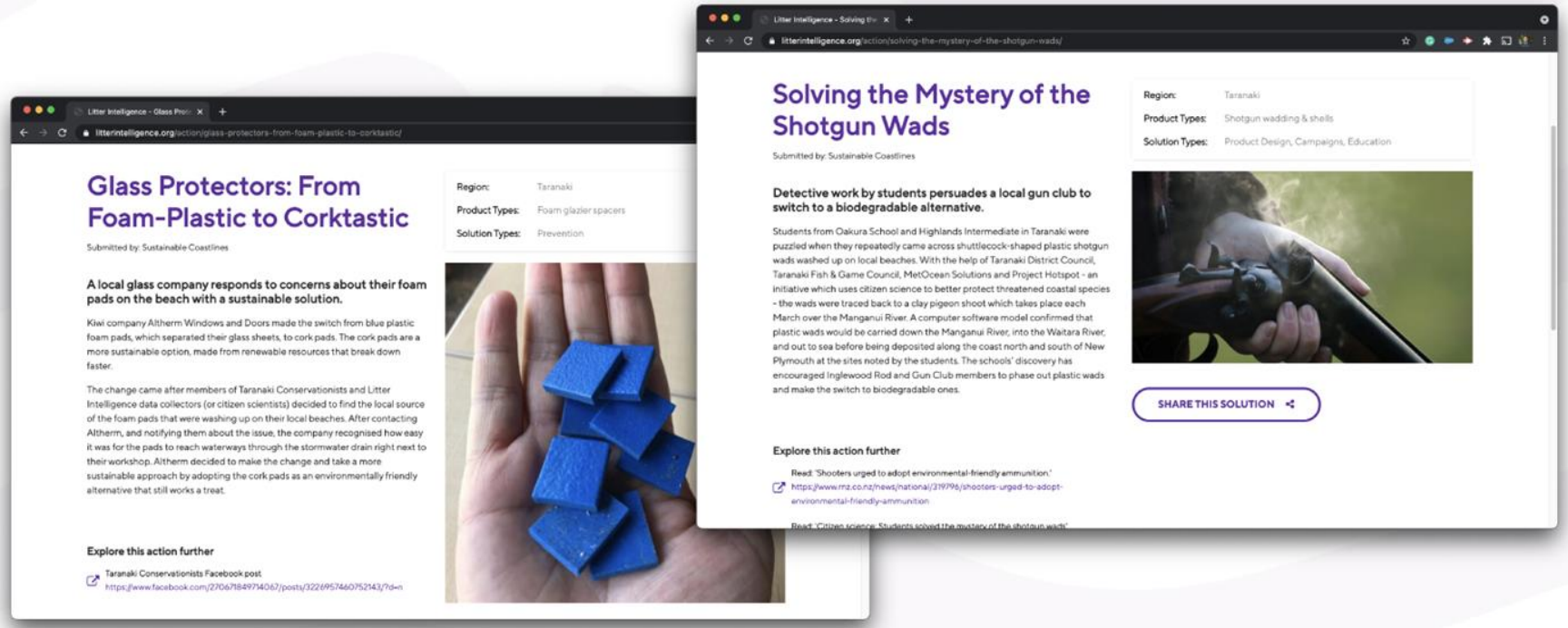
Abstract
The UN Sustainable Development Goals (SDGs) are a vision for achieving a sustainable future. Reliable, timely, comprehensive, and consistent data are critical for measuring progress towards, and ultimately achieving, the SDGs. Data from citizen science represent one new source of data that could be used for SDG reporting and monitoring. However, information is still lacking regarding the current and potential contributions of citizen science to the SDG indicator framework. Through a systematic review of the metadata and work plans of the 244 SDG indicators, as well as the identification of past and ongoing citizen science initiatives that could directly or indirectly provide data for these indicators, this paper presents an overview of where citizen science is already contributing and could contribute data to the SDG indicator framework. The results dem-

