## **CBCS** NEWS

A guarterly newsletter of the Centre for Biodiversity and Conservation Science

Tatsuya Amano awarded Japan Society for

the Promotion of Science Prize



CREATE CHANGE

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#### About CBCS

The Centre for Biodiversity and Conservation Science (CBCS) is a world-leading solution-oriented research centre for biodiversity conservation.

Based at The University of Queensland (UQ) in Brisbane, Australia, CBCS works in partnership with scientists, governments, nongovernmental organisations and industry to help solve the most important conservation problems around the world.

cbcs.centre.ug.edu.au



Left: Dr Tatsuya Amano at work in Brisbane. Photo: Mari Amano

Some of Tatsuya's earlier work revealed severe gaps and biases in the availability of scientific evidence over space and taxonomic groups. He has since devoted much of his research to producing new scientific evidence to be used for conservation in evidence-poor regions, focusing in particular on waterbird species. For example, Tatsuya and his colleagues reported on some of the first evidence for the impact of developments in the Yellow Sea on shorebirds in the East Asian–Australasian Flyway, catastrophic waterbird declines in central and western Asia, and the severe threats posed to waterbird species in the tropics by climate change.

#### Uncovering unknown knowns

When Tatsuya spotted one day that the global distribution of biodiversity information is partly explained by the distribution of English speakers, he realised how potentially enormous the consequences of language barriers could be for conservation science and its applications. Since then, he has been working to reveal the consequences of language barriers in conservation, and more broadly in science.

The Japan Society for the Promotion of Science (JSPS) announced late in 2021 that the 18th (FY2021) JSPS Prize has been awarded to CBCS Chief Investigator Dr Tatsuya Amano. The award honours Dr Amano for his work on global biodiversity assessments focusing on bridging gaps in our knowledge caused by language barriers.

The JSPS was founded in 1932 based on an endowment granted by Emperor Showa. Since then, the society has played a central role in promoting science through a wide range of funding opportunities both within Japan and across multiple countries.

The JSPS Prize is one of the most prestigious prizes for mid-career researchers in Japan, established in 2004 to recognise and support scientists with "rich creativity and superlative research ability". Its past recipients include Professor

Shinya Yamanaka, the Nobel Prize laureate in Physiology or Medicine in 2012, and Professor Yuichi Tsuda, who successfully led an asteroid sample-return mission in 2020.

The 18th JSPS Prize recognises Tatsuya's world-leading contribution to producing and synthesising scientific evidence for conservation and enhancing accessibility to global communities.

#### Patchy evidence in the face of a crisis

Producing and applying scientific evidence play a key role in tackling the ongoing biodiversity crisis. Since moving from Tokyo to Cambridge, UK, in 2011, first as a JSPS postdoctoral fellow then as a Marie-Curie fellow, Tatsuya has always been intrigued by one seemingly simple question: Why is so much evidence found in some parts of the world and not in others?

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The translatE (transcending language barriers to environmental sciences) project launched by Tatsuya at CBCS in 2019, funded by his ARC Future Fellowship, today represents a world-leading initiative in tackling this important, yet overlooked, issue in science. The project applies scientific approaches to understand the three types of language barriers in science: how ignoring science that is available only in non-English languages affects evidence synthesis; how difficulties in understanding English impede the local use of scientific evidence; and how language barriers disadvantage non-native English speakers in the development of their academic career.

One of the project's key achievements to date has been the discovery that non-English-language studies - the unknown knowns to international communities - can fill spatial and taxonomic gaps in English-language evidence for conservation. This work, recently published in PLOS Biology, was built on a collaboration with 62 scientists, who, collectively, are native speakers of 17 languages. The project has been vitalised by huge contributions from CBCS's Violeta Berdejo-Espinola and other CBCS/ UQ members. They are now working with over 130 collaborators from every continent of the world, showcasing just how much can be achieved through the nurturing of a culturally diverse academia.

