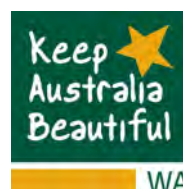


# 2022 Western Australia Beach Clean-up Report

Quantifying marine debris on the Western Australian coastline and marine environment



AUSTRALIAN  
MARINE DEBRIS INITIATIVE



---

*Tangaroa Blue Foundation acknowledges the First Nations people as Traditional Owners and Custodians of Country across Australia, including the Land and Sea Country on which we live and work.*

*We pay our respects to their Elders past, present and emerging, and acknowledge their continuous relationship to this land and the ongoing cultures of Aboriginal and Torres Strait Islander peoples across Australia.*

---

# EXECUTIVE SUMMARY

This report summarises data gathered from the 2022 Western Australian Beach Clean-up event. Statistics are provided for the State of Western Australia (WA) and seven of the state's [National Resource Management \(NRM\) regions](#). For each NRM region, the Land Sea Source Index (LSSI), density of debris and top 10 items collected are provided, and a single site has been chosen as a case study.

2022 marks the 18th year of the WA Beach Clean-up (WABCU) and new records were set for the numbers of schools engaged, Tangaroa Blue Foundation staff supported events, and weight of debris collected. Across 163 km of the sweeping Western Australian coastline, over 1,650 volunteers from 67 organisations, volunteer groups, communities and schools dedicated over 3,150 hours to collect almost 5 tonnes of debris.

Volunteer effort was again concentrated in the most populated South West and Swan River regions. The Indian Ocean Territories recorded the highest density of marine debris, with an average of 0.141 items/m<sup>2</sup>. This is likely caused by the extremely heavy (661 kg) mass of debris found there over just 4 events. The South West region recorded the lowest density of marine debris.

Fewer events were held in 2022 compared to 2021, however this year there were 200 more volunteers and 1.7 tonnes more debris collected over a shorter distance. Teams were able to reach more remote communities and travel longer distances using paddle boards, kayaks and 4WDs. This was also the first year Tangaroa Blue Foundation teamed up with Keep Australia Beautiful WA for a 4WD road-trip to remote Northern Agricultural regions. This trip, along with an increased presence of Tangaroa Blue Foundation staff at clean-ups, enabled more collaborations with remote communities that had never before joined WABCU. Nearly four times as many schools registered in 2022 compared to 2021 and Tangaroa Blue Foundation will work hard to continue this trajectory. Seven events took place in and around estuaries, which is an important recognition of rivers and estuaries as pathways for debris. WABCU history was made when 31 volunteers from Pemberton Discovery Tours and Track Care WA collected 1 tonne of debris (>2,000 items) from Yeagarup Beach; this is the heaviest amount of debris ever collected from one WABCU site!

Plastic was the most common type of material found across WA, with fishing items the most common category. The origins of debris are extremely variable across the state with the majority (over 95%) of debris in the South Coast, Southern Rangelands and Indian Ocean Territories estimated to be from offshore sources and 100% of debris from the Peel-Harvey region estimated to be land-based. This is useful when designing and tailoring mitigation strategies for each region.

2022 has been an exciting year for plastic policy in WA, with the state government rolling out the first stage of [WA's Plan for Plastics](#), which bans the use of many single-use plastic items, with more to be banned after the second stage in February 2023. Similar policies have been introduced in other Australian States and around the globe and led to a noticeable reduction in the use of single-use plastic products. To know if policy interventions work, data (such as that contributed to the AMDI Database) is needed before, during and after their implementation to measure impact.



# WHAT IS WABCU?






Since 2005, NRM organisations, community and Coastcare Groups, Indigenous Land and Sea Rangers, businesses, schools and dedicated individuals have come together every October to clean the vast and stunning coastal areas and major rivers of Western Australia for the annual Western Australian Beach Clean-up. Now, in its 18th year, volunteers have covered some of the most remote corners of the state by 4WD, kayak, paddleboard and foot.

Interested parties register their event on the Tangaroa Blue Foundation website to receive clean-up resources and information needed to run their event safely and effectively. Debris is collected and data entered into the Australian Marine Debris Initiative (AMDI) Database. By continually monitoring these sites over time, we can identify areas where debris is most prevalent (i.e. debris 'hotspots'), provide data to support policy change, design and implement Source Reduction Plans (SRPs) and assess the effectiveness of these strategies at reducing debris over time.

We are grateful to long-term partners [Keep Australia Beautiful WA](#) and [Tallwood Custom Built Homes](#) for their support of the 2022 Western Australian Beach Clean-up.

The Tangaroa Blue Foundation defines marine debris as man-made waste, litter and debris in any oceanic, coastal, inland water and shoreline environment.

## 18TH YEAR OF THE WABCU

	2022	2021	2020
 <b>NUMBER OF EVENTS HELD</b>	<b>89</b>	<b>100</b>	<b>107</b>
 <b>NUMBER OF VOLUNTEERS</b>	<b>1,641</b>	<b>1,439</b>	<b>1,200</b>
 <b>VOLUNTEER HOURS</b>	<b>3,129</b>	<b>3,806</b>	<b>2,780</b>
 <b>DISTANCE COVERED (KM)</b>	<b>161.99</b>	<b>214.53</b>	<b>184.54</b>
 <b>WEIGHT REMOVED (KG)</b>	<b>4,646</b>	<b>3,230</b>	<b>3,210</b>