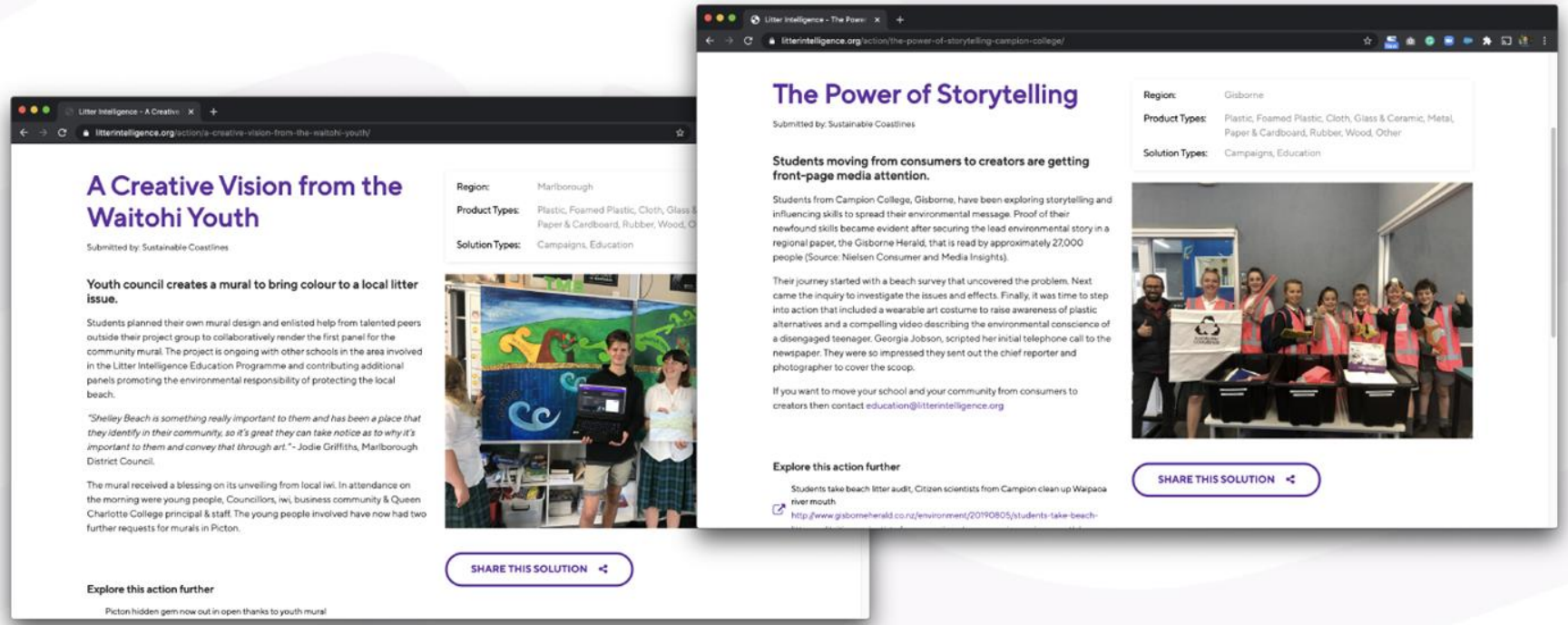
Success stories

BUSINESS



Success stories

COMMUNITY / NON-PROFIT



Looking forward

PROGRAMME DEVELOPMENT

Waste flows in waterways and coastal marine environments

This indicator will show the amount of waste discharged into waterways and coastal areas around New Zealand each year. The term 'waste' includes chemicals, sewage, and solid waste.

This indicator is still to be developed.

Development of official 'Tier 1' indicator for litter.
Reporting on Wellbeing Indicators.

Train the Trainer programme.

Better online delivery tools.

Enhanced Learning Management System.

Increased cultural and language accessibility.

Further Pacific piloting and rollout.

Litter action workshops.

