

PROJECT GREEN SEA TURTLE: GARAWA GUDUMANG DREAMING

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Take 3

Take 3 Ltd is a small, not-for-profit organisation established in 2009 on the NSW Central Coast and making a big impact on the issue of plastic marine pollution!

The Take 3 message is simple:

Take 3 pieces of rubbish with you when you leave the beach, waterway or...anywhere and you've made a difference.

Our mission is to significantly reduce global plastic pollution through education and participation. To date we have directly educated over 120,000 students and 100,000 community members and have a significant social media presence – over 49,000 followers.

Take 3 Chapters are spontaneously welling up from Costa Rica to Scotland and Israel to Hawaii – so our message of global participation is being heard.

Plastic Marine Pollution

With estimates of 8 to 20 million **new** tonnes of plastic pollution entering our oceans each year, everybody needs to be part of the solution to this global pandemic. Millions of seabirds and hundreds of thousands of marine mammals and reptiles die each year, choking on our plastic waste.

Australia's response in 2003 was to list 'Injury and fatality to vertebrate marine life caused by ingestion of, or entanglement in, harmful marine debris' as a key threatening process under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Australia is also a signatory to the International Convention for the Prevention of Pollution from Ships (MARPOL), which brought legislation into force in 1988 with the aim of preventing ships from disposing of their garbage overboard.

However, approximately 80% of plastic marine pollution is still finding its way into our oceans from land-based sources. With this in mind, the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) - a group of independent experts who give advice to major international bodies - recommended improvement of land-based waste recycling, improvement of port facilities, development of more degradable packaging materials and improvement of education.

Take 3 devolves the responsibility to every person, every day of removing plastic marine pollution and initiates a conversation on reducing our individual plastic footprint.

Project Green Sea Turtle

In the first half of 2016, 218 primary school students from 24 NSW Central Coast primary schools were inspired to become experts and advocates for marine creatures - in particular the Green Sea Turtle.

Project Green Sea Turtle: Garawa Gudumang Dreaming was a student-driven environmental leadership program, built around evidence-based learning and featuring a unique Aboriginal perspective.

This diverse program increased student's knowledge of plastic marine pollution, how it threatens marine creatures and human activities that will help protect these animals. Students then utilised this knowledge to create an education campaign aimed at raising awareness within the school or local community about plastic marine pollution issues.

Garawa Gudumang Dreaming

The cultural focus was integral to this project. Aboriginal culture created the context for the Project, starting with Welcome to Country and personal stories about totems, country and the interconnectedness of land, sea and people. Aboriginal sustainability practices were highlighted throughout the workshops and Aboriginal culture was also a particular focus for the leadership component, where individual choice was emphasised through Dreaming stories.

An interactive Aboriginal art experience provided students with a medium to tell stories of the impact of plastic marine pollution on our sea turtles - garawa gudumang - and explored the use of the creative arts to share information.

Importantly, permission was obtained from the Darkinyung Language Group to use local Darkinyung language within this Project.

Devolved grant

Twenty primary schools from Wyong and Gosford LGAs were selected on a first-come, first-serve basis to receive up to **\$1000** to assist in resourcing their identified waste reduction initiatives. Schools provided Take 3 with invoices for materials, activities, etc and were reimbursed for their relevant expenses.

However, as there were 24 schools in all that were accepted to participate in the Project, any additional unspent funds from the devolved grant were allocated to the four schools that were not registered in time.

Outcomes

PGST grew in response to demand. Where Take 3 had hoped to encourage 20 schools to be participants, Take 3 had 24 schools register to participate, with additional schools expressing interest during and post Project implementation.

In total, 11,031 students were involved with Project Green Sea Turtle (PGST) – either directly (as PGST participants) or indirectly (as the recipient of PGST information via their school). It would be anticipated that each of these 11,031 students would have shared their learnings with at least one parent/guardian (particularly with the ever-popular waste-free lunch days) or significant other. Therefore PGST will have

conservatively reached out to at least 20,000 people to care for their environment and reduce their plastic footprint.

Monitoring

Monitoring was based around the numbers of students, teachers and schools actively involved in PGST:

1. No. of students involved – 218
2. No. of teachers involved – ~ 30
3. No. of schools involved – 24
4. No. of projects implemented – ~50. This is a conservative estimate based on 2-3 projects per school, although we are aware that many schools delivered considerably more (6-8 projects per school)! Schools have also reported on their PGST campaign outcomes/projects via PowerPoint or video, which are uploaded and can be viewed on our Take 3 YouTube channel ([YouTube.com/take3org](https://www.youtube.com/take3org)).
5. No. of businesses involved – the number of business involved was largely unquantifiable. Schools did not work directly with businesses to reduce their plastic litter as their attention was focussed internally, on changing the litter generated within their school campus. However, some of the canteens within the schools run as independent businesses and these were directly engaged with by many of the schools campaigns. In addition, schools contacted and utilised the products/services of many local businesses as part of their devolved grant and information on waste reduction would have been informally shared in this fashion.