#### Transcending language barriers for global challenges

Tatsuya's innovative project and its unique contribution to science have already attracted global attention, and been featured in Nature, Science, and The Economist. to name just a few prestigious publications. Tatsuya and colleagues have also been working on devising solutions to the issue of language barriers. For example, his team recently published Ten tips for overcoming language barriers in science and have started exploring how we can make the best use of machine translation in science. With the translatE project, Tatsuya aims to achieve his ambitious vision of making the best available science, produced by anyone around the world, accessible to anyone across the globe, irrespective of one's linguistic or socioeconomic background. He firmly believes that achieving this goal will help us tackle many of the global challenges facing humanity today, like the biodiversity crisis.

P R O F I L E DR GEOFFREY HEARD Project Manager, Threatened Species Index Terrestrial Ecosystem Research Network (TERN)

# Annals of a worrywart

With one of dozens of yellow-bellied water skinks detected during the East Gippsland Bush Blitz, 2016. *Photo: Jeremy Tscharke*.



Mum likes to remind me that I'm a worrywart. It's true. I am.

But it has only recently occurred to me that my passion for threatened species — now extending back well over two decades may ultimately stem from that character trait. I worry about our threatened species because they are, by definition, in trouble. Maybe they have their own inherent frailties; maybe they can't compete with some whizz bang new invasive; or maybe we humans have a penchant for their particular habitat. Whatever the case, they are imperilled, and my worrywart radar is triggered. a Bachelor of Biological Sciences at La Trobe University (inexplicably missing Professor Martine Maron, who was there at the same time doing the same subjects). I focused on Zoology and, on completing my undergrad, had the great privilege of joining a radio-tracking study of threatened inland carpet pythons for my Honours. From there, I worked as an ecological consultant for three years, before starting a PhD on growling grass frog conservation, again at La Trobe. It was heady days, and for a time I even shared a house with Professor Eve McDonald-Madden, just before her move to The University of Queensland.

#### "The TSX is a terrific fit for me, because it is a powerful tool to stimulate action for our threatened species."

The upside is that constructive worrywartism — how I describe my affliction — motivates action. One of the key ways the constructive worrywart is pacified is through solving the problem. And so, for threatened species, my inner worrywart wants action. It asks, rather incessantly, "What can we do for these species?" Thankfully the answer is "lots" in most cases; we just need to work out what. And that, in a nutshell, describes my career to date.

#### From La Trobe to the University of York

I grew up in Melbourne's northern suburbs, and after a decade filling Mum's shed with pet snakes, took myself off to complete With my stay at La Trobe drawing to a close in 2009, I sought to continue my work on growling grass frogs as a postdoc. I collaborated with Professors Kirsten Parris and Michael McCarthy at The University of Melbourne to win an ARC Linkage Grant, and spent the subsequent three years building a metapopulation model for the species. The work culminated in the use of our model by the Victorian Government to prioritise around \$60 million of habitat creation works for growling grass frogs across Melbourne's urban growth zones - just the outcome I hoped for.



In 2013, I was awarded a Victorian Postdoctoral Research Fellowship and travelled to the University of York to study at the knee of Professor Chris Thomas. These fellowships had tight eligibility criteria around "Victorian-ness"; one was almost ineligible for the mere thought of straying across the border. And so I, and several other conspicuously insular Victorians, were sent overseas to broaden our minds, make international connections and return to the antipodes with a bevy of papers. It was a terrific time, and one for which I partly have Professor Hugh Possingham to thank - the final year of this fellowship was supported by the ARC Centre of Excellence for Environmental Decisions (CEED), so thanks Hugh!

#### To TERN and the TSX, with a few steps in between

After my Victorian Postdoctoral Research Fellowship, I secured a Lectureship at Charles Sturt University in Albury teaching Wildlife Ecology and Management. However, after a happy two years career opportunities in Melbourne were calling us back. My wife Tanja joined The University of Melbourne and I fell in with the Arthur Rvlah Institute for Environmental Research, spending two years with them as a Senior Scientist working on such things as koala abundance estimates and population viability analysis models for species impacted by windfarms. And then came the bombshell. Tanja secured a Senior Lectureship at Griffith University, and we were off to Queensland. We crossed the border the day it closed — 25 March 2020.

