COASTAL RESTORATION TRUST OF NEW ZEALAND

Tāhuna Ora

Annual Conference

Tēnei tō tātou ahunga whakamua – Measuring our progress

Auckland
15-17 March
2023

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About Tāmaki Makaurau

The Tāmaki Makaurau coastline is a stunning natural area located on Te Ika-a-Māui, the North Island of New Zealand. It stretches across the spectacular Hauraki Gulf, its islands, estuaries and harbours and along the wild and beautiful west coast including the Kaipara and Manukau Harbours . This coastline is home to rich and diverse ecosystems, with a wide variety of coastal life and habitats, as well as a number of important cultural archaeological areas. The Tāmaki Makaurau coastline is a popular destination for tourists and locals alike, offering a range of recreational activities such as swimming, fishing, and recreational water sports.

The coastal areas Tāmaki Makaurau are of immense importance to the people of New Zealand, both culturally and ecologically. It is the traditional home of Māori, who have lived and worked in the area for centuries. The coastline is also home to a wide variety of species, including shorebirds, invertebrates and native flora. The coastal waters are also a vital habitat for fish, shellfish, and other marine life.

The Tāmaki Makaurau coastline is under increasing pressure from climate change, urban development, tourism, and fishing. This has led to a decline in the health of the coastal environment, with habitats being degraded and species being threatened. As such, it is essential that action continues to be taken to protect and conserve this valuable resource.

The Coastal Restoration Trust of New Zealand

The Coastal Restoration Trust is a nationwide organisation that brings together the knowledge and experience of communities, iwi, management authorities, industry and science agencies to protect and restore coastal ecosystems.

The Coastal Restoration Trust is an incorporated Charitable Trust formed in 2007 to continue the work of the Coastal Dune Vegetation Network. Our aim is to support and encourage the development of cost effective practical methods for coastal communities and management authorities to restore natural coastal ecosystems including the natural form and function of coastal dunes.

Our goals are:

- Provide a network for information exchange on sustainable management of dunes and coastal ecosystems
- To facilitate research on NZ coastal and dune ecosystems
- Promote public awareness of proven methods for protection, restoration, conservation and sustainable management of coastal and dune ecosystems.

To achieve these goals we:

- Organise an annual conference and workshops to discuss issues, share information and hear the latest research.
- Maintain a website where information is free and easily accessible, and which hosts community coast care web pages.
- Commission research projects and offer a student scholarship.
- Produce technical bulletins and articles detailing best practice methods for dune restoration.

The Coastal Restoration Trust Trustees

The Coastal Restoration Trust of New Zealand board currently has 13 trustees from a wide range of backgrounds, organisations and locations around the country. The Trustees have long term experience in a wide range of fields, such as botany, dune morphology, raranga, governance and community restoration projects.

The current Trustees are:

Chair Laura Shaft - Northland Regional Council
Treasurer Jenny Carter - Chartered Accountant, Auckland
Graeme Atkins - Restoration Specialist, East Coast
Greg Bennett - Waimakariri District Council
David Bergin - Restoration Ecologist, ERL, Rotorua
Jo Bonner - Coastlands Plant Nursery, Whakatane
Graeme La Cock - Technical Advisor, Dept. of Conservation, Wellington
Jason Maguiness - Principal ranger, Auckland Council
Lyle Mason - Sheep and beef farmer, Southland
Moniqua Nelson-Tunley - Biodiversity Management Advisor, Waikato Regional Council
Tim Park - Ecologist, Manager, Ōtari -Wilton's Bush, Wellington
Alison Waru - Dune restoration, Uawa-Tolaga Bay, East Cape
Betsy Young - Master weaver, pīngao restoration with Te Roopu Whakaoranga a Te Taha Moana, Northland

Tāhuna Ora Waiata

Tāhuna Ora
Tai timu, tai pari
Tai mata tāhuna
Piri tata, piri tahi
Piri kia ora
Mō āpōpō,
mō ake, ake tonu rā

Dunes, strong and vigorous

Tides that ebb and flow
Caressing the banks' brow
Stand together and embrace as one
To ensure survival for tomorrow,
for the future, through the eons of time.

