

CSIRO Marine Debris Newsletter

Global Plastics Project – May 2019

Welcome to the latest edition of the Marine Debris Newsletter, which is distributed to our partners and collaborators to keep you informed of our activities, changes or improvements to methodologies, and to show how your efforts are being used in our research. If you have any news or photos you would like to share, we welcome your contributions. Please email MarineDebrisAdmin@csiro.au.

Team news and activities

Indonesia (belated)

In late 2017, Kathy travelled to Bali to meet with Pak Gede and his team to coordinate a Bali-wide marine debris coastal survey and to discuss transect methodologies. During her stay, Kathy taught approximately 70 students the art of marine debris transects.



Anita (from BaliFokus), Kathy, Pak Gede Hendrawan, Laras (from BaliFokus) and Deindra.



Kathy trained around 70 students in marine debris transects at Kuta Beach.

Kathy also visited and learnt about a community operated recycling facility in Pererenan called Merah Putih Hijau (<http://mph-bali.org/en/about-us/>).

Our sincere apologies for not including this in the previous newsletter – we simply forgot! Sorry folks 😞.

Since the training, the Bali team has surveyed the entire island for coastal debris 4 times! In June 2019 TJ will return to Bali to train the team in inland and river samples, as well as follow up with trawl sampling techniques, though Pak Gede and the team have already gotten started with those as well.

Peru

In October 2018, Denise, Chris and Eav from the CSIRO side partnered with Earthwatch Australia to carry out surveys in Lima, Peru and the surrounding area. Andrea from Earthwatch was an excellent coordinating partner and we worked with a terrific team of Amcor staff from more than a dozen countries. It wasn't all foosball and poolside gathering – the team worked hard, collected data from more than 60 sites, and Eav, Bruno and Aleks finished up some other sites once the Amcor team returned to their day jobs. It's exciting to work with a corporate group and see what learnings they take back to their business. Well done team!



A quick game of foosball

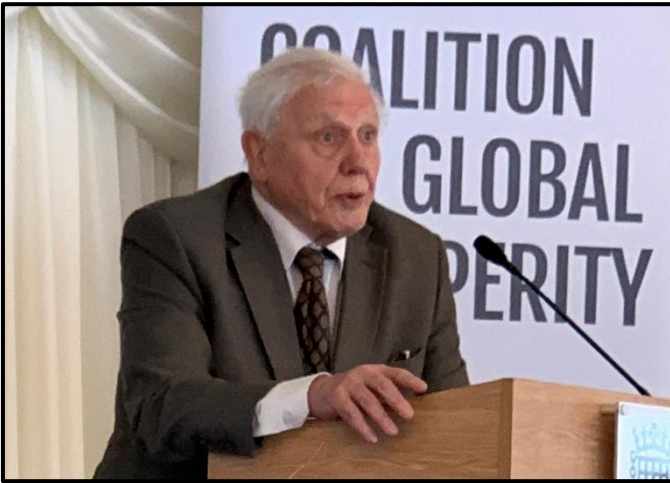


'Recycle to live better' with the Peru team

London – Liberia – Kenya

Denise Hardesty, who leads the global plastics project, recently visited with government and scientific staff from Department for Environment, Food and Rural Affairs along with various research institutions across Europe (and South Africa) to discuss Great Britain's future plans to address plastic pollution issues.

This two-day meeting involved partners and collaborators from the UK and further afield and focused on four main themes: sources and pathways of debris movement, fate and ocean transport of plastics, impacts to marine biota, and ecosystem services/economic impacts of plastic pollution.



As part of the week's events, Denise attended a panel discussion led by Sir David Attenborough.

Following from the UK, Denise headed to Liberia for the first Africa-continent based Oceans conference. Plastics was one of four major themes for the conference, and Denise was one of the panellists discussing plastic pollution related topics.



A Liberia welcome to the Blue Oceans conference



UN flags and a boat made of thongs!

Finally, Denise spent a few days at the United Nations in Nairobi, Kenya working with UN Environment as they look at an integrated approach to tackling Sustainable Development Goals objectives to improve human and environmental health and sustainability.

Sri Lanka – Bangladesh

In the meantime, Qamar and TJ conducted survey methods training from the 19th to 27th of March. There they trained 25 Sri Lankan and 6 Bangladeshi participants. The crew were great, very enthusiastic and always had big smiles. The CSIRO team were treated to a fantastic group dinner and the food was spectacular at every point.



Smiles all around from the group!



Plenty of snacks for everyone!



A four-legged helper.

The Sri Lankan crew organised plenty of snacks to help keep everyone energised and we all had a great time surveying the inland, river and coastal sites where we even had a great helper



**Busy doing transects or resting on the job?
Notice the fabulous hats Kamal and the team organized for everyone**

Qamar took a small group of surveyors out to sea for half a day of trawl sampling. There, they managed to collect two of the largest pieces of debris that we have ever seen in our trawl surveys. These were a single use plastic water bottle complete with some hitchhiking invasive species and a huge piece of sponge! We also passed through a fleet of sail-powered prawn trawling vessels, which made it doubly exciting.