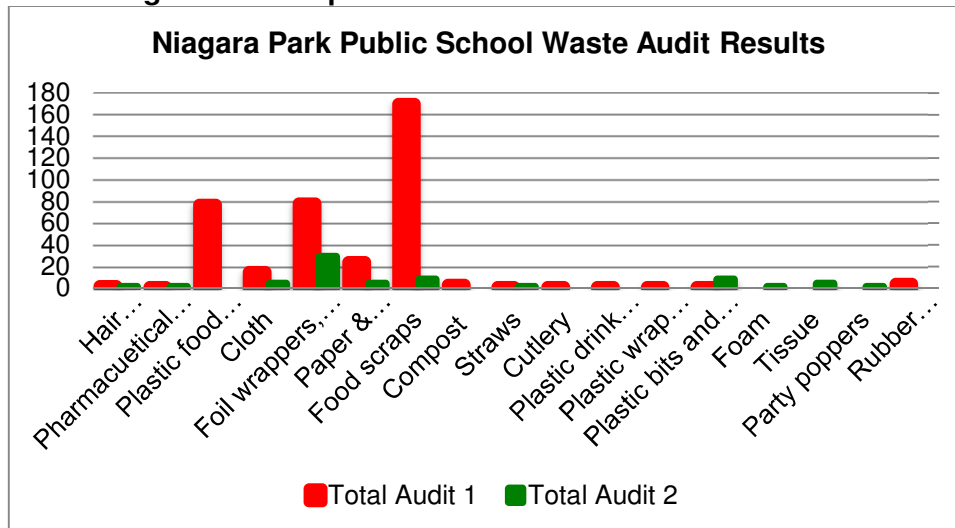
An additional monitoring program was added to assess the effectiveness of the PGST litter reduction campaigns within schools. Schools were asked to conduct 'before' and 'after' monitoring events, to indicate the effectiveness of the campaigns around a litter 'hot spot' within their school campus. Schools were instructed on how to conduct a litter audit in an area approximately 10m x 10m. This allowed schools to better understand their litter issues and look specifically at ways of reducing litter at its source. Schools were then requested to provide Take 3 with the data generated by these audits.

Five full sets of data have so far been received from the schools. The data sheets are quite variable, however all witnessed a reduction in litter loads post PGST campaign implementation:

Table 1: Waste Audit Results

School	Before project	After Project
Holgate Public School	50	11
Mannering Park Public School	114	3
Niagara Park Public School	170	8
St John the Baptist	15	4
Warnervale Public School	27	2

Figure 1: Example of Waste Audit Result - Breakdown



Evaluation

Evaluation centered on surveys, including:

1. Surveying students involved. Students were asked 3 questions immediately after the workshop:

- i. *What was the most important thing you learnt today?*
Answers varied significantly however most focused on – all of it; plastic makes turtles sick; lots of rubbish gets into our ocean; keep rubbish in the bin; Take 3; totems and family; and working together to make a difference to our oceans. One interesting answer to this question presumably resulted from the leadership component, “Honesty and accepting who I was”.
- ii. *What is one thing you will do to stop plastic pollution?*
Most answers were centered around – stop using plastic and recycle; tell family, friends and the school; and Take 3.
- iii. *Have you heard of Take 3 before this workshop? How?*
More students indicated that they did know about Take 3 than those that indicated that they didn't. The workshop at Soliders Beach had greater numbers of students that didn't know about Take 3 than the other 3 more southern workshops. In answer to how they had heard of Take 3, students answers varied from – school; SLSC; signage and family.

2. Surveying teachers involved. Teachers were asked 8 questions pertaining to PGST and were additionally asked for a personal pledge. Twenty of the twenty-four schools participating responded to the teacher survey:

- i. *Were you aware of the plastic pollution problem in our oceans before PGST? How?*
90% of respondents indicated they were aware of the plastic problem before PGST (10% were not) and many of those teachers had found out about the plastic pollution problem via media, on-line, involvement with other schools or personal interest.
- ii. *Had you heard of Take 3 before PGST?*
65% of respondents had heard of Take 3 before PGST; 35% had not.
- iii. *Would you recommend Project Green Sea Turtle to other teachers?*
100% of respondents indicated that they would recommend PGST to other teachers.
- iv. *How engaged were the students in Project Green Sea Turtle?*

85% of respondents indicated that students were very engaged with PGST while 15% indicated that students were moderately engaged. No teacher indicated students were not engaged.

v. *How easy was it to implement PGST in your school?*

Only 15% of teachers found PGST **very** easy to implement in their school; 75% found PGST moderately easy to implement in their school; and 10% found it difficult to implement PGST in their school. The main reason proffered for the difficulty in implementing PGST was time.

vi. *What was the most successful campaign engagement technique utilised by the students in your school?*

The most successful campaign engagement techniques varied significantly between schools. Many schools indicated that presenting information at assemblies, trash or waste-free days, singing/chanting, art and competitions were common successful engagement techniques. Most schools implemented 3-6 different campaign strategies to engage the broader school audience.

vii. *What was the biggest challenging of implementing PGST into your school?*

Time! Time was unequivocally recognised as the as the most significant challenge to implementing PGST – limited teacher time to meet with students, plan, campaign and implement campaigns. Engaging the whole school and school community, a tight schedule and difficulties with the financial restructuring were also identified as impediments to implementing PGST into schools.

viii. *How could we improve PGST?*

Many teachers indicated the timing within the school year could be improved, as there is a lot of competition between programs in the first and second terms. Also giving schools more time to implement the campaigns was a reoccurring theme. However, many teachers were happy with the program and the delivery and would not alter it.

ix. *What is one change you will make in your life to stop plastic pollution? I pledge to:*

...