# TOP 10 STATISTICS

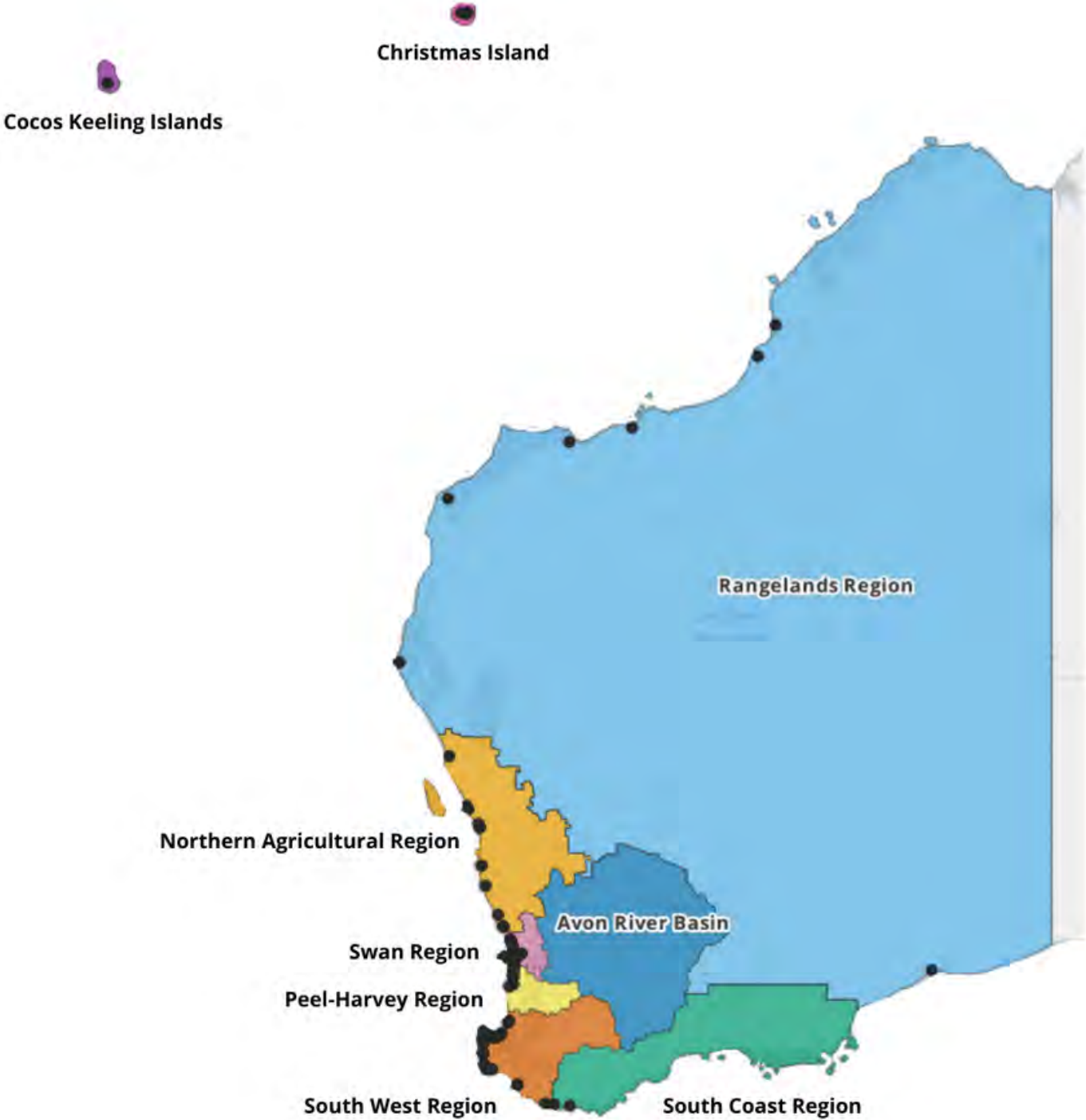
Top 10 items, categories and materials of marine debris

	Items	Categories	Materials
1	Rope*	Plastic fishing items (recreational & commercial)	Plastic
2	Plastic bits and pieces (hard & solid)	Plastic remnants (<50% intact)	Glass & ceramic
3	Plastic film remnants	Plastic packaging items	Paper & cardboard
4	Cigarette butts & filters	Plastic consumer items	Metal
5	Plastic food packaging	Glass or ceramic	Foam
6	Rope & net scraps (<1m)	Metal items	Mixed / Other+
7	Plastic lids, tops, pump spray & similar	Foam & polystyrene	Cloth
8	Glass or ceramic (broken)	Plastic industrial, commercial, shipping & miscellaneous items	Wood
9	Miscellaneous paper, labels & tickets	Cloth items	Rubber
10	Foam insulation and packaging	Wood items	Dangerous / hazardous items

\*Rope is measured in metres; the combined length in metres of all rope recovered is higher than the individual number of the other listed top 10 items.

+Other materials is a category with items made up of a mixture of materials or from materials that don't fit into the main material categories e.g. shoes, sanitary items, food scraps, building materials etc.

# WA NRM REGIONS



# DATA BY NRM REGION

CLEAN-UP DETAILS BY NRM						
	No. of events	Volunteer occasions	Volunteer hours	Weight (kg)	Debris Density (pieces / m <sup>2</sup> )	Land Sea Source Index - LSSI (% local : % offshore)*
Indian Ocean Territories	4	53	112	662	0.141	5:95
North Rangelands	6	146	269	416	0.007	47:53
Northern Agricultural	11	220	284	221	0.012	51:49
Swan River	27	487	831	594	0.027	87:13
Peel-Harvey	2	154	308	370	0.027	100:0
South West	36	530	1,271	2,076	0.011	16:84
South Coast	1	1	1	7	0.002	1:99
South Rangelands	1	2	13	100	0.001	1:99

\* The LSSI is the estimated ratio of debris from local sources compared to offshore sources. The density of debris is calculated as the number of items per square metre, using an average site width of 45 m. This width is consistent with programs coordinated by Tangaroa Blue Foundation nationally to ensure consistency and comparability.

# TOP 10 ITEMS BY NRM

	Indian Ocean Territories	Rangelands (North and South)	Northern Agricultural	Swan River	Peel-Harvey	South West	South Coast
1	Plastic bits & pieces (hard & solid)	Plastic bits & pieces (hard & solid)	Plastic bits & pieces (hard & solid)	Plastic film remnants	Cigarette butts & filters	Rope (m)*	Plastic lids & tops, pump spray, flow restrictor & similar
2	Commercial fishing remnants	Rope & net scraps (<1m)	Plastic film remnants	Plastic bits & pieces (hard & solid)	Plastic bits & pieces (hard & solid)	Plastic bits & pieces (hard & solid)	Plastic drink bottles (water, juice, milk, soft drink)
3	Straws, confection sticks, cups, plates & cutlery	Fishing line (commercial)	Miscellaneous paper, labels & tickets	Plastic food packaging	Plastic food packaging	Rope & net scraps (<1m)	Rope (m)*
4	Rubber footwear & thongs	Plastic drink bottles (water, juice, milk, soft drink)	Glass or ceramic (broken)	Cigarette butts & filters	Plastic film remnants	Cigarette butts & filters	Plastic bits & pieces (hard & solid)
5	Plastic drink bottles (water, juice, milk, soft drink)	Plastic lids & tops, pump spray, flow restrictor & similar	Rope & net scraps (<1m)	Rope & net scraps (<1m)	Paper & cardboard packaging	Plastic film remnants	Strapping band scraps
6	Rubber remnants	Aluminium cans	Plastic food packaging	Glass or ceramic (broken)	Metal bottle caps, lids & pull tabs	Plastic lids & tops, pump spray, flow restrictor & similar	Plastic vehicle parts
7	Foam insulation & packaging	Sanitary (tissues, nappies, condoms, cotton buds)	Foam insulation & packaging	Straws, confection sticks, cups, plates & cutlery	Glass or ceramic (broken)	Plastic food packaging	Plastic bleach and cleaner bottles
8	Plastic food packaging	Fishing line (recreational)	Cigarette butts & filters	Plastic lids & tops, pump spray, flow restrictor & similar	Plastic bags (supermarket, garbage, dog poo, ice)	Glass or ceramic (broken)	Glass wine, spirit & similar bottles
9	Plastic wrap (non-food)	Rope (m)*	Foam buoys	Foam insulation & packaging	Foil wrappers, packets, bladders & foil	Plastic oddments	Chemical glow sticks
10	Plastic film remnants	Paper and cardboard packaging	Rope (m)*	Miscellaneous paper, labels & tickets	Miscellaneous paper, labels & tickets	Miscellaneous paper, labels & tickets	Foam insulation & packaging

\*Rope is measured in metres; the combined length in metres of all Rope\* recovered is higher than the individual number of the other listed top 10 items.



