

TreeMatters

THE QUARTERLY MAGAZINE OF THE
NEW ZEALAND ARBORICULTURAL ASSOCIATION INC.

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7–10 November, Queenstown Memorial Centre



NZARB
New Zealand Arboricultural Association Inc.

In association with

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MISSION STATEMENT

To encourage, foster, improve and educate members and others in all aspects of arboriculture throughout New Zealand.

BECOME A MEMBER OF NZ ARB

Membership is open for professional arborists, tree managers, arboricultural trainees, and/or any person interested in amenity trees. Go to nzarb.org.nz/membership to become a member.

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For approved students registered in an arboriculture related course. Includes FREE ISA student membership and one Tree Matters quarterly magazine issue.

Individual Membership – \$150 per year

For all individuals actively engaged in the arboriculture field and anyone interested in planting or preserving trees in New Zealand. Includes one Tree Matters quarterly magazine issue.

Joint Individual Membership + ISA Membership – \$350 per year

For NZ Arb Individual Members who also want to become a professional member of the International Society of Arboriculture (ISA). Includes one Tree Matters quarterly magazine issue.

Corporate Membership, 4–6 FTE* Staff – \$450 per year

For industry businesses, local & regional authorities, government agencies and tertiary institutions. Includes two Tree Matters quarterly magazine issues, one Regional Tree Climbing Competition entry and one job vacancy advert on the NZ Arb website.

Corporate Membership, 7–9 FTE* Staff – \$600 per year

Includes three Tree Matters quarterly magazine issues, two Regional Tree Climbing Competition entries and one job vacancy advert on the NZ Arb website.

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Approved Contractor (ACP) Membership – \$950 per year

For NZ Arb Corporate Members that want to become an NZ Arb Approved Contractor by completing the NZ Arb Approved Contractor Programme (ACP).

*Full-time equivalent

SPECIAL ACKNOWLEDGEMENT

NZ Arb would like to thank the following organisations for supporting the Association through allowing their employees the time and resources to serve on the NZ Arb Executive Committee:

Arb Innovations, Auckland Council, Custom Tree Work, Franklin Tree Services, Roberts Consulting, Tend Trees, The Tree Consultancy Company, Treesafe & Wellington City Council

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NZ Arb has the following Executive-appointed sub-committees. The various sub-committees/advisors are charged with presenting quarterly reports to the Executive Committee. If you would like to make contact with a sub-committee, liaison or representative, please email info@nzarb.org.nz and use the committee name or liaison/representative title in your subject line.

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For a full list of liaisons, representatives and similar positions, please visit nzarb.org.nz/sub-committees-and-liaisons. These positions include: Arbor Day Co-ordinator, ACOP Liaison, Consultants Group Liaison, ISA Certification Certifiers, ISA COR Chapter Representative, MOU Partners Liaison, NZ NTT Liaison and Website Warden.

MAGAZINE ENQUIRIES

Please send all articles, photos, or advertisements to the Editor via the e-mail below. Alternatively scan the QR code below to contact us.
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WELCOME TO THE 2020 CONFERENCE EDITION

Comments from the Conference Chair

Mark Roberts – NZ Arb / Roberts Consulting

Like almost everything this year, organising a conference has been a bit like a roller-coaster ride. Based on the strength and good work of my last year's conference committee the majority of the conference programme was confirmed by end of February and I had started to switch my focus onto Wellington in 2021. But then along came COVID, and 'boom' everything was out the window or locked down inside (as the case was).

We ditched our European and American speakers' relatively early, but then picked up a bunch of Australian speakers; people that had planned to present elsewhere found themselves with no place to go – so they were coming here. Too easy. Then we lost Australia. Then we could only meet in groups of 10, then only our bubble, then 100, then we lost Auckland but found her again 9 weeks later. We have had speakers, then lost speakers, we have had delegates then no delegates, we have had a venue, then half a venue, we have had flights then no flights, we've had hand sanitiser then no sanitiser, masks, no masks, bubbles, extended bubbles, quarantine escapees, test-dodgers, lock-down cheaters, a whole lot of time navel-gazing... and a team of five million.

It is hard to believe that it has only been eight months since COVID knocked on our door! It has been an interesting ride and we have all been on it together. It's been a long ride and think we need a break, I think we need an excuse to celebrate, I think you need to go to a conference in Queenstown.

Queenstown was and still is the party capital of NZ and we so deserve a party. Some of us that haven't drunken too much during lock-down will probably deserve a drink, and those that have partaken more than they should have can get out and walk among the foot-hills of the Southern Alps – a sure fire way of burning off some calories and clearing your head. So come on down.

We have sourced and selected an impressive line-up of speakers and presenters, there are wide ranging topics and a selection of workshops. This conference will be like no other (and hopefully there will never need to be another like it). You need to be in Queenstown, we need you to be in Queenstown, and Queenstown needs you to be in Queenstown. I look forward to seeing you there.

I would like to acknowledge and personally thank Lea and all of the OnCue team. They have been amazing throughout all of this, they have made back-up plans to back up the back-up plans, costed out scenario this, that and the other and revised, adjusted and tweaked budgets. The only known was that we didn't know what was going to happen so they planned accordingly - of course we still don't actually know if the conference will run but we have to plan as if it will, where there is will there is a way.

Utility Best Practice Guide Consultation

On September 21, the long (very long) awaited Utility Best Practice Guide (UBPG) went out for industry and public consultation. In a first, the consultation document was released and endorsed by New Zealand Arboricultural Association (NZ Arb) and the Electricity Engineers' Association (EEA).

If you work involves climbing, pruning, trimming, maintaining and/or removing trees and vegetation anywhere near overhead powerlines, or even if you come close to powerlines in doing whatever it is you do, then the UBPG is for you and this is your chance to have your say.

Consultation on this UBPG Document shall close at 5:00PM Tuesday, November 10, 2020. There will be a chaired session and a chance to provide comment on this document at the annual conference.

We are expecting a lot of feedback on this, therefore providing your comments before-hand (on in writing at the conference) would be greatly appreciated.

Submissions should be headed; Submissions to the UBPG and include your name and contact details. Please use the page and/or section numbers to identify where your submission relates to or where your submission should be included. Feedback on the overall correctness of the document is also important, so if you feel that the document is fundamentally correct and workable then please let us know.

The consultation document is available to download from the NZ Arb Website

NZ ARB CONFERENCE QUEENSTOWN 2020

7–10 November, Queenstown Memorial Centre



NZARB
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CONFERENCE PROGRAMME

Visit nzarbconference.co.nz/programme for the latest information

Friday 6 November

12:00 – 17:00	NZ Arb Husqvarna NTCC set-up – Queenstown Gardens
17:30 – 19:30	NZ Arb Husqvarna NTCC Gear Check – Wakatipu Rugby Club

Saturday 7 November

08:00 – 17:00	NZ Arb Husqvarna NTCC Preliminary Events – Queenstown Gardens <i>Events: Silky Saws Aerial Rescue, Kask Work Climb, Metrogreen Throwline, AB Equipment Belayed Speed Climb, Donaghy Ascent Event</i>
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Sunday 8 November

08:00 – 13:00	NZ Arb Husqvarna NTCC Masters Championship – Queenstown Gardens <i>Events: Treetech Mens' Masters, & Levin Sawmakers Yale Cordage Womens' Masters</i>
14:00 – 17:00	Conference Registration Desk Open – Queenstown Memorial Centre
FROM 12:00	The Queenstown Life or Death Experience <i>Visit nzarbconference.co.nz/programme for more information (not included in registration fee)</i>
13:00 – 14:00	NZ Arb Husqvarna NTCC Preliminary Event Awards – Queenstown Gardens
15:00 – 17:00	Tree Tour: Local case studies in Queenstown – Meet at the Queenstown Gardens Band Rotunda
14:00 – 17:00	Tree Tour: Local case studies in Queenstown – Meet at the Queenstown Gardens Band Rotunda
18:30 – 21:00	Conference Opening & Industry Awards Celebration – Winnies <i>Award Presentations: GreenCycle New Arborist of the Year, Treetech Mens' Masters, Levin Sawmakers Yale Cordage Womens' Masters, NZ Arb President's Award, and Ron Flook Award</i>

CONFERENCE PROGRAMME

Programme subject to change. Visit nzarbconference.co.nz/programme for the latest information

Monday 9 November

07:30 – 17:00	Conference Registration Desk Open – Queenstown Memorial Centre		
08:45 – 09:15	Mihi – Welcome & Housekeeping – Queenstown Memorial Centre		
09:15 – 10:00	Keynote Speaker: Sir Gordon Tietjens – Former NZ Rugby Sevens Coach – Queenstown Memorial Centre <i>The Leadership Game</i>		
10:00 – 10:15	Award Presentations – Queenstown Memorial Centre <i>NZ Arb Service and Innovation, & NZ Arb ‘David James’ Volunteer of the Year</i>		
10:15 – 10:45	Morning Tea – Trade Zone		
10:45 – 11:30	Keynote Speaker: Paul Seagar – 5th Green – Queenstown Memorial Centre <i>Growing Your Business & Measuring its Success: A Holistic Approach</i>		
General Arb Stream Queenstown Memorial Centre		Treetools’ Practitioners Stream Wakatipu Rugby Club	
11:30 – 12:15	Stuart Barton – Arbor Connect Ltd. <i>The Do’s & Don’ts When Establishing Planted Trees</i>	11:30 – 12:15	Menno Kluiters – Menno Kluiters Tree Consultant Ltd <i>Mature Trees: Understanding the Relationship Between Pruning & Body Language</i>
12:15 – 13:00	Martin Weaver – The National Arboretum of New Zealand, Eastwoodhill <i>The National Arboretum of New Zealand – A Foreboding Past, the Stable Base & an Amplified Future</i>	12:15 – 13:00	Andreas Ross – Pro Climb Limited <i>Estimating & Calculating Forces in the Rigging System</i>
13:00 – 14:00	Lunch – Trade Zone		
13:00 – 14:00	Career Pathways Lunch – Wakatipu Rugby Club (Sponsored by Treetech)		
14:00 – 14:30	Joe Newdick – The Alfa Charitable Trust <i>Communities, Volunteering & Arboriculture</i>	14:00 – 14:30	James Isaacs – Massey University <i>The Arboricultural Skill Shortage</i>
14:30 – 15:00	Lisa Ellis – University of Otago <i>Why Environmental Policy-making is so Hard</i>	14:30 – 15:00	Scott Forrest – Arborist <i>Pursuit of Excellence (Sponsored by Husqvarna)</i>
15:00 – 15:30	Peter Senior – Clogger <i>How to Take Over the World, the Right Way – The Story of Clogger, the Little Kiwi Company that Could</i>	15:00 – 15:30	Chelsea Robertson – Pro Climb Limited <i>Disability & Accessibility in New Zealand Arboriculture</i>
15:30 – 16:00	Afternoon Tea – Trade Zone		
16:00 – 16:30	Rob Partridge – Scannable.io <i>What Does the Future of PPE Management Look Like?</i>	16:00 – 17:00	Wiremu & Marsella Edmonds – Tuakiri Limited <i>Stand in the Gap (Sponsored to by STIHL)</i>
16:30 – 17:00	Zane Wedding – MIT <i>Te Ao rakau I te ao Maori (The World of Trees in the World of Maori)</i>		
17:00 – 18:00	NZ Arb AGM – Queenstown Memorial Centre		
18:00 – 19:00	Exhibitor Networking Function – Trade Zone		