Conference Organising Committee

Laura Shaft (CRT)
Cate Ryan (AUT)
Jenny Carter (CRT)
Hannah Buckley (AUT)
Jason Maguiness (CRT)
Natalie Hunter (AUT)
Jo Bonner (CRT)
Bradley Case (AUT)
Robyn Smith (CRT)
Lyneke Onderwater (CRT)

Conference Contact Numbers

For minor emergencies or crises please contact:
Natalie Hunter 09 921 9999 ext 30077

The Conference Venue

The main conference venue is the AUT, City campus, Building WG, Room WG308 - TE IRINGA (Wave Room). This will be the venue for Wednesday and Thursday morning and lunch, after which we will be in the field.

Getting here: The best way to get to AUT from most parts of the city is by walking or using public transport. Auckland Transport's Journey Planner is a useful tool to find the best train and bus routes

Parking: There is limited on-street parking in the vicinity of AUT. The closest car park buildings are:
Wilson Parking, Wakefield St or
AT Civic car park, Aotea Square

Welcome from the Chair

Ngā mihi nui ki a koutou katoa. Nau mai, haere mai ki tēnei hui.

Greetings and a warm welcome to the 2023 conference of the Coastal Restoration Trust of New Zealand, Coastal restoration: Measuring our progress.

This has been a long-awaited conference, first planned for March 2022 and delayed due to Covid. Last year we hosted a successful online event, but nothing compares to being able to meet face to face and get out and about on field trips with experts and locals and I'm excited that we've finally made it here.

There are a number of firsts for this conference; it is my first as Chair of the Coastal Restoration Trust; it is our first Auckland City conference and our first to be hosted by a University. The Coastal Restoration Trust is extremely grateful to the Auckland University of Technology (AUT) Environmental Science Department for all their hard work and support to make this conference happen. As well as being a major financial sponsor they have put in an enormous amount of time as part of the conference organising committee, and we have benefited greatly from their knowledge and networks. It has been great to work with them on this and I hope that the relationship will continue.

The theme for the conference is a very relevant one. Monitoring isn't the most glamorous of topics, but it is of utmost importance to coastal restoration efforts. The Coastal Restoration Trust's Coastal Monitoring Database is designed to make it easy for community groups and iwi/hapū to assess their dunes and track progress. The AUT Environmental Science Department has been involved in a lot of coastal monitoring work and in the process of organising this conference it has been exciting to explore how technology can be integrated into community monitoring. The monitoring workshop option on day two will be a great opportunity to learn and discuss techniques with experts.

Many thanks to all our sponsors who have made it possible for us to hold the conference and keep the registration fees affordable and to the conference organising committee who have put in the hard mahi to produce this event. Thanks also to all our key-note speakers and to everyone for attending.

Over the next few days, I look forward to catching up with old friends, making new ones and above all sharing our stories and experiences of coastal restoration.

Ngā manaakitanga,
Laura Shaft

Welcome from AUT, Department of Environmental Science

Kia ora koutou,

The AUT Department of Environmental Science is delighted to be hosting the 2023 Coastal Restoration Trust annual conference and we warmly welcome you to AUT's city campus. The theme of this year's conference, 'Coastal restoration: Measuring our progress' derives from the primary mission of the Coastal Restoration Trust—bringing together the knowledge and experience of communities, iwi, management authorities, industry, and scientists to restore coastal ecosystems. How well are we doing? Environmental monitoring can answer this question. Of course, monitoring is important for all ecosystems, but here at AUT, we are particularly passionate about monitoring those coastal ecosystems that we are restoring.

We hope you enjoy hearing about the projects and insights from researchers, students, and community groups, and gain new understanding and knowledge through the conference workshops and the fieldtrips to our lovely Auckland beaches.

