

2021 ReefClean Report

Tackling marine debris pollution impacting
the Great Barrier Reef



ReefClean is funded by the Australian Government's Reef Trust



AUSTRALIAN
MARINE DEBRIS INITIATIVE



ReefClean

Educate • Reduce • Prevent

Tangaroa Blue Foundation would like to acknowledge the First Nations people as the traditional custodians of country across Australia and recognise their continuing connection to land, waters and culture. We pay our deep respects to all Elders past, present and emerging.



*Above: Onboard, during the 2021 helicopter survey. Credit: Tangaroa Blue Foundation
Cover Photo: Volunteers with their collection at Farnborough Beach*

ReefClean is funded by the Australian Government's Reef Trust and delivered by Tangaroa Blue Foundation in partnership with Reef Check Australia, Eco Barge Clean Seas, Capricornia Catchments, South Cape York Catchments, OceanWatch Australia and AUSMAP.



Executive summary

This report summarises the 2021 ReefClean project, including all community clean-ups, monitoring events, Great Barrier Reef (GBR) Clean-up events and disaster management clean-ups. ReefClean is funded by the Australian Government's Reef Trust, which aims to remove and prevent marine debris across the GBR region. Event and engagement statistics and the top five items found are provided for the overall project. The top five items found are provided with comparison to the first two years of the program, 2020 and 2019. Event and item data from 2019 to 2021 is then broken down for the northern, central and southern regions of each Natural Resource Management (NRM) region.

The Land Sea Source Index (LSSI) is also estimated for each NRM region zone, and is displayed as a ratio of debris estimated to come from a local origin compared to that coming from an offshore origin. In each zone, the debris density is calculated as the number of pieces per square metre, using an average site width of 45m for each clean-up. This metric is used to ensure that the data is directly comparable to other programs run by Tangaroa Blue Foundation.

Ninety organisations, volunteer groups, schools and Traditional Owner groups participated in the 2021 ReefClean project. At 335 clean-up events, over 31.2 tonnes of debris was removed by 2,633 volunteers over 1,775 hectares. Volunteer effort was particularly high in the southern Fitzroy region, with 310 volunteer occasions for a total of 1,308 hours in 2021. Using the data collected from these clean-ups and entered into the Australian Marine Debris Initiative (AMDII) Database, 21 source reduction plans (SRPs) were rolled out and 186 educational and awareness raising activities were held. ReefClean workshops and presentations had over 20,000 participants in 2021. Despite COVID-19 related challenges over the last two years, the program has grown significantly since it began in 2019.

Plastic bits and pieces (hard and solid) and lids and tops, pump spray, flow restrictor and similar remain as the top two item categories, with no change from previous years. These two item categories were also often found in the top three for each NRM region zone, with foam insulation and packaging (whole and remnants) and plastic film remnants also found in high numbers. The three zones in the Cape York region had the highest density of debris, ranging from 0.203 to 0.226 pieces per m². The central Fitzroy region, on the other hand, had the lowest debris density for the last two years at 0.003 pieces per m² in 2021 and 0.002 in 2020. All data was entered into the AMDI Database and will inform management strategy recommendations and plans in the future.

What is ReefClean?

ReefClean is a project funded by the Australian Government's Reef Trust, which aims to remove and prevent marine debris across the Great Barrier Reef (GBR) region. Reef Trust is the Australian Government's program to support the delivery of the Reef 2050 Long-Term Sustainability Plan (Reef 2050 Plan), and as such ReefClean is meeting the Plan's objectives and goals for 2021-2025, as well as those of the National Plastics Plan 2021.

This project began in 2019 and will span five years, concluding in 2023. ReefClean is delivered by Tangaroa Blue Foundation and project partners, Reef Check Australia, Capricornia Catchments, Eco Barge Clean Seas, OceanWatch Australia, South Cape York Catchments, Australian Microplastics Assessment Project (AUSMAP).

There are several elements to the ReefClean project, including community clean-ups, marine debris monitoring and other clean-up events, as well as source reduction plans (SRPs) to prevent litter entering the environment. Data collected during these events is entered in the Australian Marine Debris Initiative (AMDII) Database.



Volunteers on Orpheus Island. Credit: Tangaroa Blue Foundation.