CONFERENCE PROGRAMME

Programme subject to change. Visit nzarbconference.co.nz/programme for the latest information

Tuesday 10 November

08:30 – 15:30	Conference Registration Desk Open – Queenstown Memorial Centre
09:00 – 09:45	Keynote Speaker: Dave Hockly – DataStory – Queenstown Memorial Centre <i>3 Ways to Take Your Arb Marketing to the Next Level</i>
09:45 – 10:30	Keynote Speaker: Sam Judd – Young New Zealander of the Year – Queenstown Memorial Centre <i>Regenerating Communities with Green Infrastructure & the Benefits of Connecting People to Nature</i>
10:30 – 11:00	Morning Tea – Trade Zone

General Arb Stream

Queenstown Memorial Centre

11:00 – 11:45	James Fletcher – Worksafe <i>WorkSafe's Approach to Safety & Wellbeing – Opportunities for the Arboriculture Industry</i>
11:45 – 12:30	Ian Barber – University of Otago <i>Arboriculture and the Early Polynesian Settlement of New Zealand/Aotearoa and Chatham Islands/Rēkohu</i>
12:30 – 13:15	Lunch – Trade Zone
13:00 – 16:00	ISA Certification Exam

SMART Stream

(Student Mentor & Academic Research Talks)
Queenstown Memorial Centre

Utility Arb Stream

Wakatipu Rugby Club

13:15 – 13:25	Speaker Co-ordinator	13:15 – 13:45	Sam Glenn – Delta Utility Services <i>Meaningful Measurement Matrixes – Good Data, Better Reporting</i>
13:25 – 13:45	Laura van Galen		
13:45 – 14:05	Merissa Strawsine	13:50 – 14:20	Kelvin Barnsdale – University of Canterbury <i>Precision Pruning with Drones, Perhaps Tree Pruning?</i>
14:05 – 14:25	Shachi Bahl		
14:25 – 14:45	Vikash Ghildiyal	14:25 – 15:30	Mark Way – Utility Best Practice Guide (UBPG) Consultation session
14:45 – 15:05	Paula Yarur		
15:05 – 15:30	SMART Stream Presentation		
15:30 – 16:00	Conference Close – Jaiden Palmer, NZ Arb President – Queenstown Memorial Centre		
16:00 – 18:30	Workshop: Working 'On' Your Business ... not 'In' Your Business – Paul Seagar, 5th Green – Wakatipu Rugby Club (not included in registration fee)		

Wednesday 11 November

08:30 – 17:00	TRAQ Renewal Course (not included in registration fee)
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SPEAKER PROFILES



Sir Gordon Tietjens

Former NZ Rugby Sevens Coach

Gordon Tietjens is considered to be one of the finest coaches of any sport in the world. He led New Zealand's dominating run in the world of rugby sevens throughout the 1990s and 2000s. In the fourteen years since the IRB Rugby World Series has been run, he has won twelve World Titles and four Commonwealth Games Gold Medals. He was named the New Zealand Rugby Union Coach of the year in 2010, recognised for guiding his team to a fourth consecutive Commonwealth Games gold medal. Gordon is known for his no-nonsense leadership style and uncanny ability to spot raw new talent. Whether it's the motivation he injects into his teams, his refusal to accept anything but the best from his players, or his absolute belief in his ability to pick and coach people to be the best they can be, Gordon is a remarkable man with a remarkable track record in sport and working with winning teams.

The Leadership Game

Keynote Speaker – Mon 9 Nov, 09:00–09:45

Having the right team can make a big difference to the success or failure of your organisation, once you have the right team how do you influence and motivate your team to achieve sustained excellence. Sir Gordon Tietjens will share his experience on creating a successful culture through self and team motivation. Learn how to lead from the front, pursue excellence and create a winning team culture



Paul Seagar

5th Green

After 13 years working in Treasury and Finance in London, Paul Seagar returned home to Auckland. Despite knowing nothing about scaffolding he purchased a scaffold company. Over the next couple of years his company nearly doubled its revenue without doubling its workforce or other overheads. Significant and sustainable growth was achieved by implementing new systems, improving culture, acquiring a purpose built hiab and sourcing more scaffold. After selling the company, Paul established 5th Green, an advisory business that works with small and medium businesses across the country and in various industries where his stated aim is to give owners a Balanced Business and a Better Life.

Growing Your Business & Measuring its Success: A Holistic Approach

Keynote Speaker – Mon 9 Nov, 10:45–11:30

As a Chartered Accountant, Paul Seagar is well aware that profit is sanity and cash flow is reality for a business. But a business wanting to survive and prosper in these difficult times and then ultimately grow should be viewing its performance well beyond just the financial results. Paul will talk to you about how and why businesses should be taking a more holistic approach regardless of how small or large that business is:

- What can and what should you measure and refine internally?
- What are the lessons you can learn within your business with the right information?
- Why external perspectives and perceptions are important and what could you do to enhance them?
- Which financial metrics a business should focus on and which are simply vanity?



Dave Hockly

DataStory

Dave Hockly is the founder of Data Story, a digital agency based in Queenstown. Dave has worked with some of NZ's leading brands using digital marketing and optimisation processes to increase client's revenue by millions. Some of these organisations include Microsoft, Harcourts, Govt.nz, Cardrona Alpine Resort, Flick Electric, Skyline Queenstown & Rotorua, The Helicopter Line, Treble Cone Ski Resort, Co-operative Bank, Storypark, NZTE and more. Dave is passionate about marketing and creating better customer experiences.

3 Ways to Take Your Arb Marketing to the Next Level

Keynote Speaker – Tues 10 Nov, 09:00–9:45

What is the biggest thing holding back your Arb organisation? Is it a lack of customers? The need for more reliable staff? Losing work to competition? Losing customers after one job? Not sure how to attract the right customers? If you can't define clearly where your organisation is going, and what you need to get there, you're going to struggle. This hard hitting session will challenge you to look at where you're taking your business, why you do your work and help you identify 3 ways to take your marketing to the next level.



Sam Judd

Te Mahere Whakauka / The Hope Project

Sam is Co Founder of Te Mahere Whakauka (The Hope Project) – a unique venture that develops the capacity of whānau, hapū and marae-based enterprises to create regenerative jobs planting trees and growing food.

Prior to this, he started and ran the multi-award-winning charity Sustainable Coastlines. During his twelve years at the helm of Sustainable Coastlines they grew into a globally recognised movement that inspires, educates and enables communities to protect the places they love.

This included delivering educational programs to 222,127 people with excellent longitudinal impact based on the opinions of professional psychologists. They also motivated over 100,000 participants to remove more than 1.5 million litres of rubbish from the coast and planted over 160,000 native trees along our waterways.

Sustainable Coastlines has picked up the most prestigious environmental award in Aotearoa/New Zealand and the Oceania award for Sport and the Environment from the International Olympic Committee. In 2013 he was named Young New Zealander of the Year and in 2018 picked up the most prestigious environmental award for youth on the planet – The Energy Globe Awards – out of over 2,000 submissions from 178 countries.

Sam is a qualified lawyer and also holds a degree in Political Studies. For five years he wrote a weekly column for the New Zealand Herald website as their sole contributor on the environment, bringing environmental issues and solutions to millions of readers.

Sam is passionate about pathways to rehabilitation of offenders. He has led over 200 days with Community Service workers – work which was recognised with an award from the New Zealand Department of Corrections. This experience has become a platform for him to develop several programs that motivate prisoners to gain qualifications while helping communities and the environment.

Two years ago he built the Flagship Education Centre in the Wynyard Quarter – which he is working to certify this as the most sustainable building in New Zealand – a ‘living building’.

Sam helped local a local indigenous community set up a marae based charity- Pūniu River Care – and chaired the group for the first 3.5 years. They now have 30 young Māori staff and the capacity to plant 500,000 native stems in 2020. They are happy, healthy and successful.

He is now working to develop the capacity of marae-based social enterprises at scale - to plant millions of native trees/plants in collaboration with prison nurseries, labour from community-based offenders and multiple local and government partners to improve wellbeing for people by creating jobs for those who need them most. This will also involve sustainable prefabricated housing with open-sourced design and naturally durable timber, to address the housing affordability crisis New Zealand is facing.

The project is designed to deliver outcomes in physical health, mental health, recidivism, benefit dependency, water quality, biodiversity, carbon sequestration and cultural health indicators. It is being built to be replicable internationally, so that it can roll out across developing countries initially, then worldwide.

He remains passionate about the ocean and enjoys surfing, spearfishing and swimming with his 8 year-old daughter Juliette.

Regenerating Communities with Green Infrastructure & the Benefits of Connecting People to Nature

Keynote Speaker – Tues 10 Nov, 09:45–10:30

Trees give us far more than just shade and shelter. Sam will outline the true value that nature can provide for communities and explain his inspiring vision for scaling up the establishment of native and mixed-model forest planting so that future generations can benefit from our work today.

This will include outlining fresh evidence for further investment to go into the arboriculture sector by outlining the importance that trees play for the wellbeing of people, the economy and the environment.