My first 18 months in Queensland were spent working freelance on ecological modelling studies, with a six-month stint with the Australian Government's NESP Threatened Species Recovery Hub working on bushfire impacts on rainforest frogs (under Dr Ben Scheele at the Australian National University). Then, in August



Rapidly finding myself smitten with growling grass frogs during my first field season on the species. *Photo: Peter Robertson* 



In the beautiful forests of East Gippsland for the East Gippsland Bush Blitz, 2016. *Photo: Jeremy Tscharke* 

2021, the Project Manager position for the Threatened Species Index (TSX) was advertised and I hurried to submit an application before going on a month-long herping trip around Queensland. I did the interview from a motel room in Mackay and was offered the job the following day. I joined TERN and UQ in November 2021, to my great delight.

#### The TSX

You could be forgiven for thinking that being the Project Manager for the TSX is not the ideal position for a worrywart. Most ways you cut the data, the TSX shows that our threatened species continue to decline Yet the TSX is a terrific fit for me because it is a powerful tool to stimulate action for our threatened species. When it produces graphs showing falling abundance, it demonstrates clearly that we must do more. When it produces graphs that show stable or even increasing abundance, it shows us that we can succeed. And it can even show us why we are failing or succeeding; it gives us insights into which actions work and which ones don't. And so, my inner worrywart – constantly nagging me about what we can do for our threatened species - is satiated. It knows I'm helping to answer the question, and that conservation actions will follow.



#### Society of Conservation Biology Distinguished Service Award

#### Professor Sarah Legge reflects

I've been awarded something? Hmm. I stared at the subject line of the email, which purported to come from the Society of Conservation Biology.

"Distinguished Service Award," it said. (I read it aloud.)

My husband came over ... "Don't open it – it's a scam!" he said. (His lack of confidence has been noted.)

After a few more moments scratching my head, I did open it, and it wasn't a scam. But was it a mistake? Why was I getting this award?

As you can see, I meandered along the familiar mental pathways of the imposter syndrome. But once that was out of the way, what an unexpected thrill it was, and is, to receive this award. The fun didn't stop there: the conference was hosted online and the awards ceremony took place in the middle of the Australian night. It's not often you get to receive an award dressed in your PJs. The ceremony was followed by a dance tutorial led by an instructor from Uganda; jiving away in front of my laptop, in my sleeping household, in synch with people from all corners of the world, was a surreal experience, and yet strangely COVID-normal.

#### The (climate) future is now

The theme of the SCB's 30th International Congress for Conservation Biology (ICCB 2021) was "The Future is Now", and of course it made me think of the 2019–20 wildfires here in Australia. I live in the forests in northern New South Wales, and our house escaped the flames only because a subtle wind change sent the front skidding along, rather than through, a narrow gully a kilometre away. Over 10 million ha of forests were not so lucky. That single fire season will cause our list of nationally threatened vertebrate species to increase by about 20%, and cause uplisting for about 10% of vertebrates that were already listed. The impacts on invertebrates are potentially much worse, and the conservation status of many dozens of plants and ecological communities took a hammering too.

That single event also rammed home to all Australians, not just conservation scientists, that the predictions about the consequences of a changing climate weren't predictions any more. The future had arrived, and it wasn't pretty. For us in the conservation sector, the scale of the issues, and the inertias that prevent the required responses, feel overwhelming, excruciating, downright maddening. It's not just the issues of

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Surveys on the Karajarri IPA. Left to right: Rangers Jacko and Marissa, Koffi (Sarah's daughter), Sarah, photographer Nico. *Photo: Nicolas Rakotopare* 



### **Australian Blue Carbon Method released**

The **Clean Energy Regulator**, Australia's agency tasked with reducing greenhouse gas emissions, announced the Blue Carbon Method in January 2022. The method provides landholders with incentives to restore coastal wetlands by reintroducing the tide to lands where tidal influences have been reduced by installed barriers (e.g., tidal gates, bund walls and levees). Projects will be awarded Australian Carbon Credit Units, which can be sold to the government or others interested in offsetting emissions.