Ngā mihi,

Associate Professor Kay C. Vopel
Head of the AUT Department of Environmental Science

Keynote Speaker Speaker abstracts and backgrounds

Dr. Daniel Hikuroa
University of Auckland

Exploring Mātauranga Māori and its potential role in Haumanutia Takutai – Coastal Restoration

Bringing together the knowledge and experience of communities, iwi, management authorities, industry and science agencies to restore coastal ecosystems by supporting and encouraging the development of cost effective practical methods for coastal communities and management authorities to restore coastal ecosystems and their function is challenging. Increasingly organisations involved in such work are recognising that other ways of knowing, being and doing, can and should play an important role in their efforts. Mātauranga Māori is one such knowledge-belief-practice complex, comprising in addition to knowledge, Māori culture, values, practices and world views. In this presentation I will outline some mātauranga that I believe is relevant for coastal restoration. Another key component of mātauranga are tikanga, the customs, traditions and practices handed down through time. Derived from the root word tika – right, or correct, tikanga means 'doing the right thing'. In this presentation I will detail what tikanga are and what they aim to achieve and provide some examples in a coastal restoration context.

Dr. Daniel Hikuroa

Dan Hikuroa (Ngāti Maniapoto, Waikato-Tainui/ Ngaati Whanaunga) employs Earth Systems/Environmental Humanities approaches in his work at Waipapa Taumata Rau/University of Auckland and is an established world expert on weaving indigenous knowledge and science to realise the dreams of the communities he works with. Dan is UNESCO New Zealand Culture Commissioner, AGU Council member, has key roles within New Zealand's Science Research Sector and is re-imagining/remembering relationships with te taiao – our environment. Dan is spearheading alternative ways of assessing sustainability, including weaving indigenous knowledge and epistemologies with science and into legislation, assessment frameworks and decision-support tools.

Keynote Speaker

Pim de Monchy

Bay of Plenty Regional Council

Pim will speak about his experiences planning, co-designing, implementing and monitoring coastal wetland restoration projects around Maketū and Little Waihī Estuaries. He will focus on the use of data and modelling to identify, scope, constrain and modify options during the early stages, and then how data and measurement is key to evaluating the outcomes and changing tack where needed.

Pim de Monchy

Pim is Coastal Catchments Manager at Toi Moana / Bay of Plenty Regional Council and his team have recently completed projects including the Kaituna River Re-diversion, Te Pourepo o Kaituna and a number of smaller saltmarsh and inanga spawning habitat enhancements. He was formerly the Coast Care Coordinator in the BOP and has worked in environmental management for 30 years.

Prof. Michael Petterson

AUT

Mike will co - lead a field trip to Narrowneck beach showcasing the geology of Tāmaki Makaurau (see fieldtrip abstract). and will give provide an overview of the geology of Tāmaki Makaurau / Auckland on Friday.

Prof. Michael Petterson

Michael Petterson is currently Acting Dean for the Faculty of Health and Environmental Science and a Professor of Geology at AUT. With AUT Michael developed a brand new major in Geoscience and has worked with a number of AUT students on local geoscience and environmental science research around the Greater Auckland and Coromandel areas as well as internationally in the Himalayas and Pacific islands region.

He has worked for much of his career with the British Geological Survey (BGS) ending his career there as Director: since leaving BGS has been a Professor at the University of Leicester, Honorary Professor at the University of the South Pacific, as well as Director of the Geoscience Division of the Secretariat of the Pacific Community (SPC). Much of his career has involved applying geoscience to international development particularly in the Pacific, Caribbean and Asian regions. Michael has worked in areas such as island arc, ocean plateau, and orogenic process geoscience, disaster and risk and climate change, natural resource management, capacity building, institutional strengthening, education and research, policy development, and collaborating with numerous Development Agencies and National Governments, down to grass roots community levels.