2021 PROGRAM



CLEAN-UP
EVENTS

318



31.2

TONNES OF MARINE
DEBRIS REMOVED



Flying Fish Point in the Wet Tropics region. Credit: Tangaroa Blue Foundation



2,633

VOLUNTEERS AT
CLEAN-UPS



HECTARES
CLEANED

1,775

SRP CAMPAIGNS ROLLED OUT 21

90



ORGANISATIONS
PARTICIPATED IN
REEFCLEAN PROGRAMS

SCHOOLS AND
YOUTH GROUPS

22

INCLUDING



TRADITIONAL
OWNER GROUPS

14

EDUCATIONAL
AND AWARENESS
RAISING ACTIVITIES


















186



PARTICIPANTS AT
WORKSHOPS AND
PRESENTATIONS

20,441

TOP 5 ITEMS






2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>
 <p>Foam insulation & packaging (whole and remnants)</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>	 <p>Foam insulation & packaging (whole and remnants)</p>
 <p>Plastic drink bottles (water, juice, milk, soft drink)</p>	 <p>Rope & net scraps (<1m)</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>
 <p>Rubber footwear & thongs</p>	 <p>Foam insulation & packaging (whole and remnants)</p>	 <p>Rope & net scraps (<1m)</p>



Debris collected on Orpheus Island. Credit: Tangaroa Blue Foundation.










TORRES STRAIT



	2021	2020	2019
 NUMBER OF EVENTS HELD	1	4	3
 NUMBER OF VOLUNTEERS	17	136	126
 VOLUNTEER HOURS	51	342	252
 WEIGHT IN KILOGRAMS	101	375	251
 DEBRIS DENSITY pieces per metre square	0.086	0.060	0.050
LAND SEA SOURCE INDEX source of debris from land and sea	20:80	31:69	67:33

Volunteers on Darnley Island in Torres Strait. Credit: Tangaroa Blue Foundation.

TOP 3 ITEMS






2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Cigarette butts and filters</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Glass or ceramic, broken</p>
 <p>Foam insulation & packaging (whole & remnants)</p>	 <p>Glass or ceramic, broken</p>	 <p>Plastic packaging food (wrap, packets, containers)</p>












Volunteers on Darnley Island in Torres Strait. Credit: Tangaroa Blue Foundation.

CAPE YORK – NORTH



	2021	2020	2019
 NUMBER OF EVENTS HELD	7	9	6
 NUMBER OF VOLUNTEERS	100	107	48
 VOLUNTEER HOURS	2,394	994	984
 WEIGHT IN KILOGRAMS	5,139	2,065	2,756
 DEBRIS DENSITY pieces per metre square	0.226	0.037	0.149
LAND SEA SOURCE INDEX source of debris from land and sea	2:98	15:85	3:97

TOP 3 ITEMS






2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Cigarette butts & filters</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>
 <p>Rubber footwear & thongs</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>



Volunteers at Captain Billy's Landing in Cape York. Credit: Tangaroa Blue Foundation.










CAPE YORK – CENTRAL



	2021	2020	2019
 NUMBER OF EVENTS HELD	6	10	6
 NUMBER OF VOLUNTEERS	76	70	34
 VOLUNTEER HOURS	1,974	982	701
 WEIGHT IN KILOGRAMS	3,441	3,128	2,113
 DEBRIS DENSITY pieces per metre square	0.225	0.113	0.157
LAND SEA SOURCE INDEX source of debris from land and sea	2:98	5:95	2:98

Debris collected at Chilli Beach. Credit: Tangaroa Blue Foundation.

TOP 3 ITEMS






2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>
 <p>Rubber footwear & thongs</p>	 <p>Rope & net scraps (<1m)</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>












Plastic bottles collected at Chilli Beach. Credit: Tangaroa Blue Foundation.

CAPE YORK – SOUTH



	2021	2020	2019
 NUMBER OF EVENTS HELD	21	29	25
 NUMBER OF VOLUNTEERS	143	253	280
 VOLUNTEER HOURS	658	769	1159
 WEIGHT IN KILOGRAMS	1,733	4,229	5,729
 DEBRIS DENSITY pieces per metre square	0.203	0.050	0.074
LAND SEA SOURCE INDEX source of debris from land and sea	7:93	6:94	5:95

TOP 3 ITEMS






2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>
 <p>Plastic drink bottles (water, juice, milk, soft drink)</p>	 <p>Plastic drink bottles (water, juice, milk, soft drink)</p>	 <p>Foam insulation & packaging (whole and remnants)</p>



Volunteers and the debris collected at Cedar Bay. Credit: Tangaroa Blue Foundation.