He will explain the important role that forests and urban trees play for Māori communities. This will include case studies of how all of us who are passionate about trees can experience the joy of understanding the deep spiritual connection that Tangata Whenua have with nature by encouraging effective partnership and fostering regenerative enterprise through knowledge sharing and good, hard work.

Within this talk, there will be an opportunity to learn about the innovative ways that arboriculture can improve the viability of land improvement alongside sustainable value creation through a strategy he describes as ‘intergenerational equity’ – establishing practical ways that afforestation can generate cultural, social, natural and financial capital across Aotearoa/New Zealand.



Zane Wedding

Manukau Institute of Technology

Ko Matawhaura toku maunga, Ko Ohau toku awa, KoTe Arawa toku waka, Ko waiatuhi toku marae, Ko ngati pikiao toku iwi Ko Zane toku ingoa. Zane has been a practicing arborist his entire adult life. Currently a lecturer of arboriculture at Manukau institute of Technology he can use his knowledge of purakau and Tikanga Maori to provide cultural context to his students surrounding the relationship between Rakau and Te Ao Maori. Zane has been engaged by arboriculture companies as a cultural liaison to assist with tenders with links to te ao maori. Zane is a passionate arborist with 20-year ties to NZ Arb and arboriculture, he was the recipient of the 2019 NZARB president's Award.

Te Ao rakau I te ao Maori (The World of Trees in the World of Maori)

General Arb Stream – Mon 9 Nov, 16:30–17:00

Zane will provide an insight into tikanga Maori (Maori traditions) hoping to shine some light on the world of trees from a traditional Maori perspective. Arborists and Iwi working relationships have become more and more common in modern Arboriculture. Zane will share some perspectives on how an understanding of Te Ao Maori perspective can be pivotal in successful working relationships with Iwi. Zane will include traditional Purakau (stories) about some of your favourite Rakau (trees), he will attempt to provide insight into how he uses these purakau to connect young students to the world of arboriculture.



Peter Senior

Clogger

Pete is a student of human nature, and a strong force for improvement. He began his working life at a Dunedin scaffold company, where he remained for the next 15 years (at the same company) frequently getting dragged into office dwelling roles such as Operations Manager, Sales Manager, Training Manager and Procurement Manager. Every time, with some planning and much cunning he managed to escape the confines and politics of the office and go back to doing what he loved most – building strong, safe and extremely productive teams from unlikely people, all while battling the elements and exchanging high quality banter.

He was taken on by Clogger at the start of 2019 as the Sales Manager for Australia and New Zealand. A very free-thinking individual, he has brought passion, knowledge, and enthusiasm with him into the world of arboriculture and is working to improve the industry on many levels.

How to take over the world, the right way – The story of Clogger, the little Kiwi company that could.

General Arb Stream – Mon 9 Nov, 15:00–15:30

Clogger began as one man in a shed, as so many businesses have. Through a combination of integrity, intelligence, and a love of all things technical we have grown from such humble beginnings to be a globally recognized and loved brand in the arborist community.

Hear the inside story, warts, and all, of all that goes into building a global brand, while still staying true to our local New Zealand roots.



James Fletcher

Worksafe

James Fletcher is the former Chief Executive Officer of Tree Scape Limited, is a Director of WorkSafe New Zealand and has been on the Steering Group of the NZ Business Leaders' Health and Safety Forum since 2013. He was a finalist in the Safeguard Health & Safety Executive of the Year awards in 2015 and 2019. He trained as a lawyer and was an employment and commercial litigator at two of New Zealand's leading law firms. He has since forged a 20-year management career across the building products, electrical and mechanical contracting and facilities and asset management industries. Prior to his leadership role at Tree Scape, James was the Executive General Manager for Spotless New Zealand and Managing Director of OCS Limited.

WorkSafe's Approach to Safety & Wellbeing – Opportunities for the Arboriculture Industry

General Arb Stream – Tues 10 Nov, 11:00–11:45

In his presentation, James will outline the role of WorkSafe as both regulator of New Zealand's Health & Safety system and as an educator, providing guidance to industry. He will also address WorkSafe's planned engagement initiatives with its social partners and industry through its new Taura Here Waka strategy and "Better Work" focus. James will close with some thoughts for the Arb industry to consider around health, safety and wellbeing, and welcomes any feedback and discussion.



Lisa Ellis

University of Otago

Lisa Ellis is Professor of Philosophy and Director of the Philosophy, Politics, and Economics programme at the University of Otago. Lisa's work investigates how we can make policy decisions that serve our interests in flourishing now and in the future. Her current project, "the collective implications of discrete decisions," includes papers in environmental democracy, the collective ethics of flying, the value of biodiversity losses, climate adaptation justice, and species extinction. Lisa is past president of the Association for Political Theory, former section editor of the Journal of Politics, and incoming editor of Political Theory. Lisa's work has been supported by the Institute for Advanced Study (Princeton), the National Endowment for the Humanities, the Alexander von Humboldt Foundation, the Andrew W. Mellon Foundation, the Deutscher Akademischer Austauschdienst, and New Zealand's Deep South National Science Challenge. Lisa's favourite tree is an enormous cabbage tree along the Kiwi Track in Orokonui Ecosanctuary: it may not be the tallest tree in the sanctuary, but it is the liveliest.

Why Environmental Policy-making is so Hard

General Arb Stream – Mon 9 Nov, 14:30–15:00

New Zealand faces a huge range of tough environmental problems, from urban canopy loss to sea-level rise, and from the spread of wilding pines to the decline of native species. In many cases the problems are well understood in both their causes and consequences. Why, then, are they so difficult to solve?

It turns out that coordinating environmental action is much harder than one might think. Isolated decisions, even isolated decisions made with high-quality procedures coordinating well-intentioned participants, sometimes produce outcomes that none of the participants would have wanted. Without a mechanism to ensure that the collective implications of fragmented series of uncoordinated decisions are taken into account, it is all too easy to think we are making good choices all along, and later wonder how we failed to realize our intentions. We'll talk about why these policy decisions are so hard, and suggest some practices that might improve things.



Martin Weaver

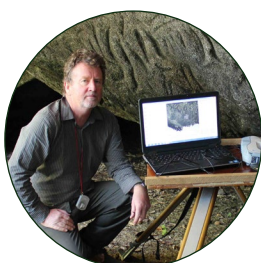
Eastwoodhill Arboretum

With a diverse career in Arboriculture in the UK and NZ, Martin Weaver is the Curator at The National Arboretum of NZ, Eastwoodhill. With a background including Local Authority, Consultancy, Contracting, Business Management, Business Development, Product Sales and public speaking this breadth of experience has proven useful with his first position working in the 'Charitable Sector'.

The National Arboretum of New Zealand – A Foreboding Past, the Stable Base & an Amplified Future

General Arb Stream – Mon 9 Nov, 12:15 – 13:00

"The largest collection of Northern Hemisphere trees South of the Equator", "15,000 trees from 62 Nations", "144 species and 1182 specimens at the arboretum are classified as being 'threatened' via the IUCN and their Red List of Species" Stats and Statements are great but what does it really take to manage a National Arboretum? Martin will briefly review the history of the Arboretum, what he has found since taking over in May 2019 and the real challenge of focus, delivery, financial stability and linking the collection to as many people and organisations as possible.



Ian Barber

University of Otago

I am an archaeologist and anthropologist specialising in the study of dynamic historical environments, including new uses of the past. I apply innovative and interdisciplinary theory and methods to investigate changing relationships between material and social environments. I work closely and in collaboration with several New Zealand Māori, Chatham Island Moriori and North American communities in my research.

Arboriculture and the early Polynesian settlement of New Zealand (Aotearoa) and Chatham Islands (Rēkohu)

General Arb Stream – Tues 10 Nov, 11:45–12:30

In this presentation I review archaeological and historical evidence for the managed use of *Cordyline* spp. and *Corynocarpus laevigatus* (karaka) trees by the early Polynesian settlers of New Zealand, including Chatham Islands Moriori.



Joe Newdick

The Alfa Charitable Trust

Joe doesn't like writing in the third person but he does it anyway. He is from a hard out little town called Te Teko. He has been a climbing arborist for a little over 3 years. His parents are both life long horticulturalists. His Dad has been a market gardener for over 30 years and his Mum has been a gardener and soft landscape designer for as long.

Before becoming an arborist Joe completed a BA in Psychology and was working in the mental health world for a few years. Joe is passionate about mental health and sees wellbeing as a priority.

Communities, Volunteering & Arboriculture

General Arb Stream – Mon 9 Nov, 14:00 – 14:30

Joe's Conscience: So, Joe, what are you going to speak about at the Conference?

Joe: Oh crap, I better come up with something to speak about. Got any ideas?

Joe's Conscience: Well you would want to choose a topic you have some experience with.

Joe: Well I am an arborist and it is an arboriculture conference so I bet the audience will want to hear about something related to that. I also have that bloody bachelor of arts in psychology. How about the positive psychology of volunteering and community engagement in Arboriculture?

Joe's Conscience: Yeah there's lots of good things about volunteering; like improving communities, completing awesome projects, meeting people. It has even been linked to improved mental health outcomes for everyone involved.

Joe: Yeah that seems like a pretty good topic. I could speak about some of the great community projects we have in arboriculture. Then I could highlight the many reasons why we should be celebrating and encouraging community engagement. There is a growing field of wonderful research establishing a knowledge base on how to get people to flourish. It's called positive psychology.

Joe's conscience: Positive psychology, that's a cheesy name.

Joe: I know right?! But don't let that fool you it is some pretty awesome stuff. There are links being found between volunteering and community engagement, with improvements in mental health, increases in self-esteem, belief in self-efficacy, and heaps of other appealing effects.

Joe's conscience: Well the positive psychology of volunteering and community engagement in arboriculture is as good a topic as any, so I guess you should stop talking to yourself and start writing this presentation.

Joe: Thanks Joe's conscience!



Rob Partridge

Scannable.io

Rob Partridge has spent his career in product design and manufacturing, starting at Otago Polytech, and latterly leading product management at DMM, based at their factory in Llanberis, Wales. Working closely alongside other tree care brands, arborists and of course the Treemagineers led Rob to appreciate the challenges in the industry and some of the solutions it requires.

