



Join the Fight

Protect our islands from invasive species



Soundbites

December 2017



The electronic newsletter of the Pacific Invasives Learning Network (PILN) – reporting on Invasives news from PILN teams and the Pacific region. Past issues are available online: <http://www.sprep.org/piln>

Season's Greetings Invasive Species Battlers,

As another year comes to an end, it is important to reflect back on the battles we have won, the friends we have made and the struggles we have had together. It is never, and ever will be, an easy job that we all choose to take on for the good of our families, communities, our nations and our region, but one that is necessary if we are to enjoy all that our environment has to offer us.

For this I thank you all very much and take my hat off to you for your efforts.

Highlights in this issue include the inaugural “Pacific Battler of the Year Award”, two new multi-PICT invasive species projects being developed for implementation, the GBIF regional invasive species data sharing project is underway, protecting the isolated territory of Tokelau, two new Battler's join the SPREP team, yellow crazy ants in Kiribati and Tokelau, two alien rust fungi in the Pacific, new identification tools and more.

Please take some time to relax with your families and friends over the Christmas and New Year break, those people who are close to us whom often compete for our time during the busy year. It is these people that ultimately keep us going in our never ending pursuit.

Thank you all again for a fantastic year, now let's raise our glass and celebrate.

Manuia le Kerisimasi

David Moverley
SPREP Invasive Species Adviser and PILN Coordinator



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2017 “PACIFIC INVASIVE SPECIES BATTLER OF THE YEAR”

In the Pacific we are lucky to have so many dedicated Invasive Species Battler’s. Those that work hard and achieve real outcomes for the benefit of their community, country, territory or state and the Pacific region as a whole. The “Pacific Invasive Species Battler of the Year Award” aims to recognise these outstanding people and the contribution they make. This year is the first time this award is presented.



LISA FANUA

2017 PACIFIC INVASIVE SPECIES BATTLER OF THE YEAR

Vava’u Environmental Protection Association (VEPA), Vava’u Islands, Kingdom of Tonga.



Lisa Fanua is responsible for managing the rats on Mt. Talau, along with her team of volunteers. This pilot project on managing rats and pigs on Mt. Talau over the past four years is really paying off with eleven pairs of the endemic Tongan whistler and their many chicks very evident at the site. Local communities are also reporting Tongan whistler around their houses, many of these local people have never seen or heard this special bird before. The rare plant *Casearia beuelowii*, endemic to Mt. Talau has also benefited, the last remaining 18 stems now has a cohort of young seedlings within the pig enclosure.

*Saving the Kingdom’s biodiversity one day at a time.
Love your work Lisa.*



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TWO NEW MULTI-PICT INVASIVE SPECIES PROJECTS FOR THE PACIFIC

Two multi-PICT invasive species projects are in the last stage of development and should begin implementation in 2018 and 2019. These will bring over twelve million USD to support invasive species management in the Pacific over the next 4-5 years.

STRENGTHENING NATIONAL AND REGIONAL CAPACITIES TO REDUCE THE IMPACT OF INVASIVE ALIEN SPECIES ON GLOBALLY SIGNIFICANT BIODIVERSITY IN THE PACIFIC

The GEF 6 Project Document Preparation phase is now well under way with the estimated project approval by the Secretariat of the Global Environment Facility expected in the second half of 2018. This project includes the participating countries of Niue, Tonga, Tuvalu and the Republic of the Marshall Islands and also includes a substantial Regional Support component.

To date the project development team has been formed and the first two National dialogues have been completed in Tonga (13-16 November) and Niue (27-30 November). Both of these countries will build upon the highly successful GEF-PAS Regional IAS project which was implemented between 2011 and 2016. A feature of both is further capacity building to enable communities to help manage their environments through weed management and restoration of high biodiversity areas through predator management.

The next steps are national dialogue workshops in the Marshall Islands (January 2018) and Tuvalu (February 2018). This will be followed by the design of the regional component including the Regional Support Service in March and the final inception workshop in May 2018.