Gold Sponsor Speaker Dr. Kiri Joy Wallace

Biological Heritage National Science Challenge

The Eco-index™ programme: a nationwide biodiversity vision and approach to restoration monitoring New Zealanders value their unique natural environments, but national and regional reporting shows that Aotearoa's native biodiversity is declining and in need of effective restoration. A better approach is required for restoring and monitoring ngā taonga katoa o te ao tūroa (our natural heritage). To guide restoration of biodiversity, the BioHeritage Eco-index™ research programme has formed a 100-year bicultural vision. This vision sets a national benchmark and is constructed using a framework that maps targets, perspectives and strategies of biodiversity stakeholders, including iwi, business, community, NGOs, industry and governmental organisations.

Aotearoa's current assessment approaches cannot provide regular or comprehensive information about how ecosystem restoration is faring across the entire country. To monitor the restoration progress required to fulfil the national biodiversity vision, the Eco-index™ is exploring use of technologies such as remote sensing and artificial intelligence. Remote sensing data includes high resolution satellite and other aerial imagery (e.g. planes and drones). We are training machine learning algorithms to process this imagery and therefore provide us with ongoing awareness about restoration status of native ecosystem landcover extent (area) and types (e.g., duneland, wetland). The goal is to provide cost and time efficient results to indicate where restoration investment is working. Our tools will be open source for the benefit of everyone while ensuring privacy and protecting data sovereignty.

About the Eco-index™: With expertise in ecology, sustainability, economics, social science, communication, database infrastructure, artificial intelligence, statistical modelling and strategy, we are combining significant experience and diverse backgrounds to tackle the challenge of biodiversity decline in Aotearoa. Our four-year programme is a $3.1 million investment from the government-funded Biological Heritage National Science Challenge- Ngā Koiora Tuku Iko which partners with all of Aotearoa's Crown Research Institutes and universities. The Eco-index team is co-led by Dr John Reid (Ngāti Pikiao, Tainui, JD Reid Ltd.) and Dr Kiri Joy Wallace (Environmental Research Institute, University of Waikato). https://eco-index.nz/ https://bioheritage.nz

Dr. Kiri Joy Wallace

Kiri's interests lie in forest and community ecology, with a special focus on restoration ecology and re-connecting people with nature. She brings these strengths to her role as co-leader of the BioHeritage Eco-index™ programme, which is nested in the Te Pūtahi Rangahau Taiao - Environmental Research Institute at the University of Waikato. In Kiri's role as a Research Fellow she is also researcher within the People, Cities & Nature programme. The PCaN program focuses on expanding knowledge of urban restoration ecology by blending the ecological and social sciences.

Kiri is also an active member of the New Zealand Ecological Society and a member of the EcoDiv Lab group. She also loves playing ultimate Frisbee, reading a good book, and tramping among the beautiful wild places of New Zealand.

Cassie Newman

Student scholarship winner /
Otago Regional Council

Using Historic Satellite and 3D UAV Imagery to Map the Dynamics of the Coast at Sites with Anthropogenic Debris in Southland, New Zealand. For my Master's thesis, I investigated the issues of coastal erosion, where infrastructure and debris along the shore are being consumed by the ocean. The overall aim of this research was to investigate the ability of a generalised GIS methodology to quantify coastal dynamics at different locations with anthropogenic debris. This study investigated four sites along the southern coast of the South Island, New Zealand: Monkey Island, Colac Bay, Fortrose, and Porpoise Bay.

Cassie Newman

My name is Cassandra Newman (Cassie), I have completed a Masters in Science (Research) in Geospatial Science at AUT. I am currently employed by Otago Regional Council as their Engineering Analyst. My role involves fixing, analysing and communicating the geographical information around Otago's river and water networks as well as their flood and drainage schemes. In my spare time I like to enjoy the outdoors with lots of hiking, surfing and mountain biking as well as painting.

Dr. Bradley Case

AUT, Environmental Science

The Department of Environmental Science in the School of Science at AUT has a history of research activity in coastal systems. In particular, a number of research projects involving our staff and postgraduate students have focussed on the use of GIS and remote sensing technologies to characterise sand dune vegetation and its condition at various beaches in Aotearoa New Zealand. This talk will provide a brief overview of past and ongoing work in this area.