The method uses an abatement model (called the Blue Carbon Accounting Model

or BlueCAM), developed by a team of Australian scientists led by Professor Cath Lovelock at The University of Queensland. Emissions avoided from prior land use and carbon sequestered in biomass and soils are both modelled, with different values used for different climatic regions and for different coastal wetlands (mangroves, saltmarsh, seagrass, supratidal forests and high intertidal salt flats), reflecting the high diversity of coastal wetland ecosystems around Australia. Guidance for how to undertake a hydrological assessment before starting any project is also provided (in the Supplement) as well as other technical documents. All are available here.

The method complements other international blue carbon methods (e.g., VERRA VM0033) to incentivise restoration of coastal wetlands, and provides a new modelled approach to estimating GHG reductions that can reduce costs associated with implementing projects.

A simple method guide is provided at the link given above, and recommended as a good place to start to understand the method.

Carbon sequestration and emissions avoidance covered by the blue carbon method. Graphic from Understanding your blue carbon project: simple method guide, p. 5.



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climate change, but also habitat loss, invasive species, dwindling populations .... But when I start to feel despair gnawing, I actually send my mind back to those 2019–20 fires, and the way people and organisations rallied, stepped up and collaborated in a way that was next level. I think that experiencing that event, which was much bigger than any of us, has contributed to a lasting shift in way we work together, and we need to nurture that.

#### **Conservation science as service**

Which brings me to the concept of "service", given it's the subject of the award. It seems like an old-fashioned concept, when we're so encouraged to focus on individual needs and achievements, and being persuaded daily that everything from toilet paper to wallpaper needs to be personalised. Yet conservation science, at its heart, is about service: it's a discipline that seeks to achieve good, for humans and the other living things we share this planet with. That purpose is partly why it attracts such amazing people, and I feel extremely lucky to work with so many colleagues, across government, NGOs, universities, rangers and community groups, who are tenacious, smart, skilled and generous with their talents. Many of these were involved, as researchers and partners, in the recent **NESP Threatened Species Recovery Hub**, which I was also fortunate to be part of, as one of the deputy directors. It ran for six years, delivering first class applied research to support conservation management and policy. One of the characteristics of the TSR Hub that made it so successful was the collaborations it fostered between university researchers and the broader conservation sector; without those connections that ground conservation science in reality, much of the purpose of our discipline is lost. Similarly, participating in a variety of advisory groups and committees, from government to community groups, is another way of keeping a line of sight between research and what nature (including people) need. Some might call that sort of contribution service, but I reckon it's actually a privilege to have those opportunities to make a difference, no matter how big or small.

I'm very grateful to the SCB and the Awards Committee (including the Chair, Ed Gallo-Cajiao) for honouring me with a Distinguished Service Award. Four other amazing conservationists (Uma Ramakrishnan, David Towns, David Cumming, Rae Wynn-Grant) received awards that night. You can check out their achievements **here**.

## **Restoring Norfolk Island's** native plant species



A collaborative team led by CBCS PhD candidate Leah Dann published a unique book late last year, A Guide to Propagating Norfolk Island's Native Plants and Seeds.

Norfolk Island is a remote subtropical island in the South Pacific with 46 threatened plant species, most of them endemic. This is the highest number of threatened plants of any Australian island. Deforestation and biological invasions have resulted in the decline of native plant populations, necessitating continued conservation and restoration activities to protect native species and increase their populations.

The team\* responded to this challenge by putting together the handbook using information from locals and practitioners, field and nursery data, and literature and database searches. It details seed collection, storage and propagation techniques for many of Norfolk Island's native plant species. The handbook also offers descriptions and photos of plants and seeds, information about suitable habitats for each species, seed collection times, seed storage methods and dormancy information, time to seedling emergence, time to plant maturity, and cultural information about various plant species, along with a wealth of other information.

Written in Norf'k (the Norfolk Island language) and translated into English, the book offers a glimpse into the history of Norfolk Island and describes early botanical knowledge.

One of the unique features of the handbook is its foreword. Written in Norf'k (the Norfolk Island language) and translated into English, it offers a glimpse into the history of Norfolk Island and describes early botanical knowledge and uses of some of the culturally important plant species. An audio version of the foreword spoken in Norf'k is available online at the link provided below. This handbook is a legacy from the Australian Government's National Environmental Science Program (NESP)Threatened Species Recovery Hub islands project (led by Salit Kark's group) and provides both a cultural contribution to Norfolk



Island and an important resource for those interested in propagating Norfolk Island's native trees and shrubs and contributing to their conservation.