# CLEAN-UP LOCATIONS BY NRM

## INDIAN OCEAN TERRITORIES

Greta Beach, Christmas Island  
Home Island, Cocos (Keeling) Islands  
Lily Beach, Christmas Island  
The Dales, Christmas Island

## RANGELANDS NORTH

6 Mile Beach, Port Hedland  
Cable Beach  
Cape Lambert  
Lagrange Bay  
Mystery Beach, Dirk Hartog Island  
Town Beach, Exmouth

## NORTHERN AGRICULTURAL

7 Mile Beach  
Cervantes Beach  
Dynamite Bay, Greenhead  
Greenough Rivermouth  
Guilderton Beach and Estuary  
Kalbarri Estuary Foreshore  
Ledge Point Beach  
Moore River Estuary  
Seaspray Beach  
Separation Point, Geraldton

## SWAN RIVER

Alkimos Beach  
Attadale Reserve Foreshore  
Challenger Beach  
City of York Bay Beach  
Claremont Forshore  
Eden Beach  
Florence Beach  
Fraser Point Recreation Precinct, East Perth  
Jenalup Beach, Point Walter  
Kennedy Bay Beach  
Matilda Bay Foreshore, Nedlands  
Minim Cove, Mosman Park  
Mullaloo  
North Trigg Beach  
Peasholm Dog Beach  
Rosslare Park Beach  
Sandy Beach Reserve  
Secret Harbour  
Sorrento Beach  
South Beach, Fremantle

## SWAN RIVER CONTINUED

Thompson Bay, Rottnest Island  
Woodmans Point Regional Park  
Woodmans Point

## PEEL-HARVEY

Coodanup Foreshore  
Dawesville Cut Embankment South Side

## SOUTH WEST

Abbey Beach  
Bellanger Beach  
Boranup Beach South  
Busselton Jetty Foreshore  
Circus Beach  
Forrest Beach, Capel  
Foul Bay  
Gas Bay  
Gnarabup  
Hamelin Bay to Foul Bay  
Hillview  
Injidup  
Jays Beach  
Kilcarnup  
Koombana Bay, Bunbury  
Lighthouse Beach and Other Side Of The Moon  
Mandalay Beach  
Meelup Beach  
Mindalong Beach  
Old Dunsborough  
Old Rivermouth to Ledge Point, Scott River  
Port Geographe Marina  
Shelly Cove  
Siesta Park to Fourth Street Drain  
Smiths Beach  
Smiths Point, Yallingup  
West Busselton Drain  
West Busselton Foreshore  
Wilyabrup  
Wonnerup Beach  
Yallingup Beach  
Yeagarup Beach

## SOUTH COAST

Eagles Nest Beach

## RANGELANDS SOUTH

Twilight Cove

# CLEAN-UP DATA BY CASE STUDY

One site from each NRM region was chosen as a case study for further investigation. These sites were chosen based on long-term data, an unusual density of debris, an interesting item or story, or the cultural, ecological or social significance of the site. A map of the NRM regions and sites is on page 6, a list of clean-up locations on page 9, and summary statistics are on pages 7 and 8.

Please note, Noongar boodjar (country) includes the South West region of Western Australia and is the traditional Country of 14 Noongar groups. Noongar has several alternative spellings including Nyungar, Nyoongar, Nyoongah, Nyungah, Nyugah and Yunga.



Top: The beautiful Separation Point, Geraldton in the Northern Agricultural region (Credit: Tangaroa Blue Foundation).  
Bottom: Volunteers at Cape Lambert in the Northern Rangelands (Credit: Pilbara Turtle Program).

# INDIAN OCEAN TERRITORIES

## HOME ISLAND TURTLE NESTING BEACH, COCOS (KEELING) ISLANDS

The Cocos (Keeling) Islands are a group of 27 coral islands situated halfway between Australia and Sri Lanka and 900 km from their closest neighbour, Christmas Island. These islands are a hotspot for biodiversity and a crucial landing pad for migratory birds flying on the East Asian-Australasian Flyway. Out of all NRM regions, the Indian Ocean Territories (IOT) had the highest density of debris with 0.141 items/m<sup>2</sup> of coastline. Debris was even denser at Home Island at 0.156 items/m<sup>2</sup>. Only two of the Cocos (Keeling) Islands are inhabited, making it likely that majority of debris on windward sides of the islands are transported from offshore sources by wind and currents. This is confirmed by the LSSI, which indicated that the majority (76%) of debris arrived from ocean-based sources.

Home Island first contributed to WABCU in 2015 and remains an important monitoring site for the region. This year was an exciting and popular event joined by families and children. The sheer mass of debris (625 kg) collected on Home Island meant it was not possible to audit every bag so the LSSI was calculated based on the 4 audited bags. Of these bags, the top 3 items of debris were single-use plastics (straws, confection sticks, cups, plates, cutlery), plastic food packaging and rubber remnants.

Thanks to the effort of the local Cocos (Keeling) Island Shire and community, several community initiatives have begun, including a collaboration with Indian Ocean Group Training Association (IOGTA) to continue to clean-up the area regularly.