Graham Hinchliffe

AUT, Environmental Science

Using geospatial and remote sensing technologies for monitoring
The last five to ten years has seen a paradigm shift in the use of low-cost mobile technology for citizen science, mapping and field data collection. Know someone with a Drone? - That's not just a toy, it's potentially a highly capable and sophisticated aerial survey device. Have a smart phone with GPS / Google Maps? – That's a powerful tool to accurately collect measurements, complete with location information and timesaving data entry options.

In this practical workshop, we'll first look at CRT's current dune monitoring method, then Eagle Technology will demonstrate how mobile phone mapping applications can be applied to it and we'll explore how the data can be easily collected, visualized and shared, eliminating the need for paper forms and Excel spreadsheets. In the workshop you'll be given instructions on how to install the app on your own phone so you have the chance to 'test drive' the functionality during the conference field trips.

AUT staff and researchers will run through everything you wanted to know about drones, from the fundamentals of equipment, functionality and the requirements of NZ Air law through to post-processing and map generation, and we'll share some examples from current research.

Graham Hinchliffe

Graham is a Chartered Geospatial Professional with 10 years of experience working in the UK private sector. He joined AUT in 2015 with a focus on further developing UAV and Geospatial application areas. He has particular interests in Geoprocessing, UAV Full Motion Video (FMV), Multispectral Point Cloud analysis, Open Source GIS tools, Disaster Risk Reduction & Response and the use of spatial data in VR visualisation.

Dr Craig Bishop

AUT, Environmental Science

Craig will co-lead us on a field trip to Tahuna Torea Nature Reserve and Pourewa in Ōrākei

Dr Craig Bishop

Ko Craig toku ingoa, ko Bishop toku whanau, ko Te Aroha toku maunga, ko Ohinemuri toku awa, ko kaipatiki toku kainga.

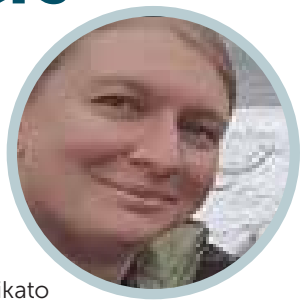
My name is Craig Bishop. I am a fourth generation pakeha New Zealander who was born in Waihi, Coromandel. I have more than 30 years' experience in the research and management of Aotearoa - New Zealand's terrestrial biodiversity and ecosystems - with a particular focus on plants. I have lived my whole life on Te Ika a Maui (North Island), and lived in a pretty diverse range of different cities, towns and settlements including places such as Waihi, Otahuhu, Pukepoto, Glenbervie, Te Kauwhata, Hamilton, Rotorua, Epsom and Browns Bay. For the last twelve years I have been a resident of Kaipatiki, on the North Shore of Auckland.

I joined AUT in 2020 as a lecturer in the Environmental Sciences Department where I help with teaching in Plant Taxonomy, Biogeography, Plant Ecology and Biodiversity papers. I was a scientist with the Research and Evaluation Unit of Auckland Council from 2010 – 2020, concentrating on the long-term monitoring of terrestrial biodiversity in Auckland's forest, wetland and duneland ecosystems.

Workshop Presenters

Moniqua Nelson-Tunley

CRT Trustee



Moniqua works for Waikato Regional Council as their Biodiversity Management Advisor. She is a qualified ecologist with expertise in ecosystem restoration, conservation biology and herpetology (reptiles and amphibians). Her work includes developing a list of the Waikato Regions' highest priority sites for biodiversity protection and restoration, including a range of coastal ecosystems. She also works with landowners, iwi, community groups and other stakeholders to facilitate restoration projects. Before this role, she managed the Waikato Coastcare Programme for five years.

Betsy Young

CRT Trustee

Betsy Young, from Ngataki in the far Far North, is known around the country as the pīngao kaitiaki and a master weaver who has taught hundreds of people to weave with flax and pīngao. She works, unpaid, with a number of schools teaching tamariki about the life cycle of pīngao from seed collection, propagation, planting and sustainable harvesting for weaving. She also teaches about the place pīngao has on the dunes and its relationship with toheroa.