Stakeholders at the Niue National Dialogue Workshop in November where the design of the GEF 6 Niue country component was determined.



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EUROPEAN DEVELOPMENT FUND OVERSEAS TERRITORY ENVIRONMENT PROJECT

This project, which is yet to be named, is a EURO 36 million project which aims to support the overseas territories of French Polynesia, New Caledonia, Pitcairn Island and Wallis and Futuna to prepare for climate change through focal areas of productive landscapes and the environment. The project will be co-managed by the Pacific Community (SPC) and SPREP, with the invasive species component managed by the SPREP Invasive Species Team. Significant activities include feral deer management in New Caledonia, rat eradications on the Wallis islands, improved biosecurity in French Polynesia and a Territorial Invasive Species Action Plan and pilot projects in Pitcairn.

The invasive species component was designed at a Fonds Pacifique funded workshop aimed at integrating French territories in the regional “Guidelines for Invasive Species Management in the Pacific” framework held in Noumea in May 2017.

Several further workshops focused on the whole project and its modalities and many working group discussions has got the project to its second review stage. The project is expected to be signed off in the first quarter of 2018.



Stakeholders at the French territory integration workshop in Noumea.



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GLOBAL BIODIVERSITY INFORMATION FACILITY PACIFIC REGIONAL INVASIVE SPECIES DATA MOBILIZATION AND CAPACITY BUILDING PROJECT

A Regional Invasive Species Data and Information Mobilization project began implementation this year. The project aims to mobilize data through data sharing agreements, build the capacity of the region to publish data, integrate data into safe depositories and build capacity to utilise the data for policy and decision making.

The project is being coordinated by SPREP with 14 Pacific islands countries, territories or states. Regional and international organisations are also partners to ensure regionally data is being shared so it can be utilised regionally to assist PICTs.

Each Pacific partner is holding a data sharing workshop in-country to inventory relevant lists and determine how the different organisations will share data into the future. They are also focused on formatting the data to match the Darwin Core which is an international data standard for biodiversity.

A workshop for regional organisations was held in Suva in October to map available data sources and determine how we could share data with each other to improve services to the Pacific.

A final capacity building workshop will be held in Apia on the 16th to 20th April 2018 for all participants.



<https://www.gbif.org/news/6akAtKIuAwyCk4ISkSoCQW/new-gbif-partner-in-the-pacific>

In September a Memorandum of Understanding was successfully negotiated and signed between the Global Biodiversity Information Facility (GBIF) and SPREP. This agreement establishes a mandate for the first Biodiversity Data Publication node in the Pacific, which is based at SPREP. This will allow Pacific countries to publish their biodiversity data to an open source stable platform and enable other parties to assist members with data analysis. **SPREP is ready and keen to assist you to publish your data on our new platform! Please get in touch with us!**

Cook Islands - Fiji - Kosrae - New Caledonia - Niue - Palau - Papua New Guinea - Pitcairn

Samoa - Solomon Islands - Tonga - Vanuatu - Wallis and Futuna – Yap

IUCN – SPREP - SPC



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2017 BIOSECURITY AND INVASIVE SPECIES WORKSHOP TO PROTECT TOKELAU

An Invasive Species capacity building workshop focused on protecting Tokelau was held in September. The workshop was hosted by Pacific Biosecurity and funded by New Zealand Aid Programme, SPC and SPREP provided technical support. Topics included identification of priority invasive species activities and gaps in biosecurity.



EDNRE staff and Taupalega representative's with some of the technical support staff from SPREP and SPC, held in the Tokelau Office in Apia, Samoa

WELCOME NEW SPREP “BATTLEERS”



David Sakoda is a Response Volunteer from the Peace Corp and will be working with the Invasive Species Program for the next 12 months. David's past experience includes being the Maui County (Hawaii) Arborist (urban & Community forest programme) and a forester/resource planner with the US Forest Service within the USDA, amongst many other challenges.