**NUMBER OF EVENTS 1**



**NUMBER OF VOLUNTEERS 38**




**VOLUNTEER HOURS 57**





**625**  kg

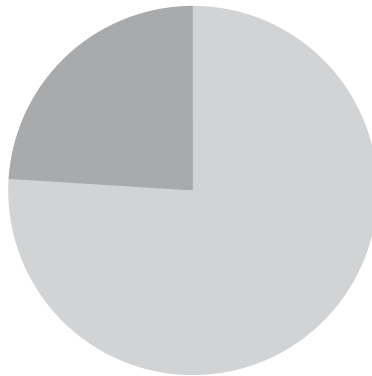
**WEIGHT IN KILOGRAMS**

 **DEBRIS DENSITY** **0.156** pieces per m<sup>2</sup>

**LAND SEA SOURCE INDEX**

**24:76**

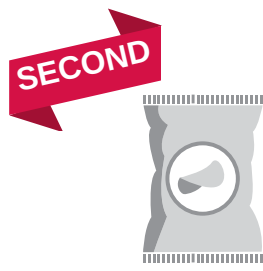
 Land  Sea



## TOP ITEMS



Straws, confection sticks, cups, plates & cutlery



Plastic food packaging



Rubber remnants

4	Plastic bits & pieces (hard & solid)	5	Plastic drink bottles	6	Plastic wrap (non-food)	7	Plastic film remnants
8	Rubber footwear & thongs	9	Cigarette lighters	10	Personal care & pharmaceutical packaging		

Top: Example of hessian bags provided at a marine debris hotspot on Home Island. Bags were organised and co-designed by Tangaroa Blue Foundation and Cocos (Keeling) Islands Shire (Credit: Thomas Battcher).  
Right: Significant amount of debris contaminating the blue waters of Home Island (Credit: Thomas Battcher).

# NORTH RANGELANDS

## MYSTERY BEACH, DIRK HARTOG ISLAND

Mystery Beach is located on Dirk Hartog Island (Wirruwana) within the traditional lands of the Malgana people. As well as being culturally significant, the aqua water, grassy dunes and seagrass meadows make Dirk Hartog Island National Park an ideal home for many fauna including seabirds, manta rays and the world's most significant population of dugongs. It is also one of the most important nesting sites in the southern hemisphere for the vulnerable loggerhead turtle. Although the island is only accessible by 4WD, boat or plane, it remains a popular tourist destination.

The orientation of the beach and its exposure to strong winds and heavy waves has led to a dense accumulation of debris on the shorelines, with volunteers collecting 225 kg along just 1 km of coastline equating to 0.125 items/m<sup>2</sup>. The majority (99%) of this debris is likely to be from offshore sources. The top 3 items found were hard plastic remnants, scraps of net and rope less than 1 metre in length, and plastic lids and tops.

Mystery Beach was cleaned for the first time as part of WABCU 2022. The clean-up was part of a Criminal Property Confiscation Grants Program facilitated by the City of Greater Geraldton, Geraldton Flexi Learning Centre, Midwest Employment and Economic Development Aboriginal Corporation and Wula Gura Nyinda Eco Adventures.



**NUMBER OF EVENTS 1**



**NUMBER OF VOLUNTEERS 14**



**VOLUNTEER HOURS 21**




Awesome volunteers at Mystery Beach, Dirk Hartog Island (Credit: City of Greater Geraldton).



**225**  kg

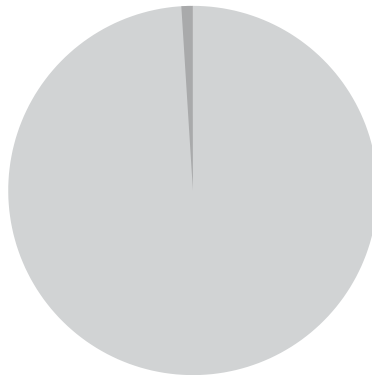
**WEIGHT IN KILOGRAMS**

 **DEBRIS DENSITY** **0.125** pieces per m<sup>2</sup>

**LAND SEA SOURCE INDEX**

**1:99**

■ Land ■ Sea



**TOP ITEMS**

**FIRST**



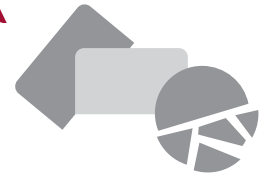
Plastic bits and pieces (hard & solid)

**SECOND**



Rope & net scraps (<1m)

**THIRD**



Plastic lids & tops, pump spray, flow restrictor & similar

4	Plastic wrap (non-food)	5	Commercial fishing remnants	6	Plastic drink bottles	7	Bait & tackle bags & packaging
8	Wooden fishing items	9	Brooms, brushes & paint brushes	10	Chemical glow sticks		

Top: Youth from the Geraldton Flexible Learning Centre who helped collect 230 kg of debris from Mystery Beach, Dirk Hartog Island  
 Right: Bags of debris from Mystery Beach, Dirk Hartog Island collected by volunteers from City of Greater Geraldton Council, Geraldton Flexi Learning Centre, Midwest Employment and Economic Development Aboriginal Corporation and Wula Gura Nyinda Eco Adventures (Credits: City of Greater Geraldton).

# NORTHERN AGRICULTURAL MOORE RIVER ESTUARY

The Moore River area is the traditional Country of the Yued people, who named the mouth of the river 'Gabbadah' meaning 'a mouthful of water'. Now, the town sits along the only remaining part of the Moore River Estuary on the Swan Coastal Plain that has not been affected by development. The river flows through the Moore River Estuary and into the Indian Ocean at Guilderton. Despite estuaries being a key transporter of debris from land to sea, WABCU clean-ups tend to focus on sweeping beach coastlines. It was exciting to see the inclusion of 7 clean-up events along estuaries this year and we hope to see more diverse waterway clean-ups in future WABCU events.

The Moore River Estuary clean-up had additional effort this year with volunteers travelling along the estuary by kayak and paddleboard collecting debris as they went. With these vessels, 4 volunteers were able to cover 1.6 km of the estuary in just 2 hours. As the estuary flows from nearby residential areas and out to sea, it was not surprising that a large proportion of the debris (56%) came from land-based sources, although debris was not very dense in this area with just 0.002 items/m<sup>2</sup>. Rope and recreational fishing line were amongst the top 3 items found, which is unsurprising as this is a popular spot for recreational fishing and situated near commercial fisheries for abalone and nearshore and estuarine fishes.



NUMBER  
OF EVENTS **1**



NUMBER OF  
VOLUNTEERS **4**



VOLUNTEER HOURS **8**



Volunteers at Moore River Estuary mouth, Guilderton Beach (Credit: Tangaroa Blue Foundation).



**4.5**  kg

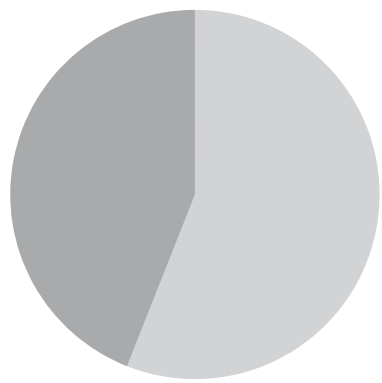
**WEIGHT IN KILOGRAMS**

 **DEBRIS DENSITY** **0.002** pieces per m<sup>2</sup>

**LAND SEA SOURCE INDEX**

**44:56**

 Land  Sea




**TOP ITEMS**

**FIRST**




Rope

**SECOND**



Plastic bits & pieces (hard & solid)

**THIRD**



Fishing line (recreational)

4	Rope & net scraps (<1m)	5	Toys, party poppers, ribbons, clips & similar	6	Strapping bands scraps	7	Metal fishing items (sinkers, lures, hooks, traps, etc.)
8	Plastic film remnants	9	Commercial fishing remnants	10	Recreational fishing items		

Top: Aerial shot of Moore River Estuary (Credit: Tangaroa Blue Foundation).  
 Right: Young Volunteer, Dylan reporting on debris found at Moore River Estuary in the Northern Agricultural Region (Credit: Tangaroa Blue Foundation).