WET TROPICS – NORTH



	2021	2020	2019
 NUMBER OF EVENTS HELD	31	23	14
 NUMBER OF VOLUNTEERS	264	210	91
 VOLUNTEER HOURS	961	891	431
 WEIGHT IN KILOGRAMS	1,325	1,565	1,145
 DEBRIS DENSITY pieces per metre square	0.031	0.021	0.043
LAND SEA SOURCE INDEX source of debris from land and sea	29:71	15:85	6:94

Children from Port Explorers Childcare in Port Douglas learning about marine debris.
Credit: Tangaroa Blue Foundation.

TOP 3 ITEMS






2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>
 <p>Foam insulation & packaging (whole and remnants)</p>	 <p>Foam insulation & packaging (whole and remnants)</p>	 <p>Foam insulation & packaging (whole and remnants)</p>












Jabalbina Rangers of the Eastern Kuku Yalanji People cleaning-up at Cape Kimberley.
Credit: Tangaroa Blue Foundation.

WET TROPICS – CENTRAL



	2021	2020	2019
 NUMBER OF EVENTS HELD	30	20	19
 NUMBER OF VOLUNTEERS	294	169	220
 VOLUNTEER HOURS	768	685	357
 WEIGHT IN KILOGRAMS	1,116	540	356
 DEBRIS DENSITY pieces per metre square	0.023	0.014	0.012
LAND SEA SOURCE INDEX source of debris from land and sea	40:60	56:44	56:44

TOP 3 ITEMS






2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Foam insulation & packaging (whole & remnants)</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>
 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>	 <p>Fishing line (Recreation)</p>	 <p>Plastic packaging food (wrap, packets, containers)</p>



Volunteer sifting through the high tide line at Coconuts Beach. Credit: Tangaroa Blue Foundation.










WET TROPICS – SOUTH



	2021	2020	2019
 NUMBER OF EVENTS HELD	19	27	10
 NUMBER OF VOLUNTEERS	153	93	146
 VOLUNTEER HOURS	835	380	606
 WEIGHT IN KILOGRAMS	3,094	2,263	1,925
 DEBRIS DENSITY pieces per metre square	0.009	0.034	0.048
LAND SEA SOURCE INDEX source of debris from land and sea	34:66	18:82	16:84

Volunteers sorting debris collected at Forrest Beach. Credit: Tangaroa Blue Foundation.

TOP 3 ITEMS






2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Foam insulation & packaging (whole and remnants)</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Foam insulation & packaging (whole and remnants)</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>	 <p>Fishing line (Recreation)</p>












Volunteer sorting debris collected at Kennedy Bay. Credit: Tangaroa Blue Foundation.

BURDEKIN – NORTH



	2021	2020	2019
 NUMBER OF EVENTS HELD	37	28	31
 NUMBER OF VOLUNTEERS	282	189	315
 VOLUNTEER HOURS	737	590	844
 WEIGHT IN KILOGRAMS	1,854	1,155	2,456
 DEBRIS DENSITY pieces per metre square	0.044	0.044	0.123
LAND SEA SOURCE INDEX source of debris from land and sea	37:63	29:71	16:84

TOP 3 ITEMS






2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>
 <p>Cigarette butts & filters</p>	 <p>Glass or ceramic broken</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>












Debris collected on Orpheus Island. Credit: Tangaroa Blue Foundation.

BURDEKIN – CENTRAL



	2021	2020	2019
 NUMBER OF EVENTS HELD	6	4	4
 NUMBER OF VOLUNTEERS	32	25	16
 VOLUNTEER HOURS	55	107	53
 WEIGHT IN KILOGRAMS	198	188	368
 DEBRIS DENSITY pieces per metre square	0.040	0.079	0.075
LAND SEA SOURCE INDEX source of debris from land and sea	96:4	100:0	100:0






TOP 3 ITEMS

2021	2020	2021
 <p>Glass or ceramic broken</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Glass or ceramic broken</p>
 <p>Plastic bits & pieces hard & solid</p>	 <p>Glass or ceramic broken</p>	 <p>Fishing line (Recreation)</p>
 <p>Foam insulation & packaging (whole and remnants)</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>