Pīngao is considered a taonga, a treasure and is the only natural fibre whose colour cannot be improved upon, a brilliant orange-gold that needs no further processing unlike black-edged flax which turns white when it's boiled. When pīngao leaves are dried they will become tukutuku panels in the wharenui, or kete (bags), potae (hats) or whariki (mats) because the fibres are so strong.

Tim Park

CRT Trustee

Tim is the manager at Ōtari-Wilton's Bush, a native botanic garden in Wellington. He was the Environment Partnership team leader for Wellington City Council prior to his current role. Tim previously worked in Greater Wellington Regional Council developing a model to determine the top biodiversity sites in the region. Tim is an avid plant ecologist dedicated to the protection and restoration of the ecosystems found throughout New Zealand.

Fieldtrip Guide Narrowneck Beach

2:00-5:30 pm Thursday 16 March

Thursday 16 March, 2:00-5:30 pm with Mike Petterson and Graham Hinchliffe

We are heading off to Narrow Neck Beach to see an example of the interaction between ocean and land around urban Auckland. The geology around Auckland is dominated by young volcanic rocks (manly basalt lava and ash) and a unit called the Waitemata Sandstone. The Waitemata Sandstone is the oldest rock unit at around 20 million years old (very young for geology of course). It formed as submarine sand slides called turbidites...in ocean water depths of 50m to over 2 km. The Auckland Volcanics are young...from 500,000 years ago to c. 600 years ago (Rangitoto) and the field remains active.

At Narrow Neck we will see cliffs made of the bedded Waitemata sandstone and a range of human intervention efforts to 'arrest' coastal erosion (property prices are high on the cliff top). The sandstone is quite weak and weathers easily, degrading to soft rock. The base of the cliffs display classic 'wave cut notches' from the incoming ocean alongside other classic features such as a wave cut platform locally, resistant rock escarpment ridges (that form some protection to incoming waters), caves, and depositional beach sands, gravels and muds. There is also some evidence for land-slipping.

On the cliffs it is possible to see a range of salty- resistant flora that enjoys rooting in crevices and shelves of the eroded Waitemata Sandstone.
Last year a Undergraduate then Honours student undertook a novel research project examining drone (UAV) video footage of the interaction between the ocean and the cliff in an effort to semi-quantify erosion. Her abstract, accepted at an international conference in Papua New Guinea is presented below.

Wave Energy Dynamics And Coastal Erosion: A Case Study On Narrow Neck Bay, Auckland. Chloe Samaratunga and Graham Hinchliffe, Auckland University of Technology, New Zealand.

Coastal zones mark the boundary between land and sea and are actively evolving due the constant movement of waves. Sea waves are a dynamic feature of coastal zones that play a large role in the erosional processes that occur along the coast (Brocx & Semeniuk, 2009). Coastal views and accessibility to beaches is desired by many and has resulted in the suburban development of the coastal cliff edges at Narrow Neck, Auckland, New Zealand (Jongens, Gibb and Alloway, 2006). The properties along the cliff edge are very vulnerable to coastal hazards and therefore understanding the processes and factors of the coastal zone is important for the mitigation of potential hazards. This study aimed to track the waves impacting along the coast of Narrow Neck to determine wave dynamics such as direction, frequency, concentration and refraction, in order to understand wave energy transfer between sea waves and the coast. The link between sea waves and coastal geomorphology was also investigated to understand the wave dynamics observed and determine the influence wave action has on the coastal erosion occurring at Narrow Neck. The study was carried out by collecting both physical and digital field data. A physical geological survey was undertaken at the field location and digital, full motion video (FMV) footage of the coastal waves was captured using an unmanned aerial vehicle (UAV). The analysis was undertaken primarily using ArcGIS Pro software to process the data and produce the visual results. It was found that coastal waves and coastal erosion are strongly interconnected.