Specialising in textile design and manufacturing, Rob focused on bringing DMM's textile solutions up to the standard of DMM's innovative metal products, however the challenges of inspection and equipment management led Rob to focus increasingly on technology solutions. In 2015 DMM launched the industry-first, DMM iD solution, integrating RFID tags into tree care equipment.

Rob has recently returned to his hometown of Dunedin, where he has founded Scannable.io, to make work at height PPE inspection and inventory management achievable and efficient. Scannable.io works with manufacturers, resellers, and PPE users, making it possible to scan equipment and access the critical product information such as certifications and configuration/user instructions, and efficiently manage your equipment through its lifespan.

Tree care and work at height industries are about to take a digital step, and Rob is supporting the digital transformation throughout the industry.

What does the future of PPE management look like?

General Arb Stream – Mon 9 Nov, 16:00–16:30

It's 2020, and equipment traceability is still challenging. When was it bought? Is it compatible? How long have I used it? Is it on-site? Did it go back in the truck? Has it been inspected? Whose is it? Rob will talk about the brands tackling these challenges and how a digitally connected PPE supply chain can make life easier for equipment owners and users.



Stuart Barton

Arbor Connect Ltd.

Stuart has been involved in the Arboriculture and Horticulture industry for 35 years in New Zealand and the United Kingdom. He is presently the Managing Director and owner of Arbor Connect Ltd. Stuart has worked for arboricultural companies, wholesale tree nurseries, Botanic Gardens, private landscape companies and a forest trust. Throughout his career he has been involved in providing services in arboricultural consultancy, transplanting and landscape works and growing large grade trees in nurseries. His client base included central and local government, residential property owners, landscape architects and contractors, property developers, construction companies, golf courses and schools. Stuart's interest in native flora and fauna has led to his involvement with Pest Free Kaipatiki where he is the deputy chair of the board and a chair of the Technical Advisory Committee as well as working with other volunteers doing restoration work in the native bush at Birkenhead War Memorial Park. Stuart can still remember planting his first tree, a radiata pine, at the age of 6 and since then has planted and maintained 1000's of trees and plants from 1-litre revegetation plants to 100-tonne transplants and everything in between. Over the years, he has dealt with all types of planting and maintenance conditions and has built an understanding of what is and isn't successful when it comes to maintaining trees in the urban landscape. He has also been engaged to troubleshoot maintenance issues for civic and residential projects. Projects he has been involved in during his career include the propagation, growing-on, planting and maintaining the replacement trees on Maungakiekie (One Tree Hill) summit and the supply, planting and maintenance of trees for high profile projects such as Aotea Square, Auckland CBD streets upgrades, Wynyard Quarter, Highbrook Business Park as well as many private properties.

The Do's & Don'ts When Establishing Planted Trees

General Arb Stream – Mon 9 Nov, 11:30–12:15

Often aftercare maintenance is the poorest cousin when it comes to tree planting and appears to be more of an afterthought to the species selection, soil and planting specifications. Drawing on his 35 years experience Stuart intends to take you through the essentials when it comes to getting newly planted trees established. He will be showing what he has found to succeed as well what has failed. He will also discuss how large contract projects should be handed over to the client once the contract has ended to ensure that the client has the security of knowing that the trees have been well managed and are thriving.



Wiremu & Marsella Edmonds

Tuakiri Limited (Sponsored by STIHL)

STIHL

Wiremu & Marsella Edmonds are the Directors and presenters behind Tuakiri Ltd. Their journey into becoming health and safety advocates and presenters began in 2013 when they experienced personal tragedy. Tuakiri (meaning identity) was born of a desire to honour all men and women who have lost their lives at work by changing the culture of health and safety in NZ and around the world in the hopes of preventing this same tragedy from affecting other families.

In addition to being workplace H&S advocates, they have both worked alongside families and communities helping to develop and implement strategies that eliminate violence, domestic violence and negative thought patterns. They have developed and delivered tools to help individuals and families to cope with damaged mind sets, learnt behaviours and destructive patterns.

Their Stand in The Gap Presentations are known for packing a punch delivering tools to show you how to identify and address the gaps that threaten the safe culture in your workplace.

Stand in the Gap

Treetools' Practitioners Stream – Mon 9 Nov, 16:00–17:00

treetools

Stand in the gap draws from a value base framework that will capture the hearts and minds of the audience challenging the theory of production before people. The message is raw and true, and identifies how easily things can go wrong on the worksite. While delivered in this space, it gives real solutions to real problems that the work force can relate to and understand. Stand in the gap is the call of courage in the fight for what is right. The presentation will hold you accountable while building your courage and inspiring you to make change. The values of leadership will expose the impediments that destroy leadership, friendships, families and communities. It will lay down the strategy to keep friends, family and communities intact by sharing knowledge of personal experience.

Outcomes

- A clear understanding of the impact that shortcuts and risk-taking attitudes have on friends and families
- Understand the Stand in the Gap values: protection, defence and courage
- Stand together for a safer culture and working practices



Scott Forrest

Four Time ITCC World Champion (Sponsored by Husqvarna)



Scott has worked in the tree care industry from 1997 and has been working as a professional arborist since obtaining his Advanced Cert in Arboriculture from Wintec in 2001.

Throughout the previous 23 years, his career as an arborist has taken him to 30 countries around the world where he has either worked, climbed trees, competed or help setup, run and judge in tree climbing competitions. After achieving success through competing in NZ and in the Asia Pacific region he was able to represent NZarb internationally and went on to win the ISA International tree climbing competition four times and also crowned champion of Red Bull Branched Out 2019.

The Pursuit of Excellence

Treetools' Practitioners Stream – Mon 9 Nov, 14:30–15:00



Tales, travels, training and techniques. From where a life of climbing trees competitively started, to where it is today.



Andreas Ross (Rossy)

Pro Climb Limited

Rossy is the managing director of Pro Climb Limited – Tree Care Auckland. His company is based in Auckland, New Zealand and specialises in tree climbing, horticultural abseiling, tree care and tree management. Rossy holds qualifications in forestry, arboriculture, and industrial rope access. His passion for a safer work environment in arboriculture helped him to develop safety and training concepts that he shares through training days and workshops. Rossy is also a consultant to Auckland Council, Food and Plant Research, Primary ITO and an expert witness to Worksafe. Rossy is particularly interested in the safety of everyone involved with trees - from the arborist working on trees, to the public passing below them. This requires a thorough knowledge of the risks associated with tree work, as well as the management of trees as low-risk assets. While risk is an inevitable part of our lives it can certainly be managed and reduced to an acceptable level..

Estimating & Calculating Forces in the Rigging System

Treetools' Practitioners Stream – Mon 9 Nov, 12:15–13:00



In this presentation, Rossy will show how force is generated in a tree rigging system. How materials we use in tree rigging systems and how the tree itself reacts to these forces? And how we can minimise negative energy developing in the rigging system?

If you need to plan rigging operations or you need to understand what risks are associated with them, then this presentation is for you.



Chelsea Robertson

Treetech

Chelsea has been in arboriculture for 6 years after graduating from Otago Polytechnic. Before starting a career in arboriculture Chelsea studied at Auckland University to become an early childhood educator and worked in education for 6 years. She feels that both industries are about sharing passion and knowledge with others.

She has an interest in why and who is drawn to the Arboricultural industry and how we are able to retain people and knowledge. She currently calls West Auckland home but lived in Dunedin and Christchurch. In Dunedin, she was a factory hand and a tour guide at Cadbury world while studying Horticulture and Arboriculture.

From a young age Chelsea has been involved with trees and nature, getting stuck in with planting days with the Kiwi Kids Conservation Club (KKC) and recently took part in an online ask an arborist Q & A session with KKC and she said it feels full circle to be able to pass her passion onto the next generation.

Disability & Accessibility in New Zealand Arboriculture

Treetools' Practitioners Stream – Mon 9 Nov, 15:00–15:30



Chelsea hopes to continue the discussion about how we are able to draw and retain people of different abilities and skills by widening our view on what it means to be an arborist. She was originally fascinated with the high number of students with dyslexia and ADD in her class and what drew them to arboriculture.

After finishing study and starting work full time she continued to see high numbers of people on the spectrum and has been interested in how people and companies have adapted to these learning disabilities. Now Chelsea aims to broaden the range of people interested in arboriculture as a career and how we can retain the knowledge we have for the future.



James Isaacs

Massey University

James has worked in the New Zealand arboriculture industry since around 2007 both as an employer and employee. He has spent the past 18 months researching the arboricultural skill shortage as part of his thesis for the Master of Business Studies at Massey University in Auckland.

The Arboricultural Skill Shortage

Treetools' Practitioners Stream – Mon 9 Nov, 14:00–14:30

treetools

This presentation will serve as a brief overview of an ongoing research project examining the issues contributing to the ongoing shortage of field arborists. The main focus will be on the widely held desire for upward mobility and the kind of problems this can create.



Menno Kluiters

Arborist

I have been professionally climbing trees for over 20 years, and I've been privileged to work alongside many skilled and passionate arborists worldwide. As a keen young man, I enjoyed nothing more than cutting trees down. That was until I met other weathered role models that made me realise the beauty and value of trees. After five years "under my belt" (harness), my real captivating tree journey only started to begin. Now, after dwelling in canopies for that many years, more and more tree-related patterns are recognised and understood. Even though I'm no spring chicken, I still thoroughly enjoy hanging out with my woody friends, high up in the canopy, and long may it last. These days my goal is to provide better tree care and pass on the knowledge that trees have shared with me. After all, the trees remain my greatest teacher.

Mature Trees: Understanding the Relationship Between Pruning & Body Language

Treetools' Practitioners Stream – Mon 9 Nov, 11:30–12:15

treetools

I'd like share with you some of my knowledge that I've have gained while being aloft. Of all the disciplines within arboriculture, the one that has my greatest fascination is the maintenance of large mature trees, the older and bigger, the better! Showcasing some of the more common issues with older trees, how to recognise them and also what potential solutions there are so they can stay safer for longer. I'll discuss the principles around end weight reduction and the forces exerted on branches. Most importantly, how to manipulate the tree, so a harmony remains to keep the tree looking, well, like a tree!