BURDEKIN – SOUTH



	2021	2020	2019
 NUMBER OF EVENTS HELD	18	20	19
 NUMBER OF VOLUNTEERS	129	128	65
 VOLUNTEER HOURS	547	515	191
 WEIGHT IN KILOGRAMS	329	516	308
 DEBRIS DENSITY pieces per metre square	0.022	0.015	0.014
LAND SEA SOURCE INDEX source of debris from land and sea	63:37	50:50	51:49






TOP 3 ITEMS

2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>	 <p>Plastic bags supermarket, garbage, dog poo, ice</p>
 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>











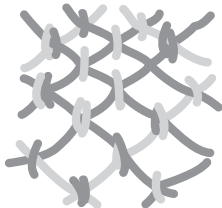
MACKAY WHITSUNDAY – NORTH



	2021	2020	2019
 NUMBER OF EVENTS HELD	20	26	19
 NUMBER OF VOLUNTEERS	128	104	158
 VOLUNTEER HOURS	594	327	658
 WEIGHT IN KILOGRAMS	1,990	1,649	1,486
 DEBRIS DENSITY pieces per metre square	0.072	0.067	0.093
LAND SEA SOURCE INDEX source of debris from land and sea	14:86	16:84	16:84

Plastic bits and pieces collected at Turtle Bay on South Molle Island. Credit: Tangaroa Blue Foundation.

TOP 3 ITEMS






2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>
 <p>Rope</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>	 <p>Rope & net scraps (<1m)</p>









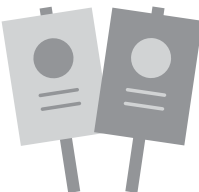


Assorted debris found at Saba Bay on Hook Island. Credit: Tangaroa Blue Foundation.

MACKAY WHITSUNDAY – CENTRAL



	2021	2020	2019
 NUMBER OF EVENTS HELD	13	15	10
 NUMBER OF VOLUNTEERS	89	62	78
 VOLUNTEER HOURS	301	241	326
 WEIGHT IN KILOGRAMS	701	216	696
 DEBRIS DENSITY pieces per metre square	0.028	0.016	0.032
LAND SEA SOURCE INDEX source of debris from land and sea	21:79	43:57	36:64






TOP 3 ITEMS

2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>
 <p>Synthetic cardboard (corflute) signs & packaging</p>	 <p>Toys, party poppers, ribbons, clips & similar</p>	 <p>Cigarette butts & filters</p>









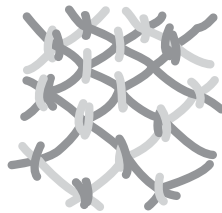


MACKAY WHITSUNDAY – SOUTH



	2021	2020	2019
 NUMBER OF EVENTS HELD	18	8	8
 NUMBER OF VOLUNTEERS	98	26	63
 VOLUNTEER HOURS	345	71	274
 WEIGHT IN KILOGRAMS	2,114	36	185
 DEBRIS DENSITY pieces per metre square	0.030	0.016	0.061
LAND SEA SOURCE INDEX source of debris from land and sea	23:77	31:69	26:74

TOP 3 ITEMS






2021	2020	2020
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>
 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>	 <p>Rope & net scraps (<1m)</p>










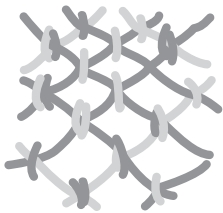

Tangaroa Blue Foundation CEO, Heidi Tait, explaining monitoring protocols at Louisa Creek, Hay Point.
Credit: Tangaroa Blue Foundation.

FITZROY – CENTRAL



	2021	2020	2019
 NUMBER OF EVENTS HELD	23	18	22
 NUMBER OF VOLUNTEERS	225	226	530
 VOLUNTEER HOURS	1,063	806	2,461
 WEIGHT IN KILOGRAMS	1,432	975	2,076
 DEBRIS DENSITY pieces per metre square	0.003	0.002	0.013
LAND SEA SOURCE INDEX source of debris from land and sea	30:70	7:93	17:83

TOP 3 ITEMS






2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>
 <p>Cigarette butts & filters</p>	 <p>Rope & net scraps (<1m)</p>	 <p>Cigarette butts & filters</p>










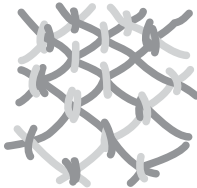

Volunteers and the debris collected at Five Rocks in the Fitzroy region Credit: Tangaroa Blue Foundation.