Plastic debris



The crew looking happy!

After a long and rewarding field work effort, Qamar and Kamal managed to sneak in a short stats



discussion before joining in the music and dance party on the bus! Unfortunately, there are no pictures of the dance party!

The Sri Lankan crew continued the survey on the following weekends and are entering their data as they finish the fieldwork.

Back at home, Qamar has been analysing river and inland samples, and making predictions of the load of debris on land, across several of our first countries to be surveyed. We are looking for patterns that best explain the differences seen between different sites. Stay tuned for results, and if you are interested in hearing more about how we conduct the analyses, let us know. We are planning how best to train teams in analysis methods (more information about this on page 7).

Vietnam

In May, TJ went to Vietnam for the international FIG working week hosted by the international federation of surveyors. There, TJ caught up with our friends from GreenHub. TJ also brushed shoulders with environment ministers and many others of the nearly 1,000 attendees at the FIG working week, where TJ gave a presentation on mapping plastic in the Ha Phong region.



TJ giving a presentation at the FIG working week (left).

Enjoying the food delights that Vietnam has to offer - TJ managed to get out and check out the night markets with some of the FIG and Green Hub crew (below).



China

In February 2019, Revor Shaw from China visited us here at CSIRO in Hobart to work on marine debris modelling for data that was collected in Shanghai. During his time with us he got to spend some time with a few local Australians!



Revor feeding a kangaroo



Revor and Chris in Hobart

Eye-opening results

Chris has been working in the background on some of the coastal and at-sea analysis from data already collected. The results are eye-opening! Sites in Vietnam and South Korea had densities of plastic at sea at more than 1.5 million pieces per km² -- more than twice as high as the highest values ever found in the ocean gyres (nearly 600,000 pieces per km²). While shocking, we think this also points to the value of actions in and around cities in reducing the load going into the ocean.

These results wouldn't be possible without all the great work our partners are carrying out across the region. Well done to all of you!!



Snapshot of another project

We have currently partnered with two international marine conservation NGOs, Ocean Conservancy and Project Aware, to do a quantitative analysis of marine debris on the land and seafloor. Marine debris surveys on land are conducted through the Ocean Conservancy's International Coastal Cleanup program, while underwater surveys are conducted through Project Aware's Dive Against Debris program. With the survey results from marine debris clean-ups over the last seven years, CSIRO are analysing the data to find where the litter hotspots are for different types of items, and which socioeconomic drivers are linked to the littering of different types of debris.



We would love your feedback...

Interested in attending a webinar?

We are hoping to run a webinar every three months to give you more knowledge on the marine debris survey analyses. The purpose of the webinars are to give you an update on the analysis details and to give you some information on the analysis methods.

This training would take place in the comfort of your office or home – all you need is a computer and an internet connection!

Please let us know if you would be interested in attending.

Informal Solutions Recipes for Success Cookbook –looking for stories!

Do you know of a great ‘informal sector’ solution to plastic pollution that is working in your region? Is someone doing something creative that is working well and helping to reduce plastic



waste and plastic pollution? If so, we want to hear from you as we are putting together a cookbook of recipes for success. Please get in touch if you have a story to share (Denise.Hardesty@csiro.au). Recipes and accompanying photos will be duly credited.

Upcoming work

Over the next few months we will be heading to work with the UN in Africa. We will tell you all about it in our next newsletter 😊.

Data collection

Database Reminder

A reminder that our database is now live! All our partners can now enter survey information, photos and collections data directly into our online database. You must be a registered user to access the site. Email Qamar.Schuyler@csiro.au, Vanessa.Mann@csiro.au, or TJ.Lawson@csiro.au to register.

Access the data base here: <https://marine-data.csiro.au/global-debris>

Dropbox folder Reminder

We have created folders for each individual country in the Dropbox. We have included a sub-folder for photos and would love it if country partners could upload photos from the training and surveys. We especially would like group photos and pictures of the fun and memorable times of the participants.

If you haven't uploaded your transect photos directly onto the database, you can also include survey photos in this folder as well. Please make sure they're labelled properly!

Completed Datasheets Reminder

In addition to having the data entered into the database, we would also like to maintain a library of the completed datasheets to refer to in case of any questions about the data. If you have digital or hard copies of completed datasheets that you haven't sent us, could you please either post them to us at the following address:

Marine Debris Team
CSIRO Oceans & Atmosphere
GPO Box 1538
Hobart, TAS 7001
Australia

or send scanned copies via email to marinedebrisadmin@csiro.au. **Please scan before you send** anything via the post. You can also upload to the Dropbox folder which may be easier than email if internet speeds are slow where you are.

I know we've said it already, but please remember to upload and/or send us your photos of the start and end points of every transect onto the database if you haven't already!