The handbook was supported by the NESP Threatened Species Recovery Hub, the Norfolk Island National Park and

*Myoporum obscurum* (popwood), a Critically Endangered plant species endemic to Norfolk Island. *Photo Mark Scott* 



Botanic Garden, the Australian National Botanic Gardens, Friends of the Australian National Botanic Gardens and The University of Queensland.

\*Leah Dann and Salit Kark (The University of Queensland), Lydia Guja (Australian National Botanic Gardens), and Mark Scott, Melinda Wilson and Nigel Greenup (Parks Australia).

Access a downloadable PDF of the handbook and the audio file of the spoken foreword in Norf'k (with a written English/Norf'k translation) here.

Top: Norfolk Island has more threatened plants than any other Australian island. *Photo: Leah Dann* Left: Leah Dann propagating seeds on Norfolk Island. *Photo: Emily Erskine* 

## Ethical eating: sustainable seafood in SEQ

CBCS Honours student Tia Vella (completed December 2021, supervised by Associate Professor Carissa Klein) has put her research into action, to great effect.

The results of her project, which aimed to determine the availability of sustainable seafood in south-east Queensland, reached an estimated audience of 4.4 million via a late December 2021 article in *The Conversation*, in which Tia and Carissa set out five top tips to choosing sustainable seafood. The wide readership for her work shows that Australians clearly have an appetite for such information about how to make more sustainable choices, with Tia's project results also featuring in *The Guardian*, several live ABC radio shows across the country, and more.

#### Origins are key

Tia's tips were developed from a survey she conducted of more than 50,000 seafood products from south-east Queensland supermarkets, restaurants and other outlets, which also assessed them for their sustainability, based on the Australian Marine Conservation Society's sustainable seafood guide, **Good Fish**. Tia found that only 5% could be classed as sustainable. The sustainability of nearly two-thirds of seafood products (64%) could not be determined – primarily because not enough information was provided at the point of sale about the origin, species and method of catch/production.

Additionally, 62% of the seafood Australians eat is imported, which can make it harder to determine the food's provenance. Tia's survey showed that there were more likely to be sustainable options available at speciality seafood outlets, which are also more likely to stock Australian products. While some sustainable options are available in major supermarkets, they skew much more heavily to imported seafood.

What about eating out? Australia lacks regulations requiring origin and species labels on cooked seafood. That means that when you buy flake, it could be a Critically Endangered species like the hammerhead or school shark. A 2014 Senate inquiry found that the labelling exemption for cooked seafood should be removed, but this is not yet law.

Love seafood and want to make better choices for biodiversity when you eat it? Your best bet is to ask questions, vote with your wallet and insist on fresh Australian seafood.



Origin and production method of popular holiday seafood choices, illustrating their sustainability categorisation by the Australian Marine Conservation Society's sustainable seafood guide, Good Fish: https://goodfish.org.au/sustainable-seafood-guide

## Saving species on Australian islands: a first national database

Australia has a wealth of islands, over 9,200 of them, large and small, ranging from tropical to sub-Antarctic, and from off-shore to near-shore. Many of these islands support unique, endemic and threatened flora and fauna. These islands are scattered across vast latitudes and across jurisdictions, making coordinated, effective and targeted conservation management on islands challenging.

#### A new, reliable source of unique data

A long-term project funded by the Australian Government's NESP Threatened Species Recovery Hub, led by CBCS's Professor Salit Kark along with Dr Peter Baxter, Dr Andrew Rogers and in collaboration with multiple colleagues, has responded to this challenge by creating the first national database of threatened species on Australian islands. Launched in late 2021, this new database breaks ground by being a unique source of data documenting islands that host threatened species, covering multiple taxonomic groups. The researchers compiled both new and existing data into three interlinked tables, including the Island Occurrences of Threatened Australian Species (IOTAS), All Threatened Species, and Islands tables.