# SWAN RIVER CHALLENGER BEACH

Challenger Beach and the nearby city of Kwinana are within the Traditional lands of the Noongar people and sit at the border between the Whadjuk and Pindjarup Traditional Owner groups. This beach is renowned amongst locals and tourists for its fine white sand, bordering rocky bushland and glistening blue water and is popular for recreational fishing, walking, snorkelling and picnicking. This was reflected by the LSSI, which indicated more than half (63%) of debris came from land-based sources. The top 3 items found were plastic film remnants (bits of plastic bag, wrap, etc.), hard plastic remnants, and scraps of net and rope less than 1 metre in length.

Challenger Beach was cleaned for the second time in WABCU history thanks to the effort of Perth NRM, Alcoa, Sea Shepherd Marine Debris Campaign, Microplastix, Naval Base Holiday Association, City of Kwinana, Tangaroa Blue Foundation and community volunteers.

Compared to 2021, a heavier mass of debris (4 kg more) was found this year and the density<sup>2</sup> of debris doubled from 0.031 items/m to 0.061 items. As the majority of the debris is likely from land-based sources, Challenger Beach may be the ideal location to implement local mitigation efforts such as bins and signage.



NUMBER OF EVENTS **1**



NUMBER OF VOLUNTEERS **47**



VOLUNTEER HOURS **118**




Awesome volunteer group from Challenger Beach Clean-up in the Swan River region (Credit: Tangaroa Blue Foundation).



62  kg

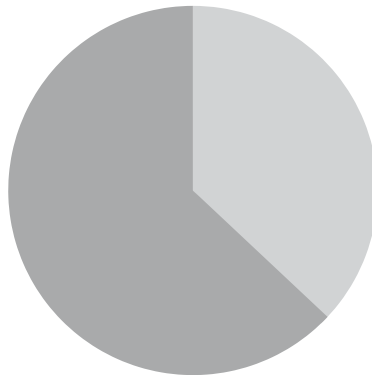
**WEIGHT IN KILOGRAMS**

 **DEBRIS DENSITY** **0.061** pieces per m<sup>2</sup>

**LAND SEA SOURCE INDEX**

**63:37**

 Land Sea



## TOP ITEMS

**FIRST**



Plastic film remnants (bits of plastic bag, wrap etc)

**SECOND**



Plastic bits & pieces (hard & solid)

**THIRD**



Rope & net scraps (<1m)

4	Cigarette butts & filters	5	Glass or ceramic (broken)	6	Miscellaneous paper, labels & tickets	7	Plastic food packaging
8	Plastic drink bottles (water, juice, milk, soft drink)	9	Foam insulation & packaging	10	Processed timber, pallet & other wood		

Top: Volunteers from Perth NRM, Alcoa, Sea Shepherd, Microplastix, Naval Base Holiday Association, City of Kwinana and Tangaroa Blue Foundation cleaning up Challenger Beach (Credit: Tangaroa Blue Foundation).  
Right: Sea Shepherd Volunteer at Challenger Beach (Credit: Tangaroa Blue Foundation).

# PEEL-HARVEY

## COODANUP FORESHORE

Coodanup is along the foreshore of the Dawesville Estuary within the Traditional land of the Noongar people. These waters provide an important home to resident and visiting dolphins and a landing pad for migratory birds travelling along the East Asian-Australasian Flyway.

The area is a popular spot for fishing, walking and picnicking, which is reflected in the top 3 items found there: cigarette butts and filters, hard plastic remnants and plastic food packaging. According to the LSSI, all (100%) are likely to be from land-based sources. Debris was not dense at the estuary foreshore (0.016 items/m).

Since 2019, as part of the Peel-Harvey Catchment Council Wetlands Weekender event, the Coastal Waste Warriors (CWW) have partnered with Peel-Harvey Catchment Council, Department of Biodiversity, Conservation and Attractions (DBCA) and Estuary Guardians to organise clean-ups at Coodanup and Dawesville. This event is a celebration of the many migratory birds that visit this estuary and aims to clean-up their feeding grounds before their heralded arrival. CWW are one of the most active clean-up groups in South Western Australia and have been long-term contributors to the AMDI, providing important baseline data for the Mandurah region.



NUMBER OF EVENTS **1**



NUMBER OF VOLUNTEERS **50**




VOLUNTEER HOURS **100**



Coastal Waste Warriors set-up on the Coodanup Foreshore in the Peel-Harvey region (Credit: Coastal Waste Warriors).



**80**  kg

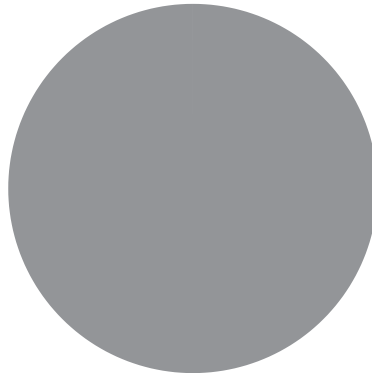
**WEIGHT IN KILOGRAMS**

 **DEBRIS DENSITY** **0.016** pieces per m<sup>2</sup>

**LAND SEA SOURCE INDEX**

**100:0**

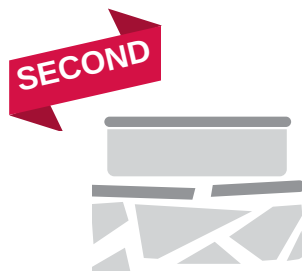
 Land  Sea



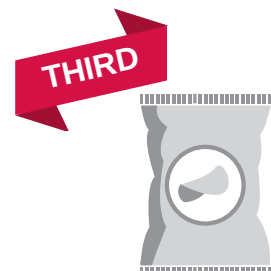
## TOP ITEMS



Cigarette butts & filters



Plastic pieces (hard & solid)



Plastic food packaging

4	Plastic film remnants	5	Paper & cardboard packaging	6	Metal bottle caps, lids & pull tabs	7	Glass or ceramic (broken)
8	Plastic bags (supermarket, dog poo, ice)	9	Foil wrappers, packets, bladders & alfoil	10	Miscellaneous paper, labels & tickets		

Top: Young volunteers at Coodanup estuary foreshore for the Coastal Waste Warriors clean-up (Credit: Coastal waste Warriors). Right: Tyres and other large items of debris collected by volunteers from the Coodanup Foreshore (Credit: Coastal Waste Warriors).