Kelvin Barnsdale

University of Canterbury

Kelvin has a background of design and operation of physics and geophysics experiments on satellites and shuttle-borne Spacelab II. Currently he holds the post of Senior Research Engineer at the University of Canterbury, NZ. His specialisation in UAV flight control and radio data/command systems has contributed to his UCDroneLab being a leading UAV research group in Australasia, and contributes to the UCDroneLab swarm research centre. He co-ordinates a bi-monthly national BVLOS UAV research forum, engaging with the NZCAA in new legislation for UAVs, as well as leading the administration a 100sqkm BVLOS UAV flight test area in the South Island.

Precision Pruning with Drones, Perhaps Tree Pruning?

Utility Arb Stream – Tues 10 Nov, 14:25–15:05

Previous trials show that a human pilot cannot guide a drone with sufficient accuracy to carry our precision tool work whilst flying. This may be because the environment is too challenging (weather, threats, or hazards) or the target work area may be beyond line of sight. To achieve the required autonomous accuracy and stability the machine must have a fusion of precision control and computer vision AI to recognise the task objective. The presentation will also give a broad overview of the UCdroneLab research work.



Sam Glenn

Delta Utility Services

Sam is currently a Vegetation Liaison Officer for Delta Tree Services on the Aurora Network in Otago. He Started in the Arboriculture Industry as an Apprentice in 2005, working in Dunedin, Queenstown and Auckland before completing a Bachelor of Information Technology at the Otago Polytechnic in Dunedin between 2012 and 2015 following which Sam started work for Delta utilities in late 2015 inspecting vegetation on the Aurora network.

As part of his current role for Delta he manages the Delta bespoke cloud based electronic job system (Xivic) that Delta Tree Services uses and analysis the data collected in the system, along with gathering financial data accessed through the payroll system (SAP), and program details and network information stored in excel spreadsheets, with this and other information to provide a combined report through PowerBi. This develops metrics that are provide to asset owner Aurora as well as producing operational dashboards that are used for day to day tracking purposes.

Meaningful Measurement Matrixes – Good Data, Better Reporting

Utility Arb Stream – Tues 10 Nov, 13:45–14:25

Sam is going to talk about the tools that Delta uses to manage workflow (Xivic), some of the measure and metrics that we record and how we record them. The tools we used to analyse the data collected (PowerBi) and how it's combined with other data to uncover insights and information about Aurora's network and Delta's operations.

He will give a live walkthrough of some of Delta's metrics reports to Aurora and own operational reports using PowerBi the data analytics tool used to generate the reports.

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S.M.A.R.T. SPEAKER PROFILES



Student Mentor & Academic Research Talks

The Student Mentor and Academic Research Talks (SMART) provide an opportunity for young postgraduate researchers (MSc and Ph.D.) to showcase their research and gain experience in public speaking. For the delegates, it's a great way to be exposed to diverse new material and cutting-edge science. Five postgraduate students will be delivering their talks to us from 1pm on Tuesday afternoon. The talks are brief, approximately 12 minutes each with some time for questions at the end. We'll hear about ecology, landscape architecture, forest pathology and urban forestry. Be sure to read the student bios and abstracts to learn more about what's involved.



Vikash Ghildiyal

PhD Student, University of Canterbury

Vikash Ghildiyal is currently a PhD student in the School of Forestry at the University of Canterbury in New Zealand. He enrolled as a doctoral student in April 2020. His PhD research attempts to eliminate or reduce the drying defects of wood and by that industries can use such timber for high-value products. This is crucial because utilising plantation-grown timber is often restricted to low-value pulpwood as the drying of timber without defects is challenging. He chose to study at the University of Canterbury to broaden his research experience in wood science, explore technologies and options to improve drying of fast grown timbers.

Vikash's research interest to date has mainly focused on quality enhancement of wood and finding appropriate technology for adding value to non-durable plantation timbers. Vikash specializes in wood technology and has a broad knowledge of wood science, including timber drying technologies, wood composites, wood anatomy and thermal modification of wood.

Vikash completed his Master's degree in Wood Science and Technology in 2019 at the Forest Research Institute (FRI) Dehradun, India. His master's dissertation was entitled Effect of chemical pre-treatment on physical and mechanical properties of thermally modified wood. Prior to that, he got his Bachelor degree in Forestry (Honours) in 2017 at the College of Forestry, India.

Effect of Chemical Pre-treatment on Physical & Mechanical Properties of Thermally Modified Wood

Student Mentor & Academic Research Talks – Tues 10 Nov, 14:25–14:45

Chemical pre-treatment and thermal modification (TM) were combined in order to improve the physical properties of *Melia dubia* and *Hevea brasiliensis*. The objective of the study was to investigate the effect of different chemical pre-treatments on dimensional stability, equilibrium moisture content (EMC), water repellent efficiency, colour, pH and the mechanical properties of thermally modified wood. For this purpose, three chemical combinations, maleic anhydride (MA), citric acid (CA) + maleic anhydride and boric acid (BA) + NaOH + maleic anhydride, were used to pre-treat wood samples, followed by subsequent heat treatment under a vacuum at 180°C for 3 hrs. The physical and mechanical properties of treated wood samples were evaluated.

Thermal modification of wood with chemical pre-treatment (the combined treatment) improved the dimensional stability and reduced the degree of strength loss as compared to thermal treatment without chemical pre-treatment. The equilibrium moisture content (EMC) of the thermally modified wood was lower than the unmodified wood; however, the percentage of reduction in EMC was greater in thermally modified (TM) wood with chemical pre-treatment than TM Wood without pre-treatment. Among chemical combinations, TM wood samples pre-impregnated by MA and CA+MA had more improved properties than wood samples pre-treated with BA+NaOH+MA. The colour of specimens changed from light yellowish brown to dark brown. No defects due to thermal modification were observed. No appreciable change in density was observed in the TM samples pre-treated with chemicals due to reduction in mass loss during thermal treatment. The findings suggest a synergetic effect of MA and CA+MA treatment with thermal modification and may provide an opportunity to achieve a maximum benefit of thermal modification even at less severe conditions (low temperature and less residency time).



Laura van Galen

PhD Candidate, University of Otago

Laura van Galen is a PhD Candidate at the University of Otago, studying the relationship between southern beech trees and ectomycorrhizal fungi, and how this relates to southern beech forest restoration. Laura grew up surrounded by Tasmanian southern beech species, where she completed a Bachelor of Plant Science with Honours before crossing the ditch to study their New Zealand relatives.

Restoration of Southern Hemisphere Beech (Nothofagaceae) Forests: What We Can Learn from past Experiences

Student Mentor & Academic Research Talks – Tues 10 Nov, 13:25–13:45

Southern beech (*Nothofagus*) species form a major component of Southern Hemisphere forests, and in many regions are an important focus for restoration efforts. However, restoration projects are often carried out at small, local scales using a wide range of different techniques that produce mixed results. Learning from past experiences is essential to improve outcomes and develop general strategies for southern beech restoration, so we conducted a meta-analysis on the results of 91 previous beech restoration trials in the Southern Hemisphere. The aim of this meta-analysis was to determine what techniques have been scientifically tested, identify the most effective methods, and pinpoint gaps in current practices. Results showed that providing shelter, controlling weeds, and protecting from herbivores all improved seedling survival and/or growth. Surprisingly, fertilising gave little benefit, despite being one of the most commonly applied techniques. Other techniques, such as increasing glasshouse container size or growth time or manipulating soil before planting, showed mixed results. No trials examined the use of ectomycorrhizal fungal inoculum as a restoration technique. Given the reliance of southern beech species on ectomycorrhizae for survival, this should be an important focus of future research. By collating the results of past southern beech restoration trials, we hope this meta-analysis can provide a foundation to guide and improve the outcomes of future restoration projects.



Paula Yarur

Masters Student, University of Canterbury

Paula Yarur has a degree in administration in ecotourism enterprises. She has mainly worked in the Chilean Patagonia and New Zealand's Fiordland National Park. She is now a Master student at the School of Forestry at The University of Canterbury, having shifted from a background in Sustainable Tourism to a Carbon Forestry career. She has been based in Christchurch for almost eight years and has worked with local communities, tourists and scientists, and is now researching on the carbon sequestration rates from restoration plantings of Quail Island and the southern Port Hills in Canterbury. With a general interest in native species' carbon forestry and local communities, she looks forward to contributing new knowledge about current carbon sequestration rates to achieve carbon goals through restoration plantings of native New Zealand trees.

Carbon Sequestration Rates of Native Restoration Plantings, Southern Port Hills and Quail Island, Canterbury

Student Mentor & Academic Research Talks – Tues 10 Nov, 14:45–15:05

Local and national level carbon zero targets and emissions reduction plans involve carbon sequestration from new plantings. To better plan for the reintroduction of trees into our landscapes, supporting evidence on the carbon sequestration rates of our existing plantings is required. As the debate arises between planting exotic versus native tree species, it has become clear more studies are needed within our native restoration plantings. These plantings have been done by the community and local authority groups with different management and planting strategies primarily for biodiversity conservation.

Quail Island and the southern Port Hills are emblematic areas of Canterbury where there is a growing interest in their expansion and enhancement with more native trees which can also offer carbon offsets to local emissions. These existing restoration plantings can show us how effectively our previous restoration efforts have sequestered carbon. Randomised plots were established across several restoration planting sites to quantify the biomass volume and carbon, thus providing a representation of current carbon volumes and future expectations. Having a total carbon amount for the species diversity present in this area will allow us to determine how much carbon new plantings can be expected to sequester.

Different allometric equations based on shrubs and mature trees will be used to interpret the carbon outcomes and look for any relationships between planting assemblage, site elevation and aspect for carbon sequestered. In addition, the rates of carbon sequestration in individual *Podocarpus totara* will be assessed. The results from this research will help the planning and decision making of future restoration programmes to support both biodiversity sequestration and carbon sequestration goals.



Shachi Bahl

PhD Student, Lincoln University

Shachi is a Landscape Architect with experience in design and detailing of several architecture projects in India. Prior to joining Ph.D. program in School of Landscape Architecture (SoLA), Lincoln University, she gained industry experience in India and worked on numerous housing, institutional and residential projects across the sub-continent. She is actively associated with professional organizations such as Indian Institute of Architects (IIA) and Indian Society of Landscape Architects (ISOLA).