FITZROY – SOUTH



	2021	2020	2019
 NUMBER OF EVENTS HELD	36	47	32
 NUMBER OF VOLUNTEERS	310	338	348
 VOLUNTEER HOURS	1,309	750	1,047
 WEIGHT IN KILOGRAMS	1,967	1,251	2,068
 DEBRIS DENSITY pieces per metre square	0.014	0.023	0.017
LAND SEA SOURCE INDEX source of debris from land and sea	23:77	15:85	42:58

TOP 3 ITEMS






2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Lids & tops, pump spray, flow restrictor & similar</p>
 <p>Plastic packaging food (wrap, packets, containers)</p>	 <p>Rope & net scraps (<1m)</p>	 <p>Glass or ceramic broken</p>












Volunteers sorting debris on Facing Island. Credit: Tangaroa Blue Foundation.

BURNETT MARY – NORTH



	2021	2020	2019
 NUMBER OF EVENTS HELD	13	11	13
 NUMBER OF VOLUNTEERS	80	44	86
 VOLUNTEER HOURS	421	81	239
 WEIGHT IN KILOGRAMS	601	117	160
 DEBRIS DENSITY pieces per metre square	0.008	0.004	0.010
LAND SEA SOURCE INDEX source of debris from land and sea	34:66	57:43	38:62

TOP 3 ITEMS






2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>
 <p>Lids & tops, pump spray, flow restrictor & similar</p>	 <p>Cigarette butts & filters</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>
 <p>Rope</p>	 <p>Plastic packaging food (wrap, packets, containers)</p>	 <p>Glass or ceramic broken</p>












Debris collected at Bustard Bay. Credit: Tangaroa Blue Foundation.

BURNETT MARY – CENTRAL



	2021	2020	2019
 NUMBER OF EVENTS HELD	19	19	17
 NUMBER OF VOLUNTEERS	111	100	128
 VOLUNTEER HOURS	307	218	365
 WEIGHT IN KILOGRAMS	283	141	280
 DEBRIS DENSITY pieces per metre square	0.007	0.012	0.008
LAND SEA SOURCE INDEX source of debris from land and sea	76:24	77:23	80:20

TOP 3 ITEMS

2021	2020	2019
 <p>Plastic bits & pieces hard & solid</p>	 <p>Plastic bits & pieces hard & solid</p>	 <p>Cigarette butts & filters</p>
 <p>Cigarette butts & filters</p>	 <p>Cigarette butts & filters</p>	 <p>Glass or ceramic broken</p>
 <p>Fishing line (Recreation)</p>	 <p>Plastic film remnants (bits of plastic bag, wrap etc)</p>	 <p>Plastic bits & pieces hard & solid</p>



SOURCE REDUCTION PLANS



The ReefClean source reduction plans (SRPs) are informed by the AMDI Database and are designed to target the most common sources of marine debris across the GBR region to stop the litter entering into the environment in the first instance.

Twenty-one SRP campaigns were run in 2021, with a number of them continuing on from previous years. In addition, two commercial SRPs were delivered with our partner, OceanWatch.

The 2021 campaigns targeted fishing tackle, cigarettes, dog poo, pellet loss, general litter, bait bags, chemical glow sticks and rubber crumb.

Top: Tangaroa Blue Foundation Staff, Dan, Brett and Izzy, at Queensland Country Bank Stadium to implement the Ditch the Flick campaign. **Middle:** Tangaroa Blue Foundation Staff, Kara-mae, and a volunteer cleaning up rubbish as part of the Litter Hero campaign at Queensland Country Bank Stadium. **Bottom:** Product trials as part of the commercial bait bags SRP with OceanWatch. All photos: Tangaroa Blue Foundation.