# SOUTH WEST

## ABBEY BEACH

Abbey Beach in Busselton (Undalup) is within Wadandi Boodja of Noongar Boodja. The Wadandi people have been hunting and gathering food along the coast, waterways and forests for many years, creating strong cultural and spiritual ties to the land and waters. This gorgeous white sandy beach is a popular tourist attraction with resorts sprawled across the coastline.

This may explain why the top 3 items found were plastic food packaging, film remnants, and cigarette butts and filters, the majority (69 %) of which are likely to be from land-based sources (according to the LSSI).

This clean-up was organised by Vasse Primary School and involved one hundred students and teachers from Year 3. Over 2 hours, these eager students collected 21 kg of debris, equating to a density of 0.011 items/m . The environmental efforts of Vasse Primary School have continued past WABCU and into every-day life. The school aims to incorporate sustainability into its curriculum and teaching from K-6 through programs such as the school garden and the 'nude food' initiative, which encourages kids to bring waste-free lunches to school, with a prize awarded to the classroom with the least weekly waste.



**NUMBER OF EVENTS 1**



**NUMBER OF VOLUNTEERS 100**



**VOLUNTEER HOURS 200**



Students and teachers sorting debris collected from Abbey Beach and Busselton Jetty Foreshore (Credit: Vasse Primary School).



**21**  kg

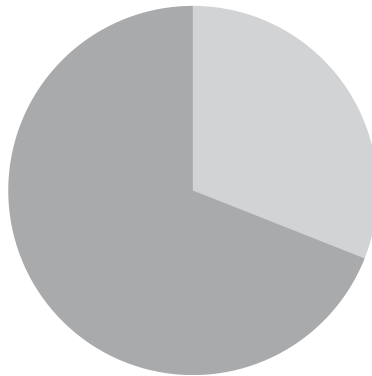
**WEIGHT IN KILOGRAMS**

 **DEBRIS DENSITY** **0.011** pieces per m<sup>2</sup>

**LAND SEA SOURCE INDEX**

**69:31**

 Land  Sea



## TOP ITEMS

**FIRST**



Plastic food packaging

**SECOND**



Film remnants

**THIRD**



Cigarette butts & filters

4	Miscellaneous paper, labels & tickets	5	Paper & cardboard packaging	6	Plastic lids & tops, pump spray, flow restrictor & similar	7	Glass or ceramic (broken)
8	Wooden confection sticks, pencils, matches	9	Oil lobules & tar-balls	10	Plastic packaging (supermarket, garbage, dog poo, ice)		

Top: Teachers and students from Vasse Primary School scouring Abbey Beach for debris (Credit: Vasse Primary School).  
 Right: Students at Busselton Jetty Foreshore playground listening to Amy Gornall, Operations Manager of Busselton Jetty Inc, talk about the importance of keeping our beaches clean (Credit: Vasse Primary School).

# SOUTH COAST

## EAGLES NEST BEACH

Eagles Nest Beach is in the Minang cultural area and part of Noongar Boodja, where Traditional owners have been hunting and gathering food for many years and have strong connections to the surrounding coast and wetlands. As well as being culturally significant and rich in history, Eagles Nest Beach is of extreme ecological significance, forming part of the luscious Quarram Nature Reserve, which is home to many species of waterbird. This is a remote wetland reserve with many of the surrounding beaches bordered by limestone cliffs and granite headlands, which makes access difficult. Although Eagles Nest Beach has boardwalk access and is recommended for fishing and birdwatching, the area is not frequently visited.

Debris was not very dense at this remote site with just 0.002 items/m<sup>2</sup>. Of the debris found, the majority (99%) is estimated to be from offshore sources, likely brought in by wind, swell and currents. The top 3 items found were plastic lids and tops, drink bottles, and rope. We commend the effort of the community volunteer who scoured 1.5 km of the coastline to collect 7 kg of debris and entered the data into the AMDI Database.



**NUMBER OF EVENTS 1**



**NUMBER OF VOLUNTEERS 1**



**VOLUNTEER HOURS 1**



Example of plastic bottle and lids (Credit: Catherine Sheila).



7  kg

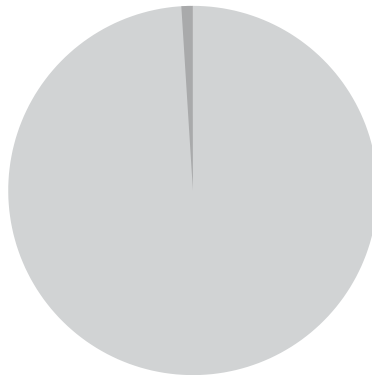
**WEIGHT IN KILOGRAMS**

 **DEBRIS DENSITY** 0.002 pieces per m<sup>2</sup>

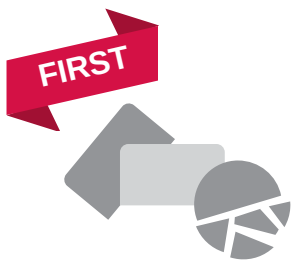
**LAND SEA SOURCE INDEX**

**1:99**

■ Land ■ Sea



## TOP ITEMS



Plastic lids & tops, pump spray



Plastic drink bottles (water, juice, milk, soft drink)



Rope

4	Plastic bits & pieces (hard & solid)	5	Strapping band scraps	6	Plastic vehicle parts	7	Bleach and cleaner bottles
8	Glass wine, spirit & similar bottles	9	Chemical glow sticks	10	Foam insulation & packaging		

Top and Right: Example of plastic bottle and rope found at Yeagarup and Calcup Beach, Pemberton (Credit: Trackcare WA).



# RANGELANDS SOUTH

## TWILIGHT COVE

Twilight Cove is located within Nuytsland Nature Reserve, the traditional land of the Noongar and Ngadju people. The broad and sweeping white-sand beach sits at the eastern end of the tall Baxter Cliffs, making it only accessible by experienced 4-wheel drivers. For those that can make the difficult journey, the area is known for its great fishing and bird-watching.

Unsurprisingly, due to the remoteness, almost all (99%) debris found here is likely to be from offshore sources, according to the LSSI. Similar to last year at nearby Kanidal Beach, the top 3 items found were all fishing-related: commercial fishing line, rope, and rope and net scraps less than 1 metre in length. Despite the heavy mass of these items (100 kg), debris was not very dense with 0.001 items/m .