David will be working on the various databases we have been developing within the Programme and in particular the standard operating procedures used to maintain them.

These tools are aimed at tracking the regional and country progress, increasing the response time to funders for the development of new projects, creating a more efficient and effective technical support service and increasing the amount of resources available to Pacific practitioners.



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Bradley Myer started with the Invasive Species Programme at SPREP in August and will be with us for 12-18 months. Brad reports to the SPREP Invasive Species Adviser as the Invasive Species Officer and will be assisting the programme with tasks including the implementation of the GBIF invasive species mobilisation project and assisting with the development of the GEF 6 project document.



Brad has a Post Graduate Diploma in Environmental Management from the University of Auckland and a Bachelor of Commerce from Lincoln University. Brad has been working in the field of ecological restoration and invasive species management for 18 years in New Zealand and internationally. Brad brings many years of project management and implementation which will be of great benefit to the programme and members.

Brad has come to Samoa from New Zealand with his wife, two daughters and their dog.

If you haven't heard from Brad you will in the not too distant future as we prepare for the upcoming projects in 2018 and 2019.

Much appreciation is given to Island Conservation and other partners which have contributed financially to increase capacity within the SPREP Invasive Species Programme.

YELLOW CRAZY ANTS IN KIRIBATI AND TOKELAU

Yellow crazy ants can kill animals 500 times their size threatening ecosystems



PACIFIC ISLAND REPORT – “Pacific Biosecurity Gets Control Over Invasive Ants in Kiribati, Tokelau”
04/11/2017 See article on website: <http://www.pireport.org/articles/2017/04/11/pacific-biosecurity-gets-control-over-invasive-ants-kiribati-tokelau>



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TWO ALIEN RUST FUNGI CAUSE MORTALITY TO TREES IN THE MYRTACEAE FAMILY AND ALARM IN THE PACIFIC

Rusts are plant diseases caused by pathogenic fungi of the order Pucciniales (previously also known as Uredinales). An estimated 168 rust genera and approximately 7000 species, with the majority belonging to the genus *Puccinia*. Rust fungi are highly specialized parasites with unique features.

Unlike other plant pathogens, rust usually affects healthy and vigorously growing plants, so the infection is limited to plant parts such as leaves, petioles, tender shoots, stem, fruits, etc. Perennial systemic infection may cause deformities such as growth retardation, witch's broom, stem, canker, hypertrophy of the affected tissues or formation of galls. Plants with severe rust infection may appear stunted, chlorotic (yellowed), or otherwise discoloured. Rust sporulates on affected plant parts.

OHI'A TREE DEATHS IN HAWAII

Lowland wet forest, east Hawai'i Island, before (2005) and after (2015) Rapid 'Ōhi'a Death moved through the area



An alien rust is killing the endemic tree, 'Ōhi'a (*Metrosideros polymorpha*, family Myrtaceae) on Hawai'i Island. Throughout the state of Hawai'i, USA, 'ōhi'a-dominated forests occupy more than 1 million acres; Hawai'i Island contains more than 50% of those forests. 'Ōhi'a trees have significant biological and cultural value. These trees are among the first plants to colonise fresh lava flows. They provide shelter and food for native animals (such as Hawaiian honeycreepers, native snails, and insects) and native plants in Hawaiian wet forests. They also create the watersheds that replenish Hawai'i's aquifers.

The infection process may occur over one or more years. However, the final appearance of tree death occurs over several weeks, or even days; tree crowns turn yellow and then brown. The fungal pathogen *Ceratocystis fimbriata* was identified as the cause of the disease in 2014. The disease earned the name "Rapid 'Ōhi'a Death" because trees died so quickly. The fungus kills trees by growing into the water-conducting vessels and impeding water flow from the roots to the crown.