The coastal wave dynamics of wave direction, concentration and frequency are influenced significantly by the geological landscape. The geological landscape was found to be heterogeneous along the coastline resulting in corresponding variation in sea wave dynamics. Differential erosion is occurring along the coast due to this variation, resulting in the development of erosional features which shape the coastline. The results of this study highlight the potential of novel UAV methodologies. UAV and FMV technology produce data that has vast functionality which can be utilized in many research contexts. Coastal hazards are extremely relevant for Papua New Guinea as it is an Island country. This novel technology can be utilized to monitor various coastal hazards such as sea level changes and coastal inundation.

Tahuna Torea and Pourewa

8:45 am - 3:30 pm
Friday
17 March

Friday 17 March 8:45 to 15:30 with Dr Craig Bishop and Dr Hannah Buckley

Meet at 8:45 am WG306 Foyer to collect your lunch and walk to the bus stop on Mayoral Drive together. Buses leave at 9am

Craig will lead the field trip to Tahuna Torea Nature Reserve and after lunch we will travel to Pourewa in Ōrākei.

Photo credit: John Sawyer

Field trips/Keeping Safe

We will visit locations outdoors in environments that require you to be responsible about ensuring your own health safety.

Please ensure that you:

- Have appropriate clothing to deal with the very variable weather conditions that can be encountered, from water-proof and warm clothing to hats and sun-block.
- Wear footwear appropriate for walking and providing proper grip on wet slippery surfaces.
- Have any medication and/or food/drink you may need on a trip of some hours.
- Keep within safety barriers, adhere to safety advisory signs and instructions, take care when crossing roads and keep a safe distance from hazards like steep drop-offs, fast flowing water or other areas that might present a safety risk.
- Inform the conference coordinators before you leave of any special medical conditions or needs for which you may require assistance.

Have an enjoyable, safe and healthy field trip!

Measuring our progress/Tēnei tō tātou ahunga whakamua

2023 Conference Programme

Day 1: Wednesday 15 March 2023
Venue: AUT, Room WG308 – Te Iringa (Wave Room)

Time	Topic	Speaker/Facilitator
8:00	Registration desk opens. Tea and coffee available	
9:00	Mihi whakatau	Kingi Makoare (Ngāti Whātua-o-Ōrākei)
9:25	Welcome from the Coastal Restoration Trust	Laura Shaft (CRT Chair)
9.30	Coastal issues of Auckland/Tāmaki Makaurau	Kingi Makoare (Ngāti Whātua-o-Ōrākei)
10:15	Morning tea (30 mins)	
10:45	Keynote speaker: Exploring Mātauranga Māori and its potential role in Haumanutia Takutai – Coastal Restoration	Dr Daniel Hikuroa (Ngāti Maniapoto, Waikato-Tainui/ Ngaati Whanaunga), (University of Auckland)
11:20	Keynote speaker: Planning, co-designing, implementing, and monitoring coastal wetland restoration projects around Maketū and Little Waihī estuaries.	Pim de Monchy (Toi Moana / Bay of Plenty Regional Council)
11:50	Gold sponsor presentation: The Eco-index™ programme: a nationwide biodiversity vision and approach to restoration monitoring	Dr Kiri Joy Wallace (Biological Heritage National Science Challenge)
12:05	Panel discussion: What does a successful coastal restoration project look like?	Dr Daniel Hikuroa Pim de Monchy Dr Kiri Joy Wallace Robyn Smith

Day 1: Wednesday 15 March 2023 (Cont.)
Venue: AUT, Room WG308 – Te Iringa (Wave Room)

Time	Topic	Speaker/Facilitator
12:50	Lunch (60 mins)	
13:50	Student Science Award winner: Mapping the dynamics of the coast with anthropogenic debris in Southland	Cassandra Newman
14:10	Science/Student presentations	Five-minute talks by students
14:40	Silver Sponsor talk	Dr Bradley Case (AUT Department of Environmental Science)
14:50	Afternoon Tea (30 mins) - Donated by Robin and Bill Kermode	
15:20	Regional Roundup (first session) Coastal Care groups and agencies report on their projects.	Facilitated by Graeme La Cock (CRT Trustee)
17:30	End of day 1	

