

Seaweed investigations continue

THE Ministry of Marine Resources' science team has been conducting field work this month as part of the Mei Te Vai Ki Te Vai project investigating the prolific seaweed growth in Muri Lagoon.

Last month distinguished Professor of Evolution and Ecology at the University of California's Bodega Marine Laboratory Susan Williams assisted the MMR team in sampling and identifying the many types of seaweed present in Rarotonga's lagoon.

Dr Williams lent her experience and expertise in tropical lagoon habitats and seaweed ecology to the team with an overall objective to characterise the distribution and diversity of seaweed species both within Muri Lagoon and elsewhere in Rarotonga.

"I was contacted by MMR to advise on the seaweed problem, especially in Muri Lagoon. We also sampled seaweed at several other sites including Rutaki and Matavera as well."

Dr Williams assisted the team in collecting seaweeds samples to determine the density, abundance and biomass of major species.

"Identification of the seaweeds is hard because there are few taxonomic references for the South Pacific. Although knowing the name of the seaweed is important, it is critical to know how abundant it is."

The data will be used for reporting findings on the seaweed growth in the lagoon as part of the broader Mei Te Vai Ki Te Vai

activities.

"What we have found is that the seaweed is abundant. I was very surprised at that. In some places over 90 per cent of the bottom is covered with it. In the 40-plus years I've been working in lagoons I've never seen such an abundance of green seaweed."

What also surprised the team was that the Rutaki sample area had the most abundance of green seaweeds.

Dr Williams says her first impression is that the excessive growth of seaweeds in Rarotonga's lagoons may be caused by nutrient overload.

"We know that it's a problem because such an abundance of seaweed is not typical of a healthy lagoon and reef environment. Fast-growing 'clouds' of seaweed often act as nutrient sponges. For now, we do not know what has caused it – the team is working on that as well as developing a monitoring programme for continued efforts.

"These problems can be solved once you figure out the cause, but it doesn't happen overnight."

Dr Williams says the seaweed problem is not unique to the Cook Islands and habitat rehabilitation is possible over time.

"Many coastal areas suffer from seaweed problems, especially green seaweed. A coastal community in Hawaii had a problem with seaweed growth, they addressed the problem and recovery took from 10-20 years. You need to work hard to correct the problem, and it will take a

while."

After her brief six-day visit, Dr Williams said it was heartening to see that the community and government want to do something about the seaweed problem.

"No one is ignoring it and that's the first step."

On January 26, Mei Te Vai Ki Te Vai hosted a workshop for project partners to hear more about Dr Williams' work.

Dr Williams also works on marine plastic debris issues and shared some of her observations with the Mei Te Vai Ki Te Vai team.

"The places I've been around the island have little debris compared to other places I've been in the Pacific and Indo Pacific. It would be nice if it could stay that way and if the community can be encouraged to recycle.

For example having refillable glass bottles at tourist accommodations, and not using plastic bags. Other major tourist destinations are doing this type of thing and it doesn't take long

to change practices."

Dr Williams said she was honoured to visit the Cook Islands and assist in MMR's work.

"The Ministry's science team led by Dr Lara Ainley is a very good team – it's collaborative, interactive, hard-working and I've been very impressed by them."

Senior Marine Ecologist, Dr Ainley, says it was good to have Dr Williams work with the team.

"Her own research focuses on the ecology and rehabilitation of nearshore marine ecosystems, particularly seagrass and seaweed beds, and coral reefs. Through this initiative, we have already learnt far more than we knew before about the extent and diversity of seaweed around Rarotonga. Being able to characterise and understand more aspects of these habitats will greatly add to our knowledge and ultimately help us in delivering the best possible management solutions."

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Dr. Susan Williams, who assisted the MMR team in sampling and identifying the many types of seaweed present in Rarotonga's lagoon, takes a closer look at a seaweed sample. PHOTO: MMR



Professor Susan Williams' working on seaweed classifications with MMR Marine Scientist Kirby Morejohn. PHOTO: MMR