This clean-up was organised by Eyre Bird Observatory, who have been cleaning up sites in the Southern Rangelands for many years and contributing data to the AMDI since 2015. The group takes weekly trips to nearby Kanidal Beach and monthly trips to Twilight Cove to complete surveys of the birdlife. After every bird survey, volunteers clean-up any debris at the site, a lot of which they note to be fishing equipment such as discarded fishing ropes and nets.



**NUMBER  
OF EVENTS 1**




**NUMBER OF  
VOLUNTEERS 2**




**VOLUNTEER HOURS 13**





**100**  kg

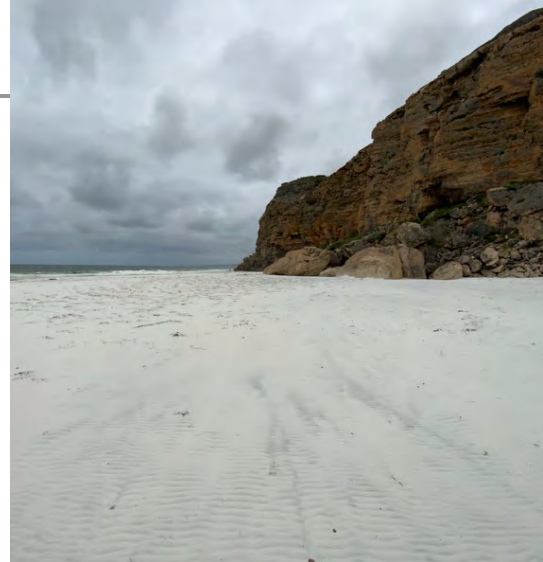
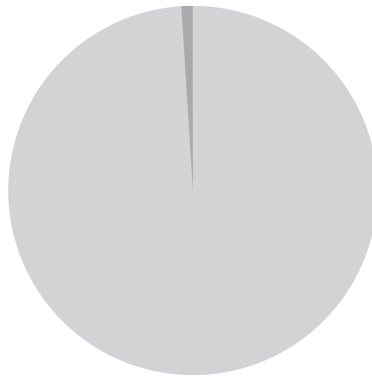
**WEIGHT IN KILOGRAMS**

 **DEBRIS DENSITY** **0.001** pieces per m<sup>2</sup>

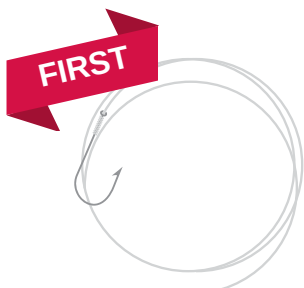
**LAND SEA SOURCE INDEX**

**1:99**

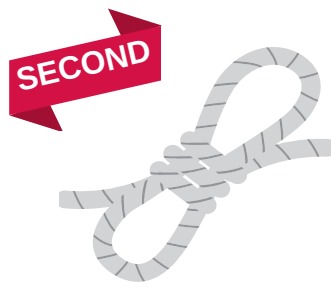
 Land  Sea



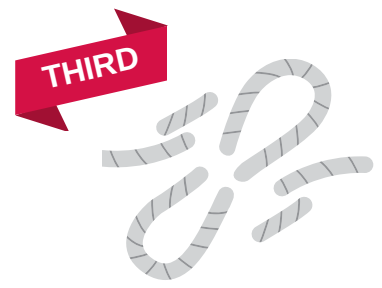
## TOP ITEMS



Fishing line (commercial)



Rope



Rope & net scraps (<1m)

4	Plastic drink bottles (water, juice, milk, soft drink)	5	Plastic bits and pieces (hard & solid)	6	Plastic lids & tops, pump spray, flow restrictor & similar	7	Bleach and cleaner bottles
8	Strapping band scraps	9	Glass (wine, spirit and similar bottles)	10	Plastic bottles, drunks, jerry cans & buckets (>4L)		

Top: Debris collected by volunteers from Eyre Bird Observatory at Twilight Cove (Credit: Simon and Marg Baltais, Caretakers at Eyre Bird Observatory).

# MAJOR WINS

The 2022 WABCU event broke records for the number of schools engaged, number of Tangaroa Blue Foundation staff-supported events and number of estuaries cleaned-up. We highlight some of these wins here.



Top: Students from Cervantes Primary School during their clean-up of Cervantes Beach in the Northern Agricultural region (Credit: Keep Australia Beautiful WA).  
Bottom: Students from Alkimos College sorting through debris collected from Eden Beach (Credit: Keep Australia Beautiful WA).

# MAJOR WINS

## ENGAGEMENT FROM SCHOOLS INCREASED BY 350%

Engaging schools in the overarching mission of Tangaroa Blue Foundation has always been an important part of our core activities and that of our partners, including Keep Australia Beautiful WA. This can be difficult in WA, with many schools located in isolated and remote locations. In 2020, just 1 school registered for the clean-up and this rose to 4 in 2021. In an effort to engage more schools, Tangaroa Blue Foundation coordinators Casey Woodward and Lincoln Hood conducted a targeted electronic email campaign and designed specific social media and posters for the event. By October 2022, the number of schools registered had risen to 14! This year, 498 volunteers from primary schools and high schools collected almost 200 kg of debris over 16 km of shoreline.

Many of these schools have taken advantage of the curriculum-aligned resources available through the Tangaroa Blue Foundation website and continued their efforts beyond the WABCU clean-up event. This has given students the chance to put citizen science into action to protect their coastal environment. This year, Busselton Senior High School provided the Year 10 science class the opportunity to learn about the impact of marine debris over a 2-week intensive course using Tangaroa Blue's resources, attending a beach clean-up and submitting their data to the AMDI Database, and writing a report about their findings and the significance. This initiative was largely established by the school's active and passionate sustainability committee, who are hoping to set an example for schools around the state. Cornerstone Christian College is also looking to incorporate regular clean-ups into the curriculum for their sustainability studies next year, and have already completed a second clean-up since WABCU.

Educating students of all ages about marine debris significantly improves their understanding of the causes and negative impacts and can positively influence their actions and behaviours regarding litter. Children are also important actors of social change as they influence peers, parents and the community. The Tangaroa Blue Foundation website contains several resources for schools including an education kit with lessons for children from primary school to senior grades (Year 10), fact sheets, an identification manual for debris and a datasheet template so schools can contribute to the AMDI Database.