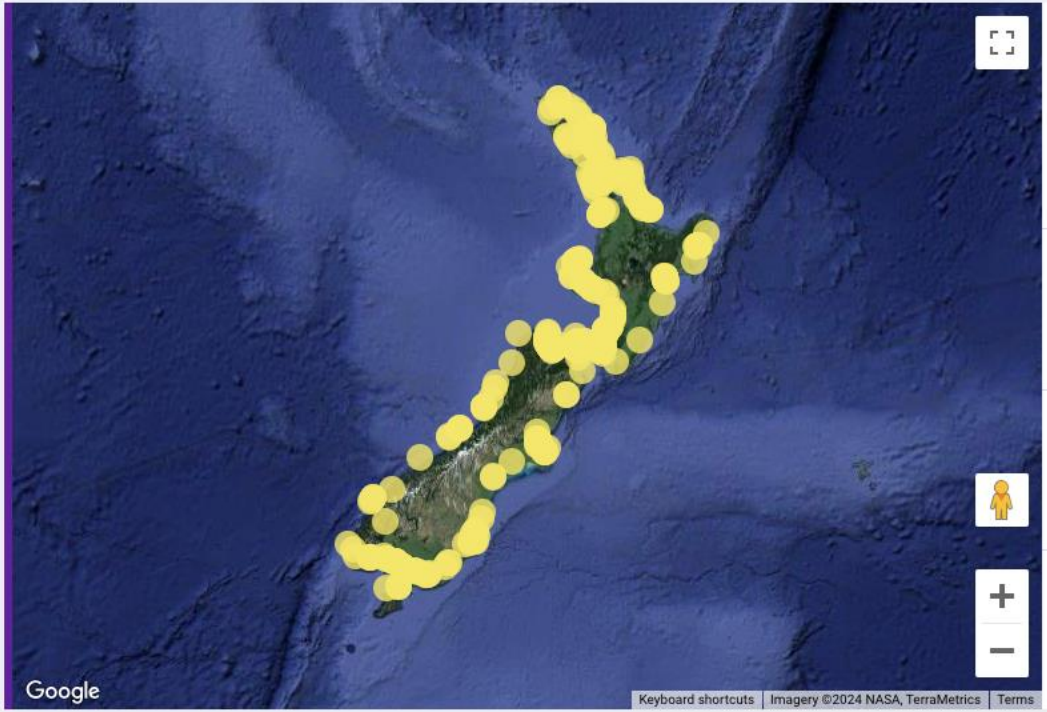
Terrestrial litter and microplastics data integration.