The team also combined and edited four recent invasive species databases to form the first combined database of weed and vertebrate pest species records on Australian islands. This latter database is still under development and has incomplete records, but can provide preliminary insight into potential distribution and impacts of invasives on native island species, such as threats from feral predators.



The study suggests that Australia's islands hold multiple threatened species across a range of taxa – 281 threatened species occurring on 317 islands. Some of these threatened species (8.8%) occur only on islands, especially plants and birds.

The oceanic Norfolk Island has by far the highest number of threatened species (55, mostly plants) of all Australian islands. (See page 6 for a story about a new handbook by CBCSers that details how to propagate threatened Norfolk Island plants.)

#### **Building the database**

The project team collated, verified and assessed data on threatened terrestrial plants and animals (invertebrates, freshwater fish, frogs, reptiles, birds and mammals) across all Australian islands, and complemented the database by combining existing and new data on key invasive vertebrate species on islands. They used data on species listed as threatened by the IUCN Red List and/or the Australian *Environment Protection and Biodiversity Conservation Act 1999*. For species whose distributions include Australian islands, the team compiled data on their past and present island occurrence using the primary and grey literature and expert knowledge. This data collation was done in collaboration with Professors John Woinarski and Stephen Garnett from Charles Darwin University. Where possible, the researchers verified species distributions and information with local and regional experts from state environment departments, researchers and various regional conservation and managers across Australian states and territories.

#### A legacy for the future

The new threatened species on islands database is accompanied by a user manual and video created by the research team. This exciting new resource can be used to inform policy development, target management actions, identify knowledge gaps, as well as support the prioritisation of conservation actions for species on Australian islands. The database will help provide guidance on allocating scarce management resources within and across islands for threatened and invasive species, and help guide future conservation priorities and decisions as well as study the impacts of factors such as climate change, fire and human pressures on Australia's islands.

The database can be accessed here.

Top: A view of Phillip Island from Norfolk Island, which hosts the largest number of threatened species of all Australian islands. *Photo: Salit Kark* 

Middle: Mulgumpin: the place of sandhills (Moreton Island). *Photo: Salit Kark* Left: Lord Howe Island. *Photo: Salit Kark* 



# Gloeta Massie

#### New ARC Discovery Project: Ecologically responsible mining to fuel a green energy transition

Dr Laura Sonter and a team of international researchers (including CBCS-ers Professors Martine Maron and Eve McDonald-Madden) have been awarded four years of funding to better understand global mining threats to biodiversity. This project is anticipated to reveal where new mines will be needed to meet future energy demand and to create innovative tools to predict and mitigate threats to plants and animals. Expected outcomes include an improved ability to inform sustainable climate and energy policies, leading to strategic investment decisions, cleaner mineral supply chains and conservation outcomes that capture valuable environmental and social benefits and create a competitive advantage for Australia's mining sector.

Please get in touch with Laura and the team if you would like to learn more: **I.sonter@uq.edu.au** 

## NEWS IN BRIEF

#### Students dive in with 'Reef Check'

Associate Professor Carissa Klein spent an afternoon late in 2021 with Yeronga State School year 1 students – all 100+ of them! The students were learning about habitats and living things in school, so Carissa stepped in to teach them about coral reefs, why they are colourful, changes they are experiencing, and what the kids can do to help the reef. Thanks to UQ's **Reef Check**, the students were able to go scuba diving on the Great Barrier Reef (using virtual reef googles) and collect data on the health of their own (coloured-in) coral reef. These outreach activities will hopefully help to inspire the next generation of CBCS researchers.

Carissa demonstrated how scuba diving gear works and is used to study coral reefs. *Photo: Felicia Chapman* 

#### Gloeta Massie awarded 2021 RSPCA Alan White Scholarship for Animal Welfare

CBCS congratulates PhD candidate Gloeta Massie, who was awarded the highly competitive and prestigious 2021 RSPCA Alan White Scholarship for Animal Welfare in December 2021.

The scholarship was established in 1989 to support "original research aimed at improving the welfare of animals in Australia".

Gloeta says that the difference that this funding will make to her research on the welfare of rescued wildlife in Australia is incalculable.

