

RACE FOR WATER ODYSSEY

MICROPLASTICS STUDY STUDENT PRIVILEGED TO LEARN ONBOARD REVOLUTIONARY VESSEL

RESEARCH CONDUCTED AT THE USP OF MARINE STUDIES HAS SHOWN THE PRESENCE OF MICROPLASTICS (MPS) IN ALL NEAR-SHORE WATER SAMPLES FROM AROUND FIJI

Microplastics are small, barely visible pieces of plastic that enter and pollute the environment. Microplastics are not a specific kind of plastic, but rather any type of plastic fragment that is less than five millimetres in length.

MERELEKI NAI AND WAISEA NASOKIA
NADI

A Master of Science student of The University of the South Pacific (USP), Andrew Paris, was on board the revolutionary vessel, Race for Water Odyssey, to collect samples in Fiji and Tonga waters.

Mr Paris, a native of Savusavu who also works for the USP, was with the crew for seven days last month and made a presentation at Port Denarau yesterday.

His research, conducted at the USP of Marine Studies has shown the presence of microplastics (MPs) in all near-shore water samples from around Fiji.

Microplastics are small, barely visible pieces of plastic that enter and pollute the environment. Microplastics are not a specific kind of plastic, but rather any type of plastic fragment that is less than five millimetres in length.

"We have about six sites around Viti Levu, in Suva (Laucala Bay), Rewa, Dawasamu (Tailevu), Rakiraki, Ba, Sigatoka and Galoa," he said.

"There are places in Fiji that have a high level of microplastics in the water and in segment and consequently in the marine lives that live in that area.

"As part of my Master thesis titled - Evaluation of the abundance and distribution of microplastics in Fiji surface waters, the objective of my stay on board was to quantify abundance and determine distribution processes of microplastic (MP) in surface waters to the southeast of Fiji."

According to Mr Paris there have been no studies previously done on microplastic in Fiji waters and consequently, the quantity of MPs which originate from Fiji as well as the amount which is brought in from other places by the South Pacific gyre is not known.

"This is the first time I have been given such an amazing opportunity to embark on a scientific expedition with such a prestigious institution. It is definitely something remarkable for me being afforded the opportunity to conduct Pacific-based research on the detrimental effects of microplastic on board a technologically savvy and environmentally friendly vessel," he said.

Mr Paris said the work he undertook on board will form a major component of his Master's thesis.

"The completion of this study will provide valuable insight into the levels of MPs found in surface waters around Fiji, the distributive processes and patterns and consequently the degree to which the Fiji marine environment is inundated with microplastics of foreign origins."

He said the research will aid in establishing baseline data on the levels of microplastics in Fiji surface waters which will be the key in developing long-term monitoring programmes to detect environmental changes and evaluate the effectiveness of management actions related to plastic pollution control.

"Increased focus on microplastics will



University of the South Pacific (USP) Science student, Andrew Paris.



Minister for Fisheries Semi Korolavesau with a model of the Race for Water Odyssey on board the catamaran berthed at the Port Denarau.

allow for informed decision making at the policy level locally and regionally.

"I wish to build on the pre-existing strategies created around marine plastic pollution awareness and advocacy and compliment the immense work of institutions like the Race for Water Foundation has done for the Pacific on issues pertaining to water preservation."

"This would be done by conducting surface tows daily or twice daily, depending on weather/sailing conditions. The net will be deployed from the stern of the vessel for a total of soak time of 2-5 minutes, attached will be a flow meter which will aid in determining the volume of water filtered. The net will then be retrieved, rinsed with sea water and contents at the cod end will be transferred to 1L sampling bottles."

Samples obtained will be visually inspected and stored for processing at the School of Marine Studies laboratory at the University of the South Pacific.

OCEANLOVERS PROGRAMME PARTNERSHIPS

Port Denarau Marina general manager Cynthia Rasch said, the stopover of Race for Water is a great boost to the marina's community engagement in imparting knowledge on ocean conservation and combating plastic pollution in the ocean.

As a certified Clean Marina with Level 3 Fish Friendly accreditation, Ms Rasch said one of the objective of the programme is to ensure clean facilities exist in the Denarau boating communities and to protect waterways from pollution.

"This accreditation established our Oceanlovers Programme which extends out to our younger generations in schools and local community through

ABOUT THE VESSEL:

- Length - 114ft.
- Width - 51 to 75ft.
- Weight - 100 tons
- Height - 20.7ft
- Draft - 6ft
- Average speed - 5 knots
- Maximum speed - 8 knots
- Full time crew on board - 7

enough plastic to circle the Earth four times. Every minute, one garbage truck of plastic is dumped into our oceans. By 2050 there will be more plastic in the oceans than there are fish (by weight). Recycle takes little effort on your part, for a big difference to our world," she said.

RACE FOR WATER VESSEL

It is known as a revolutionary boat. It was created in 2010 by Swiss entrepreneur Marco Simeoni, the Race for Water Foundation fights against plastic pollution of the oceans.

Committed to a five-year Odyssey (2017-2021), the Foundation's ambassador vessel travels around the world to study the impacts of plastics on the marine environment, raise awareness and propose local solutions to this global problem, particularly through a machine that transforms plastics into energy: Biogreen.

It began its expedition on April 9, 2017, from Lorient, northwestern France, in the service of the Ocean, the energy transition, science and education and returns to the same venue in 2021.

Also, it's an exceptional ambassador vessel - free of carbon dioxide emissions with only renewable sources of energy: wind, sun and ocean.

1. It has 5,550 sq.ft. of solar panels and storage in the 8-tons of Lithium-ion batteries.
2. Self-piloting towing kite spanning 430 sq.ft. deployed at an altitude of 500 feet.
3. 440 lbs of hydrogen stored in 25 bottles at 350 bars. Edited Rosi Doverveta

Feedback: mereleki.nai@fijisun.com.fj

ALSO READ
More on the Race For Water Odyssey >P26

FOCUS