SRP CAMPAIGNS
ROLLED OUT 21

KEY RESULTS

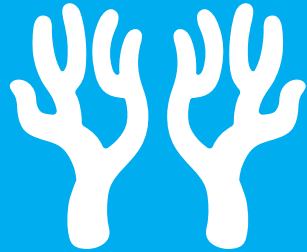
- **63% average reduction** in cigarette butts per 1000 spectators at rugby games at Queensland Country Bank Stadium after installing designated outdoor smoking areas (DOSAs).
- **71% decline** in fishing-related debris after the unveiling of the Causeway Lake Mural.
- **74% decrease** in cigarette litter at the Innisfail Boat Ramp around the area in which a butt bin was installed.
- Cardwell and Bowen rubber crumb monitoring sites had the greatest rubber loss across the region with over **25,000 pieces per m²** along the edge of the site.
- The number of participants in SRPs **increased from 257** in 2020 **to 4,351** in 2021.
- **170%** increase in the number of material recipients.



CONTRIBUTING ORGANISATIONS

Tangaroa Blue Foundation would like to thank all the dedicated volunteers for their ongoing support for these annual events. Tangaroa Blue Foundation would also like to thank the following organisations for their support with the 2021 clean-ups.

Capricornia Catchments	Gladstone West State School	Owens Wildlife Adventures
Absolute North Charters	Great Adventures Cruises	PCYC Cooktown
Aerial Media Gladstone	Great Barrier Reef Marine Park Authority	Port Explorers Out of School Hours Care (OSHC)
Agnes Water State School	Green Island Resort	Queensland Country Bank Stadium
Apudthama Rangers	Green STEM group	Queensland Parks and Wildlife Services
AUSMAP	Greenhouse Accommodation	Reef Catchments
Australian Department of Agriculture	Gudjuda Rangers	Reef Check Australia
Australian Government's Reef Trust	Gunggandji Land & Sea Rangers	Regional Arts Development Fund
Belgian Gardens State School	Gunggandji-Mandimalbay Yidinji Peoples Prescribed Body Corporate Aboriginal Corporation	Riverbend Tours
Birdlife Capricornia	Gunggandji-Mandimalbay Yidinji Peoples Prescribed Body Corporate Rangers	Santos
Blue Planet Marine	Hinchinbrook Shire Council	Shell QGC
Boyne Island State School	InTrek Volunteering (Education Queensland)	South Cape York Catchments
Boyne Smelters Limited	Jabalbina Yalanji Rangers	St Johns School
Burdekin Shire Council	Kin Kora State School	St Luke's Anglican School, Bundaberg
Cassowary Coast Local Marine Advisory Committee	Kuuku Ya'u Aboriginal Corporation	SV Whitehaven
Cassowary Coast Regional Council	Kuuku Ya'u Land Trust Rangers	Tagai State College-Darnley Island Campus
Chanel College	Lama Lama Land Trust	Tangaroa Blue Foundation
Cleanwater Group	Livingstone Shire Council	Tannum Sands State School
Conoco Phillips	Lockhart River State School	Team Turtle CQ
Cook Shire Council	Mackay North State School	Toolooa State School
Crackajack Sportfishing Adventures	MAMS Group	Torres Strait Regional Authority - Land and Sea Rangers
Curtis Island Ferry Services	Mash Designs	Trinity Anglican School
Dabu Jajikal Aboriginal Corporation	Miallo State School	Wavelength Reef Cruises
Dalrymple Bay Coal Terminal	Morris Family Foundation	Westofish Sportfishing Charters
Discovery Coast Conservatory	Mourilyn State School	Whitehaven Adventures
Djunbunji Ltd Land and Sea Program	Northern Peninsula Area Regional Council	Whitsunday Catchment Landcare
Douglas Shire Council	NQ Dry Tropics	Yintjingga Aboriginal Corporation
Eco Barge Clean Seas Inc.	Orpheus Island Lodge Resort	Young Veterans Association (Central QLD)
Elijah's World	Orpheus Island Research Station	Yuku Baja Muliku Rangers
Endeavour Christian College		
Gidarjil Development Corporation		
Gladstone Homeschoolers		
Gladstone Regional Council		



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We would like to thank the Australian Government's Reef Trust program for their continued support of ReefClean. Thank you to the extraordinary volunteers, partners and collaborators, without which ReefClean would not be able to operate.

A final thank you to Tangaroa Blue Foundation staff for their tireless efforts to make this program the success that it is.

www.reefclean.org