Shachi started her Ph.D. program at Lincoln University in 2019 with an aim to investigate the role of natural ecosystems in reducing vulnerabilities towards natural disasters, particularly on urban-wetlands and their ability of carbon sequestration in their biomass. Alongside her research work, Shachi supports academic responsibilities at SoLA and is also involved as a co-author across publications.

Landscape Design Considerations for Diverse Plant-community Structures that Optimise Carbon-Storage Potential of Urban Wetlands in Christchurch, New Zealand

Student Mentor & Academic Research Talks – Tues 10 Nov, 14:05–14:25

Growing evidence shows that carbon sequestration in world's natural ecosystems is necessary to address the associated impacts of global climate change on earth. This project studies urban wetlands and their ability to sequester atmospheric carbon and will analyse ways through which their carbon storage capacity be optimised for long-term duration through spatial design approaches. Wetlands regulate biogeochemical cycles with their complex ecosystem structure and are closely connected to climate change, as they are both carbon sinks and sources of methane. Long-term carbon storage occurs in their ecosystems due to unique reduced conditions and high plant-productivity. However, their role in moderating carbon fluxes in global carbon cycle is poorly estimated and understood due to lack of information from different wetland types belonging to different regions in the world. This Ph.D. project investigates the relation between plant-diversity and carbon sequestration in wetland ecosystems of Christchurch, to establish the dynamics that causes spatial design of plant communities to optimise carbon storage capacity of these ecosystems. It is a design-oriented research thesis and an interdisciplinary attempt to combine theory from wetland science and ecology, carbon sequestration, plant-ecology and planting design with an aim to improve ways through which we design urban-wetlands in landscape architecture. A combination of deductive and inductive strategies are being used and data collection is limited to specific locations in Christchurch only. The project is in the initial phases of development with preliminary results expected in early November 2020. Research implications will be applicable across created and restored wetlands in Christchurch, that would minimize methane fluxes and simultaneously improve carbon-stock within its ecosystem, along with providing habitats for avian species in their vegetation structure.



Merissa Strawsine

MSc Candidate, University of Otago

Merissa Strawsine is a Masters student at the University of Otago. She received her BSc from Michigan State University where she researched triacylglycerol metabolism in Arabidopsis leaves. Following years of research, she explored her love of the outdoors by pursuing a career as a park ranger with the US National Park Service. Through working in the parks, she discovered her passion for native plant restoration and conservation, which lead her to pursue a MSc. Her current research focuses on examining how fungal diversity on mānuka roots is associated with beech seedling establishment in New Zealand.

Does Mānuka Facilitate Nothofagus Colonization?

Student Mentor & Academic Research Talks – Tues 10 Nov, 13:45–14:05

Southern beech (*Nothofagus*) trees are an iconic Southern Hemisphere canopy species and are of particular interest as a restoration species in New Zealand. One poorly understood aspect of their ecology that can limit restoration success is the role that symbiotic fungi play in beech growth and survival. It is possible that beech establishment could be facilitated by sharing ectomycorrhizal (EM) fungi with the dual-mycorrhizal pioneer species mānuka (*Leptospermum scoparium*). To investigate if beech seedlings are able to use mycorrhizal fungi present in mānuka forests, a glasshouse experiment was conducted to identify and quantify ectomycorrhizal communities through eDNA analysis. Seedlings were inoculated with the top layer of soil (duff) from beneath mature mānuka and beech communities. Both mānuka and beech seedlings were grown in sterilized and unsterilized duff from both mature communities in a factorial design, where unsterilized treatments were expected to contain fungi associated with the respective mature community. Hyphal ingrowth bags were buried in pots to sample eDNA and fungi was identified using Illumina MiSeq sequencing and the UNITE database. We are assessing the diversity of EM fungi and its affect on growth for each treatment to determine whether beech seedlings can utilize the mycorrhizal fungi present in mānuka forests. These results will contribute to improving restoration approaches by exploiting natural facilitation services provided by mānuka during beech re-colonization.

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AIR EXCAVATION

The power of air for root retention and tree relocation

It's a relatively new technology in New Zealand, but air excavation is quickly becoming the favoured option for soil removal where trees are near. Air excavation can also be utilised when relocating mature trees – especially in challenging situations such as when the tree roots are close to services (power, water, gas).

"Seeing is believing, when it comes to air excavation," says Mike Dargaville, operations manager at Auckland specialist excavation company, HydroVac. "With a 25000 CFM vacuum and 10-inch boom, these trucks can air excavate rocks the size of bowling balls BUT they leave even the finest tree root intact – it's amazing."

Instead of using water or shovels, air excavation trucks use an air lance (AirSpade) to gently loosen the rocks and dirt from around the roots – these are similar to a waterblaster but instead of water they use compressed air. Then a powerful vacuum is used to suck up and remove the resulting rubble.

As well as excavation, HydroVac's AirSpade can be used for soil management and tree health-care, too. Because you can use air to remove or loosen soil without damaging a tree's delicate root

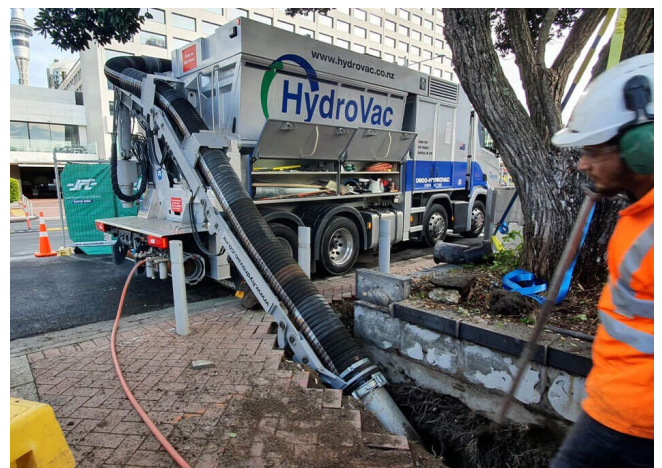
system, it's a great tool for stewardship of valuable and established trees, offering air tilling, radial trenching, soil aeration, vertical mulching and decompaction. It can also be used for soil replacement for trees in poor soil or for corrections to root structure.

HydroVac also offer hydro-excavation but says when you compare the two, air excavation is the clear stand-out when it comes to tree-related work. Airflow is measured in CFM (cubic feet per minute): air excavation is 25000 CFM, compared to hydro-excavation's 1800-5000 CFM.

Beyond sheer power, there are cost and sustainability benefits too.

Air doesn't damage roots, whereas water strips the bark off the trunk and roots.

With air, excavated material remains dry, so you can reuse the material on site – to reinstate holes or trenches. Being able to reuse the material on site saves on disposal costs and travel costs (from not having to dispose mid-job) and there's no water disposal costs. If you don't use the excavated material on site, it will still cost less to dump than hydro-excavated material because it doesn't have water added to the mix.







HydroVac's Dry X trucks offer an extensive reach of 150m so they also work well in smaller, hard-to-reach areas. The trucks have been configured for reduced noise pollution, helpful for work in suburban areas, and are fitted with a unique filtration system that prevents them from emitting dust into the atmosphere when they operate.

Perhaps most importantly, using air is a significantly safer way to excavate around utilities. Using air instead of water or shovels means there's no risk of damage to high-voltage wires or gas or plumbing, which is why air excavation is quickly becoming a firm favourite with construction and utility companies needing to dig around services.

HydroVac's two air-X trucks have found favour with many HydroVac's customers, including the Motorway Alliance, Fulton Hogan, Auckland Council and Vector – working on notable projects including the Central and Northern Interceptors and the City Rail Link, as well as smaller jobs like residential home builds and historical digs.

HydroVac say the awareness of air excavation for tree removal is increasing, which has led to some rewarding jobs in the past 12 months. Last year they used air excavation to remove five mature pohutukawa trees from along Princes Wharf as part of the Downtown Transformation project. The trees were 30-40 years old and ranged between 8-10m tall, with root balls around 3.8m wide by 60cm deep.

To add to the challenge, at some point the trees had large amounts of concrete poured around their base, constricting their growth. This needed to be carefully broken away with jackhammers. Complicating things further, there were large services running through the concrete and tree roots — both power and gas — that would be catastrophic if hit.

"This was definitely a job for our Dry X," says Mike. "The stakes were too high to have a digger doing the work, and flooding the hole with water with hydro-excavation wasn't an option with the services running through the job. Air excavation is ideal for these kinds of jobs. Air is a powerful excavator but gentle enough to work around dangerous in-ground services as well as not harming even the finest roots."

HydroVac operators are currently using the same air excavation technology on a City Rail Link (CRL) job, removing old mature trees from the city centre – many of which run over live wires and pipes.

For an air excavation demonstration or to see the Dry X trucks in use, please contact mike.d@hydrovac.co.nz or see hydrovac.co.nz.



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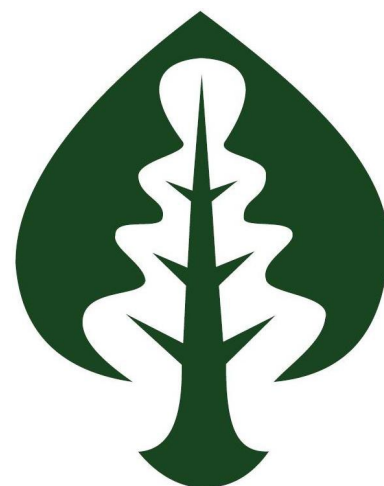


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NOTABLE TREE STORIES

WEST COAST GIANT MATAI



In each edition of tree matters we will endeavour to feature trees from the New Zealand Tree Register. The idea is to highlight a specimen or group with outstanding attributes and/or a tree with an especially interesting history.

Beside Lake Kaniere on a schist creek fan running off Mt Brown sit some exceptionally large matai trees (*Prumnopitys taxifolia*). Hokitika resident Phil Barker was told about a big matai not far from Kaniere lodge in 2019 by a retired schoolteacher. He decided to investigate.

When driving along Kaniere road through to Kokatahi and then around to Lake Kaniere, you can see many large matai and kahikatea in dairy paddocks and beside farmhouses. They give a clue to some very impressive trees found hidden in dense forest beside the Kaniere-Dorothy Falls road.