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Initial reports of dying 'Ōhi'a trees as far back as 2010 did not cause much alarm because 'Ōhi'a die from various causes on a regular basis. It became evident that there was a new disease by 2013 when many homeowners were calling and all reports were coming from the same area on Hawai'i Island. Early remote-sensing surveys of this area, the lower Puna District on Hawai'i Island's east side, detected about 2,200 acres of land with more than 10% 'Ōhi'a mortality. By 2014, the affected area increased to 15,000 acres.

Today, more than 34,000 acres of forest are affected, and hundreds of thousands of 'Ōhi'a have died.



Dark fungal staining around the sapwood of a slice of dead 'Ōhi'a trunk. Photo: JB Friday

There are currently many efforts to understand and prevent the spread of Rapid 'Ōhi'a Death, but there is still a lot of work to do. Intensive studies are being carried out to understand *C. fimbriata* biology and molecular genetics and to diagnose disease. Work also includes extensive aerial surveys, establishment of forest plots for long-term monitoring, and field studies of disease transmission. There is also a team of people working on education and outreach.

There are many people and organisations working together. The researchers first involved (and who are still considered the core of the research team) were [Drs. Lisa Keith, Flint Hughes, and JB Friday](#). Collaborating organisations include the US Department of Agriculture, US Forest Service, US National Park

Service, US Geological Survey, University of Hawai'i College of Tropical Agriculture and Human Resources, Hawai'i Department of Agriculture, Hawai'i State Division of Land and Natural Resources, Hawai'i State Department of Transportation, Hawai'i Invasive Species Council and Invasive Species Committees, The Nature Conservancy, and Iowa State University.

The disease Rapid 'Ōhi'a Death is so far isolated to the state of Hawai'i; however, many *Metrosideros* species exist in forests of the Pacific, particularly in New Zealand and New Caledonia.

For more information and for outreach materials, visit www.rapidohiadeath.org and our Facebook page <https://www.facebook.com/RapidOhiaDeath/>

– Submitted by Corie Yanger and JB Friday

– MYRTLE RUST IN NEW ZEALAND

Alien Myrtle rust (*Austropuccinia psidii*) has been found in Northland, Waikato, Te Puke, and Taranaki. It is also widespread on Raoul Island in the Kermadec group north-east of Northland. The fungus attacks plants belonging to the Myrtaceae family, also known as the myrtle family. It is found in many parts of the world including New Caledonia and all along Australia's eastern seaboard.

Myrtle rust spores are microscopic and can easily spread across large distances by wind, or via insects, birds, people, or machinery. Evidence suggests the fungus arrived in New Zealand carried by strong winds from Australia where it is well established all down the eastern coast.



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The Ministry for Primary Industries (MPI) and the Department of Conservation (DOC), with the help of local iwi, the nursery industry, and local authorities are running a large operation to determine the scale of the situation and attempt to contain and control myrtle rust in the areas it has been found. More information on Myrtle Rust in New Zealand can be found on the website:

<http://www.mpi.govt.nz/protection-and-response/responding/alerts/myrtle-rust/>

ANT IDENTIFICATION RESOURCES & APP'S AVAILABLE

THE PACIFIC INVASIVE ANT TOOLKIT (PIAT)

The Pacific Invasive Ant Toolkit is a collection of resources to help prevent and control invasive ants in the Pacific. We call this the PIAT for short. The PIAT is mostly targeted at helping developing and remote Pacific Nations, who often do not have access to pest control locally and depend on outside help. But anyone is welcome to use it.

We decided that the PIAT was needed as the resources available to deal with invasive ants were in many different places and sometimes hard to find. So some of the resources you will find here have been specifically developed for PIAT, but others are available in other places. We always provide links to the original sources of information.

Check out the Pacific Invasive Ant Toolkit at <http://piat.org.nz/>. The PIAT was developed by [Pacific Biosecurity](#) as part of a Partnerships in Aid project funded by the New Zealand Ministry of Foreign Affairs and Trade through the [New Zealand Aid Programme](#).