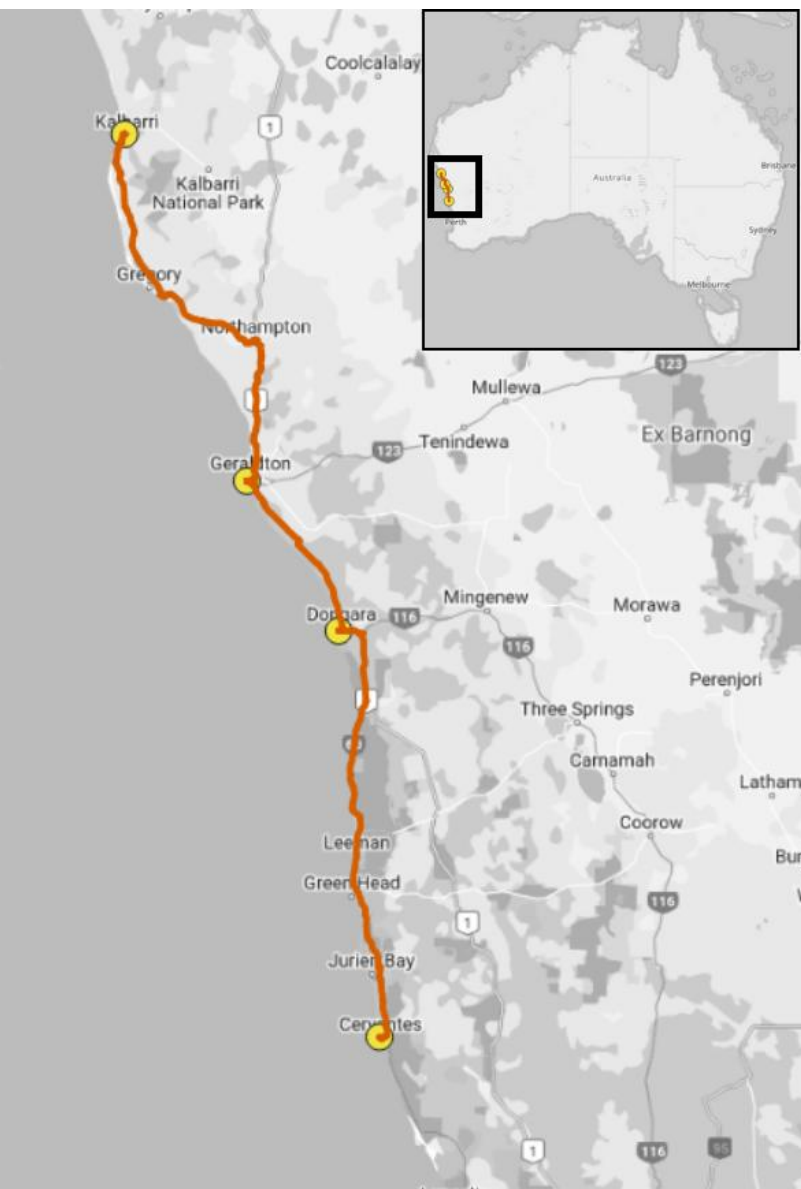
Left: Students from Alkimos College after their clean-up of Eden Beach  
Right Top: Students from Kalbarri District High School proudly holding their clean-up sign after cleaning-up Kalbarri Estuary in the Swan River region.  
Right Bottom: Plastic bottles collected at Eden Beach by students from Alkimos College.  
All Photo Credits: Keep Australia Beautiful WA).

# MAJOR WINS

## KEEP AUSTRALIA BEAUTIFUL WA X TANGAROA BLUE FOUNDATION ROAD TRIP

In a brand new event, Tangaroa Blue Foundation WA project coordinator, Casey Woodward joined Keep Australia Beautiful WA officers, Rohan Swan and Samantha Culbertson to drive 650 km along the remote coastline of northern WA to meet with schools, partners and communities. Over 5 days, the team was joined by 154 volunteers in Cervantes, Dongara, Geraldton and Kalbarri to complete 6 clean-ups, removing 109 kg of debris from 6.5 km of coastline.

This was a fantastic opportunity to connect with AMDI partners, including Northern Agricultural Catchments Council, and to engage new schools and communities to participate in WABCU activities. Each of the almost 4000 pieces of debris found was categorised, counted and added to the AMDI Database.



Top Right: Students from Cervantes Primary School proud of their clean-up on Cervantes Beach.  
Bottom Left: Students from Dongara Primary School smiling during their clean-up of Seaspray Beach in the Northern Agricultural region.

Bottom Right: Students from Cervantes Primary School scouring Cervantes Beach during their clean-up.  
All Photo Credits: Keep Australia Beautiful WA.

# CONTRIBUTING ORGANISATIONS

Tangaroa Blue Foundation thank Keep Australia Beautiful WA, Tallwood Custom Build Homes and local government authorities around the state, as well as the dedicated volunteers for their ongoing support for this annual event. We would also like to give special thanks to the team from the University of Western Australia Guild Micro-Volunteering program who helped pack the clean-up kits again this year.

Adventure Sailing	Kennedy Bay Coastcare
Alcoa	La Grange Remote Community School
Alkimos College	Ledge Point Coastcare
Alkimos Surf Life Saving Club	Lendlease
Bassendean Primary River Rangers	Margaret River Brewhouse
Brick and Stone Creations	Microplastix
Busselton Senior High School	Minderoo Foundation
Cervantes Primary School	Nature Conservation Margaret River
City Beach Primary	Naval Base Holiday Association
City of Bunbury	Northern Agricultural Catchments Council
City of Greater Geraldton	Ocean Remedy
City of Joondalup	Pemberton Discovery Tours
City of Kwinana	Perth NRM
City of Wanneroo	Pilbara Ports Authority
Clean Seas Co	Prevelly Penguins
Coastal Waste Warriors	Quinns Rock Environmental Group
College Row School	Rockingham Beach Cleans
Cornerstone Christian College	Saltwater Cleanups Western Australia
Department of Biodiversity, Conservation and Attractions	Salty Frogs Beach Clean Up
Department of Parks and Wildlife Service	Sea Shepherd
Dolphin Discovery Centre	Secret Harbour Coastal Crew
Dongara Community Resource Centre	Shire of Cocos Keeling Islands
Dongara District High School	Summer Salt Market
Eco Surf Australia	Tangaroa Blue Foundation
Environmental Resources Management Australia	TECHNIP FMC
Eyre Bird Observatory	The Leisure Collective
Gage Roads	Track Care Western Australia
Gero Clean-Up Crew	Tronox
Great Southern Grammar	University of Western Australia Student Guild Micro-Volunteering Program
Greenough River Friends	Vasse Primary School
Island Care Christmas Island	West Pilbara Turtle Program
Kalbarri District High School	

Cover photo: Scenic shot of the stunning Other Side of the Moon area.  
Second page photo: Volunteers scouring Other Side of the Moon area for debris.  
Back page photo: Pelicans frolicking at Separation Point, Geraldton in the Northern Agricultural region.  
All Photo Credits: Tangaroa Blue Foundation.

Thank you to all the volunteers, organisations and partners that contributed to the 2022 WA Beach Clean-up, this important event would not have been possible without each of you.



[www.tangaroablue.org](http://www.tangaroablue.org)