As of October 2019, the largest NZ matai listed on the NZ Tree Register were two 360-point trees in Nelson and Hawkes Bay. The Nelson tree fell in a storm in 2014. Up until about 2000 NZ's largest known matai tree was considered to be a 235 cm diameter-at-breast-height (DBH) tree situated beside Lake lanthe in South Westland which had been cut down for safety reasons.

Following the leads that he had received, Phil set about exploring bush close to the Lake Kaniere lodge. He first located a large matai with a 205 cm DBH beside the road not far from the Lake Kaniere walking track. He later encouraged friend and forester Evan Mason to visit and the pair measured this tree and then discovered a nearby larger matai over a weekend in November last year. They had now measured the two largest known matai at the time (see image 1 - WCR/1562 and image 2 - WCR/1563). A nearby fallen tree was larger than both these trees and it was speculated that it may well have been the tree mentioned by the retired schoolteacher.

Phil suspected that even bigger trees might be found in this forest. He investigated and discovered on the other side of the road an

immense matai which was tall and had a 232 cm DBH (see image 3 - WCR/1564). On a subsequent visit to the now-reigning national champion WCR/1564 Phil's twin brother Kevin led a party including the local conservation board chair Keith Morfett into the bush in search of Phil's big tree.

As chance would have it, another huge matai was sighted by Keith Morfett. The party had accidentally stumbled upon NZ's largest ever measured matai (see image 4 - WCR/1595) simply by taking an incorrect bearing from the road. This huge tree has an immense girth and is extremely gnarly.

Phil and Kevin measured this tree which has a 280 cm DBH. This tree sits approximately 70 m from WCR/1564 and forms a triangle with another big matai. In total there are around 30 large matai with diameters over 1.5 m in this part of the Lake Kaniere forest.

Just how old are these matai trees? A core sample from a 2.0m DBH matai nearby revealed 0.58 mm growth rings so if the larger trees are growing at this rate then the West Coast trees could well be over 1800 years old.

The table below lists a current ranking of past and present known matai trees around the country. Phil has since gathered further information of two other locations in Westland where very large matai are still likely to be located. The terraces around Lake lanthe and Lake Brunner also have some very impressive matai trees. Phil, Kevin and Evan located a recently fallen matai with a DBH around 250 cm last December beside Lake Brunner. This tree was last seen standing in the 1970s by forestry workers.

NZTR Ref #	Girth/DBH (cm)	Height (m)	Image	Champion Tree Points
WCR/1595	878/280	24.7	See image 4	441
WCR/1564	730/232.8	30.2	See image 3	407
WCR/1563	679/216	31.9	See image 2	387
Former Lake lanthe tree	738/235	23.0		383
WCR/1562	645/205	29.4	See image 1	368
HBR/0825	642/204	28.3		360
Former Nelson NNR/0778	607/193	32		360
WCR/1577	600/191	28.5		350
NNR/0778	603/191.9	26.5		344

Data taken from the NZ Tree Register www.notabletrees.org.nz accessed: 5 Oct 2010

Phil Barker has received several verbal accounts from ex forest service staff of huge matai beside Lake Brunner and Lake lanthe. Future exploration could well reveal even bigger specimens hidden deep in West Coast forests.

by Kevin Barker



Showing Phil Barker beside tree
WCR/1564. Credit Euan Mason



Caption: Showing Phil Barker beside tree WCR/1595. Credit Euan Mason





Photo Courtesy: Cailtyn Pollihan

SOCIETY OF COMMERCIAL ARBORICULTURE – ARBORIST OF THE YEAR: DAVID JAMES

Reprinted with permission from SCA Today

The Society of Commercial Arboriculture Arborist of the Year Award is an annual award typically presented during the SCA Field Day Annual Business Meeting, coinciding with the International Society of Arboriculture Annual Conference. Due to the unique circumstances of 2020, the SCA Field Day has had to shift focus, pushing to a future virtual event. For information on the Virtual Field Day, keep an eye on the SCA website (www.sca-trees.org).

Despite the cancelled in-person event, the Society of Commercial Arboriculture Board still wishes to recognise the 2020 recipient of the Arborist of the Year award, a person that has contributed much to the arboriculture industry over a long and storied career.

The SCA Arborist of the Year award recognises an individual who has, through their professional and volunteer work, shown outstanding dedication to the field of commercial arboriculture. Nominees shall have demonstrated and advocated for high standards in the business of studying and managing trees.

It is our honour to award the 2020 SCA Arborist of the Year award to David James. To commemorate this award, we asked for a few words from those that know best the hard work David has contributed throughout his career in the green industry.

From Chris Walsh, ISA Board of Directors:

David is a commercial tree care company owner; David James Tree Services (DJTS). DJTS is based in Blenheim, New Zealand, and services Marlborough and the top of the South Island. David is also an industry trainer, delivering utility line clearance and electrical awareness training throughout New Zealand.

His interests include trees, family, wine, and the great outdoors. David is a keen tramper and fisherman and has a small vineyard where he supplies grapes to various Marlborough wineries.

David is also a strong supporter of volleyball in Marlborough, as code to which he has also contributed many hours of volunteer time.

David James stepped down as the NZ Arboriculture Association (NZ Arb) Executive after 20 years of service. David has also represented NZ Arb on the ISA Council of Representatives for the last 9 years, as well as serving as an National Tree Climbing Competition (NTCC) chair and International Tree Climbing Competition (ITCC) judge.

David has been heavily involved in the organisation of the New Zealand National Tree Climbing Competition since 1999. He coordinated and ran the South Island Regional Tree Climbing Competitions for eleven years before taking over as the National Coordinator in 2010. In 2012, David joined the Asia-Pacific Tree Climbing Championship Operations Committee and was appointed Chair in 2015 - a role he still holds today. He has represented and championed the tree climbing sector on the NZ Arb Executive Committee for nine years. David is also a regular and respected Judge at the ITCC World Championship.

David's time, involvement and contribution to arboricultural tree climbing in New Zealand has seen the sport grow from a side-line conference event to a streamlined show attracting sponsorship and international competitors. David has created a legacy of technical,

scoring, and regional coordinators. He has introduced a 'kids-climb' to inspire the young, and a New Arborist of the Year competition to recognise and encourage excellence in those new to the industry. He also has built around the sport a strong network of volunteers that not only make the competitions run seamlessly, but also create a community of travelling supporters alongside those competing in the events themselves.

In 2016, David introduced a Volunteer of the Year Award to the New Zealand Arboricultural Association's annual awards evening that celebrates, recognises, and strengthens members of this community.

Realising that to maintain New Zealand's standing as the powerhouse of international tree climbing, David has sought funding for and implemented a coach for the New Zealand tree climbing team, which has resulted in further international titles.

From Caitlyn Pollihan, ISA Executive Director:

David has the longest service as chair of the Council of Representatives and he has served on both the ISA ITCC and the Asia Pacific Tree Climbing Competition (APTCC) committees. He has been a passionate volunteer for his chapter and for ISA and he truly cares about promoting the profession and increasing the safety and knowledge of arborists.

From Dana Karcher, ISA Board of Directors:

Ah David! His relentless dedication to CoR really made some positive changes in the organisation and consequently, the ISA. (In fact, as chair of governance, David was always on my mind as we made changes to the role of CoR. He'd be proud to know that we just voted to give Associate Organisations a vote on CoR!)

His spirit of volunteerism is amazing. His work on ITCC has been important and needed.

On a personal note, David was always willing to listen, disagree with grace, and willing to accept decisions that he didn't always agree with. That is the mark of a good leader in my opinion. Congratulations, David!!



David James and SCA Executive Director Rose Epperson, sharing a cold one at the 2014 SCA Field Day in Milwaukee, WI. Photo Courtesy: Rose Epperson



Photo Courtesy: Caitlyn Pollihan



NZ ARB HUSQVARNA SOUTH ISLAND REGIONAL TCC WRAP-UP

This year the Husqvarna South Island Tree Climbing Competition was held in Ashburton at the Ashburton Domain on the 12th and 13th of September. It was a gamble taking the SITCC away from Christchurch and volunteer power that the city has, but the South Islanders rallied to the call and we had 30 volunteers come from all parts of the Island to make it a great, smooth running event. The Ashburton District Council was very excited for us to have the competition there. They really got behind the event with plenty of advertising and accommodating us any way they could. The event featured in two of the local newspapers.

Set-up on Friday started early with the help of the Otago Polytechnic students, Four Seasons Tree Care, EA Networks with their elevated work platform, among many others. It all ran smoothly and we were all set up and ready for gear checks by 3:00pm

Ashburton turned on the weather for us on Saturday with clear blue skies. Despite the travel restrictions created by COVID-19 we still had 41 climbers, seven of whom were female. The day got off to a bit of a slow start but soon found its rhythm and moved along nicely. All the event trees were in close proximity to each other making for a very social occasion. Climbers could watch and cheer on their fellow competitors with ease.

The Silky aerial rescue was in a large *Cedrus deodara*, the scenario being that you were practising for an upcoming climbing competition in a remote part of a park with no one else around. Your buddy had just put his lanyard on and slipped, hitting his face on the branch. They were bleeding, conscious but unresponsive. The ascent into the tree was high and challenging for many with only a few completing the event in time. Two who did were the winners of the aerial rescue Nicky Ward-Allen and Rodger Gilman. Just a few metres away the AB Equipment speed climb wrapped its way up and around a single stemmed *Cedrus deodara*.

Over at the Donaghys ascent event Matt Eden powered his way up the 16.4m ascent in just 15.38 seconds, claiming the fastest time of

the day. The Metro Green throwline proved a challenge for most as it was set in a spreading *Quercus robur* full of epicormics. But it didn't hold back Maja Blasch with a great score of 18 and local Ashburton man Seth Mischkeski who took first place with 22 points.

The Kask work climb was set up in a spectacular *Quercus robur*. It was a more technical climb with many opportunities to pick up those crucial discretionary points. It was a tight competition with just a point or two separating the top three for both men and women.