As would be expected, the personal pledges varied significantly, although not using single-use plastic water bottles and bags featured heavily. Taking 3 and continuing to educate the school and wider community were also hot pledges. One unusual pledge committed to 'act on all child driven initiatives'. A major win for this program.

3. Surveying Principals of schools involved. Schools were surveyed rather than Principals, as the project implementation timeframe was too short to determine if plastic waste minimisation initiatives had repercussions discernable by school management. Schools were surveyed to extract information on the number of indigenous students participating in the PGST. In total there were 31 indigenous students directly involved in the Project, with other indigenous students and all of their families being indirectly involved.

4. Surveying local Businesses involved. (See Monitoring Point 5 above.) Anecdotal evidence was gleaned from Holgate Public School canteen that the effects of PGST have been far reaching on the school canteen and on the families of the participating students. Due to the perceived costs associated with making the changes from single-use plastic to other more sustainable items, the canteen was not initially enthusiastic to make any changes.

However, the Holgate School Turtle Leadership Team meet with the canteen staff and simple yet effective changes were agreed upon – plastic straws, single-use plastic sauce containers, polystyrene and single-use plastic cups were relegated to history and replaced with more sustainable alternatives. There was minimal cost associated with these significant changes. Canteen staff also indicated that students were bringing the message home and achieving behavioral change at home – take-away

containers were now to be reused then recycled rather than being put in the general waste bin.

Lessons Learnt

The short timeframe for the implementation of PGST proved problematic. Four PGST workshops were conducted in the last week of Term 1 2016 (4-7 April), and then the students had a two week break. Schools then had 5-6 weeks to identify and implement a campaign, with a PowerPoint or video document being required for submission by the beginning of June 2016.

Schools ideally needed more time to identify and implement litter reduction programs within their schools, however Take 3 had committed to wrapping-up this grant by 1 July 2016. Take 3 used this shortened timeframe as an opportunity to identify to schools that their reporting for the final PGST event (8 June 2016 - World Ocean's Day) did not signify the end of the Project. Rather it was a chance for reflection before continuing on with their waste reduction initiatives.

Additionally, the new Learning Management and Business Reform Program (LMBR) implemented for all public schools also created an issue. LMBR is meant to replace legacy finance, human resources, payroll and student administration systems at TAFE's, 2230 public schools and the education department, with software primarily from German giant SAP. However this new financial system created problems for the devolved grant process as new suppliers had to be created and the new system would not allow that process to happen, with one schools commenting 'Unfortunately, due to this new system not only has our workload doubled but it is not cooperating.... I'm hoping that all of these issues will be resolved as soon as possible but as you can see it is certainly not easy anymore. If this was the only job I had to do I would be okay but honestly I have spent nearly all day trying to sort this out with no success as yet.'

On a positive note, Take 3 requested each participating school submit a video or PowerPoint presentation to highlight each school's campaign strategies and achievements with PGST, thus facilitating the sharing of ideas and outcomes. Additionally, Take 3 had one workshop and the final event experiences professionally videoed. All of this recorded and digital material has proven exceptionally beneficial for reporting, promoting and inspiring efforts to reduce plastic marine pollution. (Videos and PowerPoint presentations can be viewed on [YouTube.com/take3org](https://www.youtube.com/take3org)).

With Thanks!

This initiative was supported by Greater Sydney Local Land Services through funding from the Australian Government's National Landcare Program.

The Project was made possible with the collaboration/support of Rumbalara Environmental Education Centre, NSW Department of Education - Aboriginal Education & Engagement, Bara Barang, Tiffany Lee (Australian Seabird Rescue), Kuriwa – Aboriginal Education Consultative Group, The Wollotuka Institute, University of Newcastle – Central Coast and Surf Clubs (Umina, Terrigal, Toowoona and Soliders).

References

Allsopp, M, Walters, A, Santillo, D & Johnston, P 2006. 'Plastic Debris in the World's Oceans'. Greenpeace International Report. Available from: Greenpeace International. [2 November, 2006].

Australian Government: Department of Environment and Energy. Available from: <https://www.environment.gov.au/biodiversity/threatened/key-threatening-processes/harmful-marine-debris>

Gold, M, Mika, K, Horowitz, C, Herzog, M & Leitner, L 2013. 'Stemming the Tide of Plastic Marine Litter: A Global Action Agenda'. *Pritzker Environmental Law and Policy Briefs*, Policy Brief No. 5. Available from: Prizker Briefs. [October 2013].