

KINGSFORD SMITH DRIVE RECREATION HUB

BRISBANE CITY



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AUSTRALIAN
MARINE DEBRIS INITIATIVE



TANGAROA BLUE FOUNDATION

Tangaroa Blue Foundation is an Australian registered charity focused on the health of our marine environment, and coordinates the Australian Marine Debris Initiative, an on-ground network of volunteers, communities, organisations and agencies around the country monitoring the impacts of marine debris along their stretch of coastline.

Since the program started in 2004, more than 17 million pieces of marine debris have been removed from the Australian coastline and data on this debris collated and inputted into the Australian Marine Debris Initiative Database.

The database is used to firstly identify what is impacting different sections of the coast/foreshore, and then to track wherever possible where those items are coming from. Lastly, stakeholders are then brought together to work on practical solutions and create source reduction plans to stop marine debris from entering our oceans in the first place. The database has open access to all contributors who are also recognised when data is used and has been used by the CSIRO, James Cook University, all levels of government and communities.

While an estimated 40,000 pieces of plastic float in every square kilometre of ocean, it is only when it washes ashore that most people get an idea of how much rubbish must actually be out in our oceans and the impacts that this has on marine life and seabirds. This is also our best opportunity to remove it from the environment before the next tide washes it back out to sea again. Volunteers, organisations and communities from around the country are invited to join forces in the Australian Marine Debris Initiative to find practical solutions in reducing ocean pollution.

Tangaroa Blue Foundation is able to provide support to communities, organisations, agencies and schools including training, clean-up materials and logistical support, educational resources and analysis of the debris they are finding. This feedback has provided valuable data on the types and amounts of marine debris impacting sections of coast and also resulted in communities having real on-ground success stories in the reduction of marine debris impacting their site.

Tangaroa Blue Foundation is also a member of the Global Partnership on Marine Litter, the premier global network for advancing solutions to reduce and eliminate marine litter in our oceans.

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1 SITE LOCATION

The Kingsford Smith Drive Recreation Hub was completed in early March 2020 and provides a river access point in the recreational area. The facility can accommodate canoes, kayaks and stand up paddle boards in addition to future water taxi passenger pick up and drop off and motorised recreational craft. In addition to the Recreation Hub survey in this report, an additional foreshore survey was also conducted by Tangaroa Blue Foundation during the period June - July 2020. This report can be accessed on the Tangaroa Blue Foundation website www.tangaroablue.org. Much of the river bank, along the surrounds of the Recreation Hub pontoon, is inundated during high tide and is shown to collect litter as the tide goes out (Figure 2 & 3).



Figure 1: Kingsford Smith Recreational Hub (Source: Google Maps, 2020)



Figure 2: Medium storm-tide inundation area
(Source: Brisbane City Council, 2014)



Figure 3: High storm-tide inundation area
(Source: Brisbane City Council, 2014)

2 METHODOLOGY

Field volunteers surveyed and collected rubbish from the Recreational Hub infrastructure during a 2-hour window between 7-9am over a 27 day period between and inclusive of 16/06/2020 - 22/07/2020. This amounted to a total of 7hrs over the entire period. The rubbish was collected and recorded according to material type, item type and density.

3 PRECIPITATION AND TIDAL CONDITIONS

As highlighted in Figures 2 and 3, it is evident that the river bank is impacted by high tide inundation. Similarly, should there be severe weather events including increased rainfall or high wind conditions, there is a greater possibility that material left on the Recreation Hub has potential to either be blown or washed into the river. The site clean-up highlights a number of items, outlined in Section 4 below, that were prevented from entering the environment. As such, the installation of bin infrastructure, regular cleaning services and maintenance are critical in ensuring reduction and mitigation of debris being deposited into waterways.

4 RESULTS

In terms of the overall 869 items (12kg) collected, it was found that plastic ranked the highest category of debris left as litter on the Recreation Hub pontoon, including ropes and net scraps, fishing lines, plastic film remnants and plastic packaging. This was followed by 55 items of metal inclusive of metal fishing items (sinkers, lures, hooks, traps, and pots). An estimated 450 rope, net and fishing line scraps, and 147 meters of fishing line were recorded. Figure 9 shows the top 10 categories of debris cleaned up.