"The funds will provide me the opportunity to conduct hundreds of hours of observations and interviews. Every day that I am out in the field I feel grateful to be able to do this research. It is heartbreaking and gut-wrenching – yet rewarding beyond words. I cannot wait to share the stories, the data, and the questions being raised through this work."

A short video giving an overview of Gloeta's research is available here.

#### Night parrots in The New York Times

The work of CBCS PhD candidate **Nick** Leseberg on the elusive night parrot has been featured in an article by Australian journalist Anthony Ham in *The New York Times* titled "Chasing the 'ghost bird' of Australia's outback". The near-mythical night parrot, and Nick's endeavours to protect it, have now intrigued an international audience. Read the NYT article **here**.



A juvenile night parrot, western Queensland. *Photo: Nick Leseberg* 

#### Birds New Zealand award for Professor Martine Maron



The 11th Australasian Ornithological Conference was held online in February, superbly run by Brendon Dunphy and his team at the University of Auckland. **Martine** was honoured to be awarded a Meritorious Service Award by Birds New Zealand in recognition of services

to ornithology in New Zealand and Australia and for exceptional leadership of several Australasian Ornithological Conferences. The next AOC will be in Brisbane, convened by our own **Hugh Possingham**, in late 2023.

## Alfe acualc

"It didn't come as a surprise that I wanted to be a marine biologist when I grew up."

My family moved around a bit before I was six years old – from Sri Lanka to Dubai to Japan – and while I don't remember much about the cities and villages, I do remember the different coastlines. Some of my earliest and fondest memories are chasing crabs in Fukuoka and swimming away from triggerfish in Galle. Even after moving to Brisbane, I stayed a pretty marine-obsessed kid, drawing my friends pictures of whales and sharks whenever I could. It didn't come as much of a surprise when younger-me would say that I wanted to be a marine biologist when I grew up.

#### The pull of coastal systems

Of course, there were a few crucial things I didn't know when I naïvely said that as a kid: 1) I wouldn't end up growing all that much (I'm very short); and 2) marine biology is not (always) about chasing crabs. By the time I enrolled at university, I knew I wanted to study science, but I was a bit hesitant about marine biology. I loved learning about the ocean and its organisms, but I couldn't sail, I couldn't dive, I couldn't surf - and I was terrible at spotting critters, let alone identifying them. I was a little worried about being an imposter in my classes (a fake fan, if you will), and not having the applied understanding from my youth to make it in the profession. But as I went through my degree, I couldn't help but continue to be drawn to coastal systems, and as I'm learning from all the different people in this area, there is more than one way to love and learn about these things.

For my Honours project, I studied tropical coral reefs in Palau. The stretches of reef I looked at had a drastic gradient over only 5km, from crystal clear waters full of incredible life to water that was chocolate brown from river runoff, with a thick layer of sediment smothering almost everything on the seafloor. The change was extreme, and I was honestly overwhelmed pollution can be composed of a huge variety of things from different sources, each impacting coral differently depending on the species, depending on the life stage, depending on the exposure ... Not even to mention how they can interact with each other! It was (and still is) too complicated for me to fathom, and I felt a bit hopeless.

After my Honours I had a short stint in consultancy working as an aquatic ecologist. I got to look at things from a much more people- and/or businessfocused perspective, which was certainly different. Meeting the needs of clients, the law, communities and the environment made things even more complicated, but I found myself loving working with large groups of people with different expertise, all trying to solve a common problem.

#### Watershed moments

I'm now doing a PhD focusing on watersheds, looking at how we can manage them to improve runoff onto reefs downstream while also reducing water-related diseases in humans. The multidisciplinary nature of the project means I'm learning about lots of different areas (e.g., public health, conservation, water management) and working with lots of different people, which I couldn't really have imagined as a kid thinking about this career.

I still can't sail, but that's okay! I am stoked that I get to learn about and hopefully help preserve the marine systems I'm interested in, and that I get to do it with such a great team.

Main image: Water quality monitoring in Moggill/ Maggil Creek, Brisbane. *Photo: Lewis Peach* Snorkelling in Ongeim'l Tketau/Jellyfish Lake, Palau. *Photo: supplied* 

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