The project, called "Building resilience to biosecurity threats from invasive ants throughout the Pacific" runs from 2015-2019 and has the goal to increase capacity to deal with invasive ants throughout the Pacific. Although [Pacific Biosecurity](#) leads the project and has collated or developed the resources you'll find here, building the PIAT would not be possible without the support and contributions of the in-country and regional agency partners [SPC](#), [SPREP](#), [Tokelau EDNRE](#), [Kiribati MELAD](#) and [Pacific Invasives Initiative](#). As well as the partners, [many people and organisations](#) around the Pacific helped create the toolkit, either directly by providing information, samples, images and other resources, or indirectly through their outreach and science work.

Where possible the PIAT was designed to reflect the SPREP/SPC [Guidelines for Invasive Species Management in the Pacific](#).

The PIAT is a 'living' resource, which means that it will be continually updated and refined by Pacific Biosecurity between 2016 - 2019. After that our regional agency partners, SPREP and SPC, will take over guardianship of the PIAT.



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PACIFIC PESTS AND PATHOGENS V6 APP

An update of the **app Pacific Pests and Pathogens V6** is now out on Google and Apple online stores, and also on the www.pestnet.org website. There are pests in this app that are invasive species as well.

There are full and mini versions of each one.

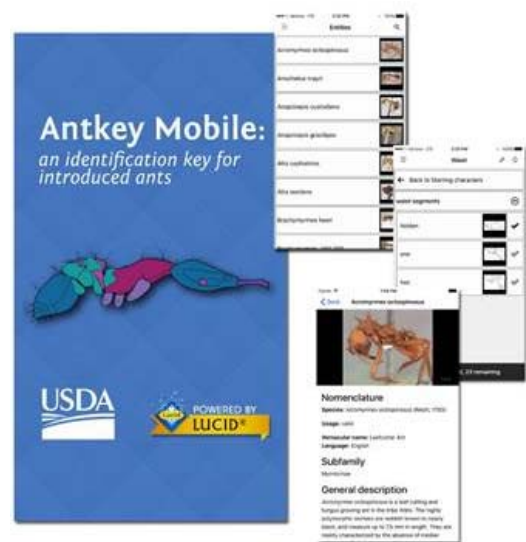
There are another 50 fact sheets, mostly on pests of Fiji and one or two 'pests on the horizon' for the Pacific region. This brings the total to 350. Some errors have been corrected (no doubt others made!) and images added.

ANTKEY MOBILE APP

Antkey Mobile app is put out by USDA APHIS ITP and developed in cooperation with the tool's author, Eli Sarnat, and Australia's Identic team. Lucid Mobile apps offer ID keys for Mobile Android & iOS.

Lucid Mobile apps offer you the identification keys you've come to rely on from the convenience of your smartphone or tablet. Antkey Mobile (free for Android or iOS) allows you to take your Lucid key with you into the field for surveys and screening, even if your field site lacks internet access.

This key allows both specialists and novices to easily identify invasive, introduced, and commonly intercepted ant species from across the globe. You can help confirm whether you have found the correct species by comparing your specimen with the images and descriptions on the fact sheets, which are included for each species.



Here's what some of the experts in the field have said about this useful application:

“I actually used the app in a workshop on ant identifications in Tarawa, Kiribati. It worked really well and we were able to identify all the ants we had to genus level, and most to species level (including the worst invasives).

Another benefit is that internet access isn't needed after its downloaded – and internet in places like Tarawa can be an issue.

I think it's a great app for identifications, and would highly recommend it for PILN members.”

Monica Gruber, Programme Manager Pacific Biosecurity – School of Biological Sciences, Victoria University of Wellington

“I really like the Antkey app myself. It is well laid out and easy to use and includes a huge range of ant species (one of the biggest frustrations in trying to ID invasive ants is that the key you are using doesn't include the species you are attempting to identify!). There are lots of pictures of each species, and line



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drawings clearly illustrate diagnostic features for a non-technical audience. All in all I think it is a fantastic resource and should definitely be passed on to the PILN!”