Conference Dinner: is additional to the conference registration and includes pre-dinner drinks	
18:00	Pre-dinner drinks and nibbles
19:00	Conference dinner (venue: AUT (WG201 – Forum)
22:00	Dinner ends

Day 2: Day 2 Thursday 16 March 2022
Venue: AUT, Room WG308 – Te Iringa (Wave Room)

Time	Topic	Speaker/Facilitator
8:30	Trust resources: Hear about the huge number of CRT and other resources available online that can support your work.	Tim Park (CRT Trustee)
9:00	CRT projects update: An update about CRT's first series of videos launched in 2022 and the Tūhaitara Coastal Park project	Dr David Bergin (CRT Trustee) and Sarah Dillon
9:30	Second Session for Regional Roundup	Facilitated by Graeme La Cock (CRT Trustee)
10:00	Morning tea (30 mins)	
10:30	Workshops - 2 options (2hrs) - Workshop venues at AUT	
	Option 1: Using GIS and remote sensing for monitoring: CRT dune profile monitoring method case study.	Graham Hinchliffe (Senior research Officer, AUT) in partnership with Eagle Technology (Bronze Sponsor)
	Option 2: Three short workshops (30 mins each)	
	Identifying lizards: skinks and geckos at the beach.	Moniqua Nelson-Tunley (CRT Trustee, Waikato Regional Council)
	Weaving pīngao putiputi with master weaver	Betsy Young (CRT Trustee, Te Roopu Whakaoranga a Te Taha Moana)
	Beach and dune plant identification	Tim Park (CRT Trustee, Wellington City Council)
12:30	Lunch (60 mins)	
13:30	The physical geography of Auckland/Tāmaki Makaurau	Prof Michael Petterson (AUT)
14:00	Fieldtrip: Overview of the Auckland region's geology, geomorphology, urban coastal management, and hazards. Research on urban beaches using drone technology	Prof. Mike Petterson and Graham Hinchliffe (AUT) AUT Department of Environmental Studies
17:30	Return to AUT city campus by bus	

Day 3 Friday 17 March 2023

The people and infrastructure of Te Henga/Bethell's beach have been severely impacted by Cyclone Gabrielle. The area remains closed to visitors, and we have therefore changed the location of the Friday field trip.
Dr Craig Bishop will lead the field trip to Tahuna Torea Nature Reserve and Dr Hannah Buckley will lead the field trip to Pourewa, Ōrākei, east of central Auckland.

The start and finish times for the field trip remain the same.

Time	Topic
8:45	Meet for field trip at WG306 Foyer
9:00	Bus travels to Tahuna Torea
13:00	Lunch and farewells
14:00	Travel to Pourewa
15:30	Travel to Auckland airport, then return to central Auckland

Covid 19 protocol

The government's current COVID-19 protection framework has no specific actions for an event like our conference. The CRT conference committee however requests all participants consider staying home if they are unwell in any way. Additionally, we encourage all conference participants to take a RAT test 24 hours prior to the conference.

There are a multitude of COVID-19 related attitudes and behaviours held by New Zealanders. We ask you respect individual preferences of those who wish or need to wear masks or maintain social distancing during the conference.

We will supply free hand sanitiser, masks, and RAT tests for use during the conference.

Useful Websites

Coastal Restoration Trust:
www.coastalrestorationtrust.org.nz

AUT Department of Environmental Sciences:
https://www.aut.ac.nz/research/academic-departments/environmental-science

Plant Calculator:
www.coastalrestorationtrust.org.nz/resources/planting-calculator

Coastal Reference Database:
https://ref.coastalrestorationtrust.org.nz

Handbook:
www.coastalrestorationtrust.org.nz/resources/coastal-restoration-handbook

Coastal Restoration Trust Monitoring Database:
https://monitoring.coastalrestorationtrust.org.nz

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