Beach | Stormwater | Freshwater | Land | International

SET 1

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

Survey Locations



LITTER DENSITY
Items Per 1000m2

Low 0
High 10,818
Average 309

SURVEY AREAS
352

SURVEYS COMPLETED
2,007

VOLUNTEER HOURS
25,244

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

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

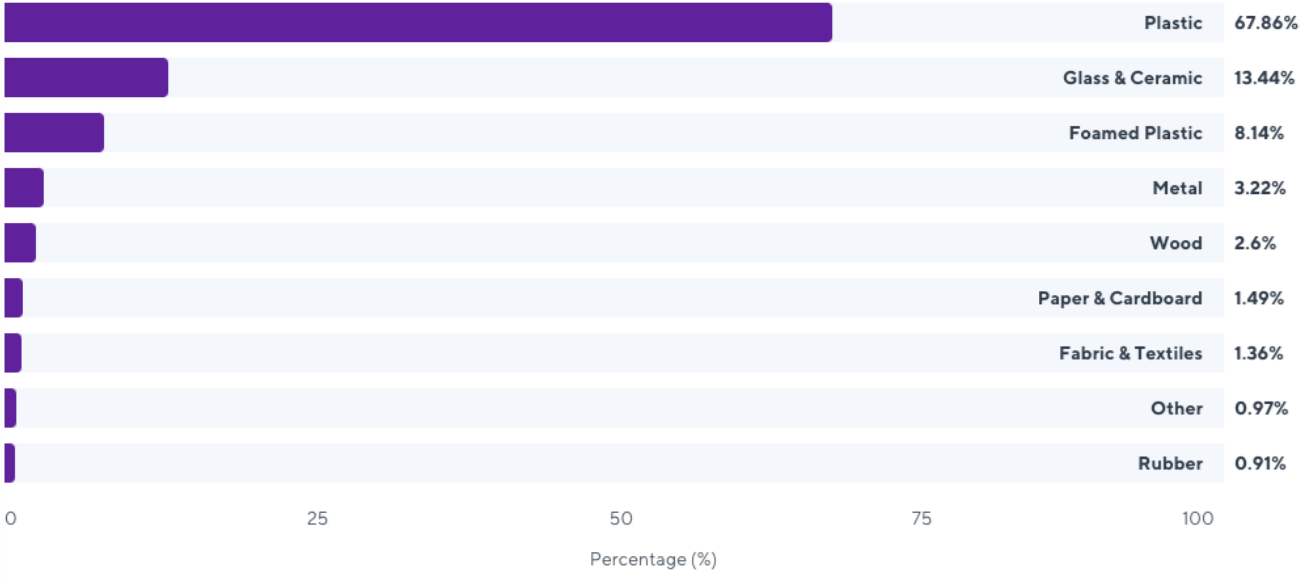
Materials & Products

TOTAL ITEM COUNT
566,312

TOTAL WEIGHT (KG)
12,913.51

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

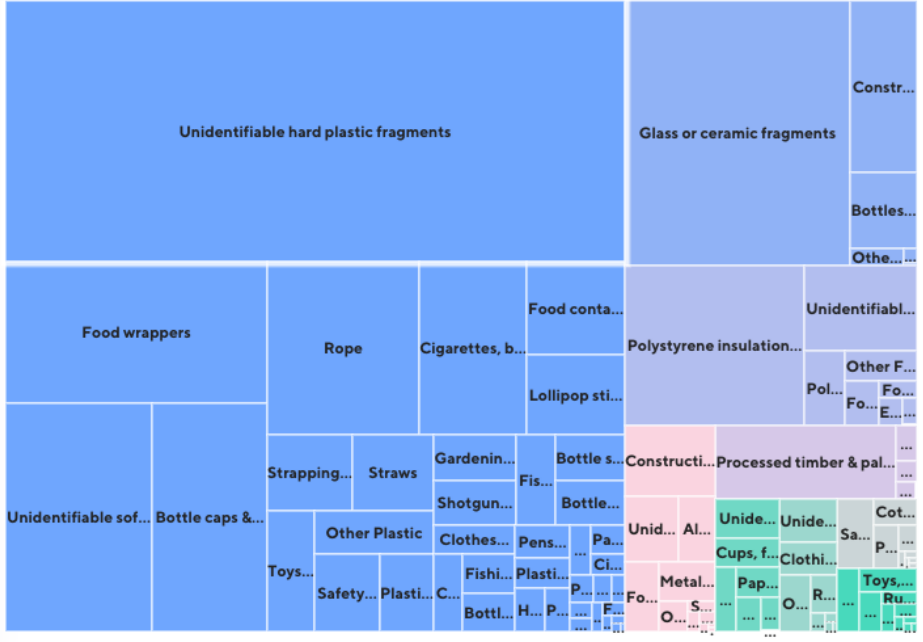
All Litter Types

All Time

Total Litter By Type

TOTAL ITEMS

ITEMS WEIGHT



- Plastic 67.86%
- Glass & Ceramic 13.44%
- Foamed Plastic 8.14%
- Metal 3.22%
- Wood 2.6%
- Paper & Cardboard 1.49%
- Fabric & Textiles 1.36%
- Other 0.97%
- 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

All Time

Litter Type

Take Action

LITTER TYPE - ITEMS

ITEMS WEIGHT

#	PRODUCT	MATERIAL	TOTAL ITEMS	% OF TOTAL
1	Unidentifiable hard plastic fragments	Plastic	158,652	28.01 %
2	Glass or ceramic fragments	Glass & Ceramic	58,490	10.33 %
3	Food wrappers	Plastic	36,229	6.40 %
4	Unidentifiable soft plastic fragments	Plastic	32,970	5.82 %
5	Polystyrene insulation or packaging	Foamed Plastic	28,158	4.97 %
6	Bottle caps & lids	Plastic	26,047	4.60 %
7	Rope	Plastic	25,707	4.54 %
8	Cigarettes, butts & filters	Plastic	18,184	3.21 %
9	Processed timber & pallet crates	Wood	13,097	2.31 %
10	Construction material	Glass & Ceramic	11,440	2.02 %

Litter
Intelligence.
Data. Insights. Action.

Find out more and get involved
litterintelligence.org