Megan, Pacific Invasive Ant Toolkit Facebook page.

Go to website for more information:

http://idtools.org/news_09_07_2017.php

INVASIVE OPPORTUNITIES

Micronesia Invasive Species Council Coordinator

Regional Invasive Species Council Coordinator located in Micronesian Island Forum Secretariat Office, Koror Palau. Closing Date December 30, 2017. Vacancy announcement No. RISCC-MIF, more information can be found on website link:

<http://palaugov.pw/wp-content/uploads/2017/12/RISCC-MIF-Vacancy.pdf>

The Rapid Response Facility (RRF)

RRF invites small grant applications for UNESCO natural World Heritage sites and tentative sites facing emergency threats to their biodiversity. The RRF is a unique small grant programme jointly operated by Fauna & Flora International and UNESCO World Heritage Centre. With a target processing time for grant applications of just 8 working days, the RRF provides rapid support to enable conservation practitioners to respond quickly and effectively to emergencies in some of the world’s most important sites for biodiversity.

Visit www.rapidresponse.org

Craig S. Harrison Conservation Grants – Pacific Seabird Group

The objective of the Conservation Fund is to advance the conservation of seabirds by providing funds or supplies to individuals from or working in developing countries, primarily in or bordering the Pacific Ocean, (1) for conservation and restoration activities that benefit seabirds in the Pacific Ocean and (2) to help develop within-country seabird expertise in developing countries within or bordering the Pacific Ocean. Email [Verena Gill](mailto:Verena.Gill@seabirdgroup.org) and [Craig Harrison](mailto:Craig.Harrison@seabirdgroup.org) briefly explaining what you want to propose and where you want to do the work. That way, you can get a rapid determination from them of whether your proposal is eligible for consideration for funding. If they determine that your study is eligible, then fill out and send the application form, the proposal/budget, and the letter of reference to Verena Gill and Craig Harrison. Please note that applications/proposals may be submitted at any time—there is no fixed deadline. All proposals will be evaluated as they are submitted.

SPREP (Secretariat of the Pacific Regional Environment Programme)

SPREP has a number of vacancies and tender opportunities available. Please check out SPREP’s [Job Vacancies page](#) for further information.

SPC (Secretariat of the Pacific Community)

SPC has vacancies and consultancy opportunities. Please check out the SPC’s website for further information (www.spc.int/job.html) or contact Christine Croombes (recruit@spc.int).

Have a job listing or course option? [E-mail it in](#) and use PILN to reach out.

NZBI’s Top of the South Branch and held at the Rutherford Hotel in Nelson from 25-27th July next year



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UPCOMING EVENTS

2018-2019	Event	Participating Partner
3-5 th July, 2018 Wellington, New Zealand	Society for Conservation Biology 5 th Oceania Congress http://wellington2018.scboceania.org/	Pacific Biosecurity- Dr Monica Gruber will be hosting an invasive ant workshop
25-27 th July, 2018 Nelson, New Zealand	New Zealand Biosecurity Institute Education and Training Seminar http://biosecurity.org.nz/	

WHO IS PILN?

There are currently 22 teams from 19 Pacific island countries and territories:

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> ○ American Samoa ○ Northern Marianas ○ Fiji ○ French Polynesia ○ Guam ○ Hawai‘i ○ Gilbert Islands, Kiribati ○ Line Islands, Kiribati | <ul style="list-style-type: none"> ○ Kosrae State, Federated States of Micronesia ○ Marshall Islands ○ New Caledonia ○ Niue ○ Palau ○ Pohnpei State, Federated States of Micronesia | <ul style="list-style-type: none"> ○ Samoa ○ Solomon Islands ○ Tokelau ○ Tonga ○ Tuvalu ○ Vanuatu ○ Wallis & Futuna ○ Yap State, Federated States of Micronesia |
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