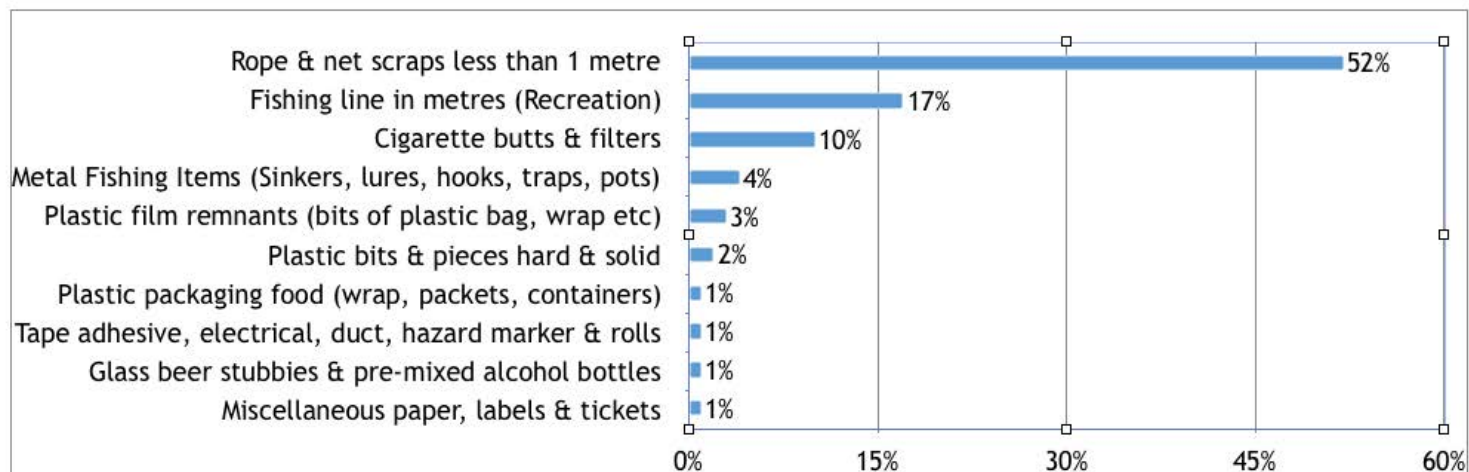
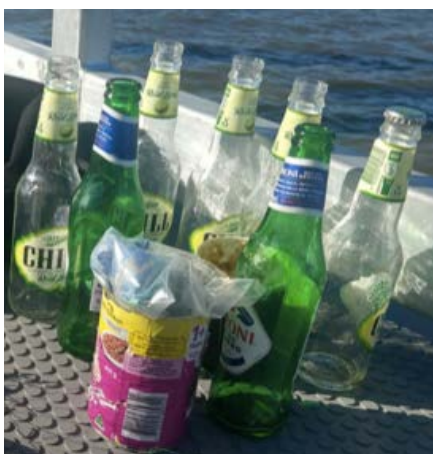


Figure 4: Relative proportions of categories of debris collected (Source: Tangaroa Blue Foundation, 2020)

5 RECOMMENDATIONS

WHEELIE BIN WITH CAP

A fit for purpose bin with a secure lid could be introduced to avoid scavenging birds and animals/rodents from rummaging through food/bait scraps, and regular wind conditions from blowing open the lid, dispersing rubbish into the river (Figure 5).

- ▶ Collect waste products including, paper, cardboard, plastic bottles and recyclables
- ▶ Installation of a product which is resistant to heat, decay, UV rays and chemicals
- ▶ Should be resistant to winds and rain proof
- ▶ Standard colours for waste segregation
- ▶ Should be tamper proof to ensure it is not pushed or emptied into the river by vandals.

The Mobile Wheelie Bin (Figure 6) could also be secured with corrosion resistant security stands with lid restrictors and spring loaded locking mechanisms. It is essential for waste audits to be completed prior to assess the primary types and size of litter disposed. For example if larger cardboard items are being disposed, it is important to consider an appropriate size of the opening to avoid larger waste items dumped outside.



Figure 5: Permanent Bin Fixture Option 1



Figure 6: Mobile Wheelie Bin Option 2

WASTE SIGNAGE

A selection of visual tools including posters, icons and signage can be used in the surrounds to promote sustainable behaviour amongst users of the Recreation Hub and build awareness around the responsible disposal of rubbish through. Observations showed a large majority of people using the Hub were from multi-cultural backgrounds and therefore educational messaging in different languages would be important to support regular servicing and maintenance, and connecting with QLD Fisheries for compliance checks and education discussions. The signage could be advantageous in:



- Reducing the amount of litter generated in the area
- Creating safer and cleaner public spaces
- Increasing the volumes of litter being recycled
- Improving practices of litter management
- Increasing public awareness



Key elements in the design and placement of signage should include:

- Use of standard signs and colours, through legible words and symbols
- Use of recycling 'moebius' symbol
- Overhead signage if applicable
- Placement near entrances and exits, picnic areas, walkways, high traffic areas, toilets and car parks

REEFCLEAN SOURCE REDUCTION PLAN

Connection with Tangaroa Blue Foundation's ReefClean Look After Your Tackle campaign is also recommended. This campaign engages recreational fishers to follow the Three R's:

- **Recover** (lost line and tackle)
- **Reuse** (any tackle that you find)
- **Remove** (bin litter and discarded line)

Further information can be found on the Tangaroa Blue Foundation website:

<https://www.tangaroablue.org/amdi-network/reefclean/lookafteryourtackle/>





Signage from the ReefClean program can be used to create a positive education campaign encouraging fishers to 'Look after their Tackle' and it can be incorporated through the following mechanisms:

- UV stable tackle box stickers and campaign posters with key messaging
- Installation of UV stable directional signage stickers
- Distribution of tackle box stickers to bait and tackle stores in the locality of the Recreation Hub

FISHING DEBRIS BINS FOR FISHING LINES

There are a number of dedicated fishing disposal bins such as the TAngler and the Tangler Bins that assist in reducing recreational fishing litter.

TAngler Bins are suggested for anglers to discard any fishing gear or line instead of dumping them in the water and are deemed a sustainable solution for the disposal of recreational fishing line, bait bags and hooks which can litter fishing hotspots. Made from PVC pipes they can be installed at key recreational fishing locations and appropriate signage can be placed with clear messages for the responsible disposal of used or damaged fishing gear. Amongst the top ranking items found at the Kingsford Smith Drive Recreation Hub site clean up were 147 meters of fishing line amounting to 17% of the

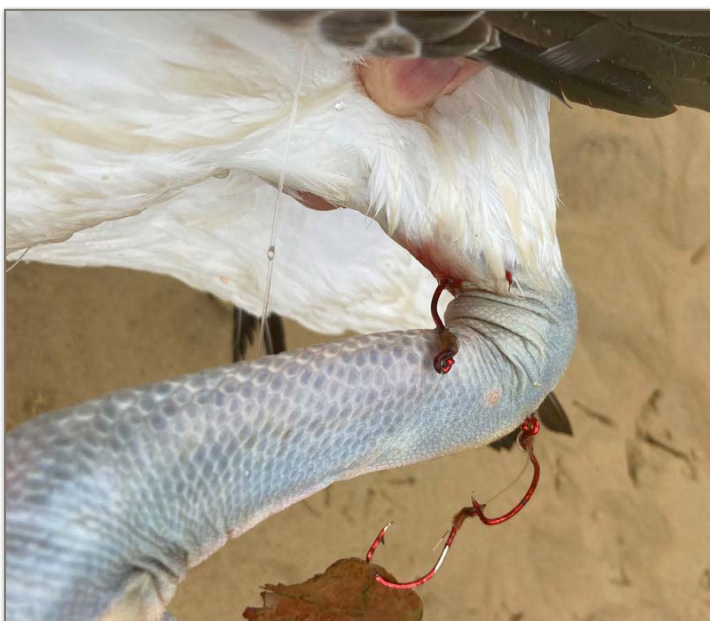
total debris and 34 metal fishing items (sinker, lures, hooks, traps and pots) amounting to 4% of the total debris collected. The bins are beneficial to the environment by:

- Saving birds, fish, crustaceans, and wildlife from entanglement and ingestion
- Stopping fish habitat degradation
- Reducing marine pollution
- Improving water quality along coastal environments and estuaries



Tangler bins can also be used to dispose of unwanted fishing line in a safe manner which can prevent entanglement in wildlife and birds. Clear signage could be used to outline:

- Tangler bin where only fishing line and tackle can be dumped
- No dumping of other waste
- Contact details for Wildlife Carers that may be able to assist where wildlife/bird entanglement is identified at the site



6 REFERENCES

AS Urban, 2018, Accessed 21 September 2020

<<https://www.asurban.com.au/industries-en/shopping-centres/asu-waste-separation-the-different-recycling-types/>>

Fuller Kelly, 2020, ABC News, Accessed 5 October 2020

<<https://www.abc.net.au/news/2020-09-23/cockatoos-target-wheelie-bins-in-stanwell-park/12689462>>

MHA Products, 2020, Accessed 20 September 2020

<<https://www.mhaproducts.com.au/assets/brochures/WB6760P.pdf>>

Ocean Watch Australia, 2016, Accessed 1 October 2020

<<http://www.oceanwatch.org.au/wp-content/uploads/2016/04/TAngler-Bin.pdf>>

Tangaroa Blue Foundation, 2020

<<https://www.tangaroablue.org/amdi-network/reefclean/lookafteryourtackle/>>

Tangaroa Blue Foundation, 2020, 'Look After Your Tackle Campaign Report'

<https://www.tangaroablue.org/download/60/qld/7301/reefclean-srp-workshop-report_look-after-your-tackle-june-2020.pdf>