Maja Blasch, Nicky Ward-Allen and Sami Baker took out the top three preliminary placings for the women. Dom Ritter was the winner of the preliminaries for the men followed closely by Joe Davis and Rodger Gilman. The Treotech and Levin Sawmakers/Yale Cordage masters' challenge was held in the same tree as the work climb the following day. We had five climbers competing in the challenge, Dom Ritter, Joe Davis, Sami Baker, Rodger Gilman and Tom Guy. Again the scores were very close but ultimately Joe Davis won with a series of natural redirects on a SRT system allowing him to have the winning touch. All masters' climbers had the extremely valuable opportunity to be de-briefed by some of world's best climbers. Scott Forest and Chrissy Spence were on hand to go through their score cards to assist them going forward.

The New Arborist of the Year competition was once again facilitated by Jerry Lynch. We had 14 new arborists enter the competition with John Leach of Otago Polytechnic taking first place and Nic Ewan of Treescape Nelson as the runner up. They will both be competing in the finals to be held in Queenstown.

Husqvarna and the other sponsors provided a huge number of prizes. No one went home empty-handed. Thank you to all the sponsors, volunteers, climbers, friends and families. It couldn't have been the great day it was without everyone doing their part. See you all next year Christchurch, 18th and 19th September 2021!



FEMALE FINALISTS	CHAPTER	PRELIMINARY TOTAL
Maja Blasch	NZ Arb	146.64
Nicala Ward-Allen	NZ Arb	124.73
Sami Baker	NZ Arb	100.51
Laura Martin	NZ Arb	100.08
Ruby McNab	NZ Arb	43.09

MALE FINALISTS	CHAPTER	PRELIMINARY TOTAL
Dom Ritter	NZ Arb	136.36
Joe Davies	NZ Arb	134.61
Roger Gilman	NZ Arb	131.75
Tom Guy	NZ Arb	119.66
Andrew Hennigan	NZ Arb	111.25



SILKY SAWS AERIAL RESCUE			
CATEGORY	NAME	CHAPTER	SCORE
Female	Nicala Ward-Allen	NZ Arb	30.67
Female	Maja Blasch	NZ Arb	28.33
Male	Roger Gilman	NZ Arb	31.00
Male	Andrew Hennigan	NZ Arb	29.00

AB EQUIPMENT BELAYED SPEED CLIMB			
CATEGORY	NAME	CHAPTER	SCORE
Female	Sami Baker	NZ Arb	15.00
Female	Nicala Ward-Allen	NZ Arb	13.61
Male	Tom Guy	NZ Arb	15.00
Male	Sam James	NZ Arb	14.48

DONAGHYS ASCENT EVENT			
CATEGORY	NAME	CHAPTER	SCORE
Female	Maja Blasch	NZ Arb	23.00
Female	Laura Martin	NZ Arb	16.30
Male	Dom Ritter	NZ Arb	24.48
Male	Sam James	NZ Arb	22.82



METROGREEN THROWLINE			
CATEGORY	NAME	CHAPTER	SCORE
Female	Maja Blasch	NZ Arb	18
Female	Nicala Ward-Allen	NZ Arb	8
Male	Seth Mischieski	NZ Arb	22
Male	Matt Eden	NZ Arb	15

KASK WORK CLIMB			
CATEGORY	NAME	CHAPTER	SCORE
Female	Maja Blasch	NZ Arb	64.84
Female	Nicala Ward-Allen	NZ Arb	61.33
Male	Roger Gilman	NZ Arb	64.67
Male	Joe Davis	NZ Arb	63.98



NZ ARB HUSQVARNA WAIKATO BAY OF PLENTY REGIONAL TCC

19th September 2020

After another wet set up-day with our faithful volunteer crew, competition day dawned fine and warm. Hamilton Gardens was the venue this year and although the climbs were a little spread out, we managed to have good support from the public, family and friends. The walk between events also meant participants were able to enjoy the gardens in their full spring splendour.

Local climbers turned out in force this year, with many first timers and other competitors attempting a come-back.

Big thanks to all the volunteers. This year we had many loyal judges and techs who have been back year after year. In addition, many volunteers returned after a year or two off and we had a good turnout of Wintec students helping for the first time. Thanks heaps team. Without you these events wouldn't happen. Also huge thanks to all the sponsors. It's great to be able to give so many prizes to the winners...and have so many more prizes as spot prizes.

FEMALE FINALISTS	CHAPTER	PRELIMINARY TOTAL
Nicala Ward-Allen	NZ Arb	142.14
Maja Blasch	NZ Arb	131.78
Laura Martin	NZ Arb	66.26
Ruby Harrison	NZ Arb	23.83

MALE FINALISTS	CHAPTER	PRELIMINARY TOTAL
Yoan Willman	NZ Arb	149.45
Lode Jans	NZ Arb	148.65
Tom Guy	NZ Arb	131.82
Daniel Campbell	NZ Arb	130.32
Jamie Hartley	NZ Arb	113.93

SILKY SAWS AERIAL RESCUE			
CATEGORY	NAME	CHAPTER	SCORE
Female	Nicala Ward-Allen	NZ Arb	41.50
Female	Maja Blasch	NZ Arb	32.00
Male	Joshua Talsma	NZ Arb	39.00
Male	Lode Jans	NZ Arb	36.50

AB EQUIPMENT BELAYED SPEED CLIMB			
CATEGORY	NAME	CHAPTER	SCORE
Female	Nicala Ward-Allen	NZ Arb	15.00
Female	Laura Martin	NZ Arb	8.16
Male	Tom Guy	NZ Arb	15.00
Male	Jamie Hartley	NZ Arb	13.35

DONAGHYS ASCENT EVENT			
CATEGORY	NAME	CHAPTER	SCORE
Female	Maja Blasch	NZ Arb	22.00
Female	Laura Martin	NZ Arb	21.10
Male	Troy Sircombe	NZ Arb	24.00
Male	Yoan Willman	NZ Arb	18.62

METROGREEN THROWLINE			
CATEGORY	NAME	CHAPTER	SCORE
Female	Nicala Ward-Allen	NZ Arb	17
Female	Maja Blasch	NZ Arb	8
Male	Matt Harrison	NZ Arb	22
Male	Daniel Campbell	NZ Arb	21

KASK WORK CLIMB			
CATEGORY	NAME	CHAPTER	SCORE
Female	Maja Blasch	NZ Arb	62.00
Female	Nicala Ward-Allen	NZ Arb	57.30
Male	Lode Jans	NZ Arb	65.22
Male	Yoan Willman	NZ Arb	64.90



NZ ARB HUSQVARNA AUCKLAND REGIONAL TCC

Judges & Technicians

On behalf of Husqvarna, NZARB and all our sponsors, I would like to extend a massive thank-you to the volunteers that helped out at Jellicoe Park, on 9-11 October 2020. The two-day competition was a great success, thanks to you all.

Regional Coordinator – Chelsea Robertson

Head Judge – Craig Webb

Head Technician – Andy Neverman

Scorer – Erika Commers

MC/Scorer's Assistant – Dale Thomas

New Arborist of the Year, sponsored by GreenCycle – Craig Lamb

Catering – Howell Davies

Friday Set-up Crew

Proclimb

Hardfell – Shaun Hardman and the team

Treesafe – Dale Thomas

MIT – Zane Wedding and the crew

KASK Workclimb

Event Head Judge – Shaun Hardman

Judges – Gerald Collett, Chris Morphet

In-Tree Technician – Lode Jans

Technician – Ron Gardner

Silky Saws Aerial Rescue

Event Head Judge – Steph Dryfhout

Judges – Guy Clark, Daniel Hair

Technician – Hiro Ikeno

In-Tree Technician – Suyra Benkataiah

Donaghys Ascent

Event Head Judge – Andrew Neverman

Techs/timers – Nicholas Errington, Junior Kavesi, Pete Ngariki

AB Equipment Speed Climb

Event Head Judge – Rick Jobbit

Technicians – Andrew Benson, Clive Barnes, George Moore, Galen De Lange

Metrogreen Throwline

Event Head Judge – Will Philips

Technician – Tendo Izanagi, Jay Collett

Treetools Kid's Climb

Technicians – Jaiden North, Clive Barnes

Treetech Mens Master's Challenge on Sunday

Judges – Lode Jans, Chris Morphet, Craig Webb

Timekeeper – Chelsea Robertson

Head Tech – Scott Forest

FEMALE FINALISTS	CHAPTER	PRELIMINARY TOTAL
Nicala Ward-Allen	NZ Arb	142.00
Hanna Luypers	NZ Arb	39.05

MALE FINALISTS	CHAPTER	PRELIMINARY TOTAL
Zane Wedding	NZ Arb	166.05
Sam Smith	NZ Arb	162.42
Sam Turner	NZ Arb	154.97
Roger Gilman	NZ Arb	138.54
Scott Geddes	NZ Arb	135.19

SILKY SAWS AERIAL RESCUE			
CATEGORY	NAME	CHAPTER	SCORE
Female	Nicala Ward-Allen	NZ Arb	39.00
Female	Hanna Luypers	NZ Arb	5.50
Male	Zane Wedding	NZ Arb	42.00
Male	Sam Smith	NZ Arb	41.50

AB EQUIPMENT BELAYED SPEED CLIMB			
CATEGORY	NAME	CHAPTER	SCORE
Female	Nicala Ward-Allen	NZ Arb	15.00
Female	Hanna Luypers	NZ Arb	4.84
Male	Roger Gilman	NZ Arb	15.00
Male	Scott Geddes	NZ Arb	14.35

DONAGHYS ASCENT EVENT			
CATEGORY	NAME	CHAPTER	SCORE
Female	Nicala Ward-Allen	NZ Arb	20.00
Female	Hanna Luypers	NZ Arb	6.38
Male	Sam Smith	NZ Arb	24.00
Male	Sam Turner	NZ Arb	22.63

METROGREEN THROWLINE			
CATEGORY	NAME	CHAPTER	SCORE
Female	Nicala Ward-Allen	NZ Arb	8
Female	Hanna Luypers	NZ Arb	7
Male	Hamish Trembath	NZ Arb	21
Male	Zane Wedding	NZ Arb	21

KASK WORK CLIMB			
CATEGORY	NAME	CHAPTER	SCORE
Female	Nicala Ward-Allen	NZ Arb	60.00
Female	Hanna Luypers	NZ Arb	15.33
Male	Scott Geddes	NZ Arb	69.24
Male	Sam Smith	NZ Arb	67.58

SPECIES PROFILE: TŌTARA

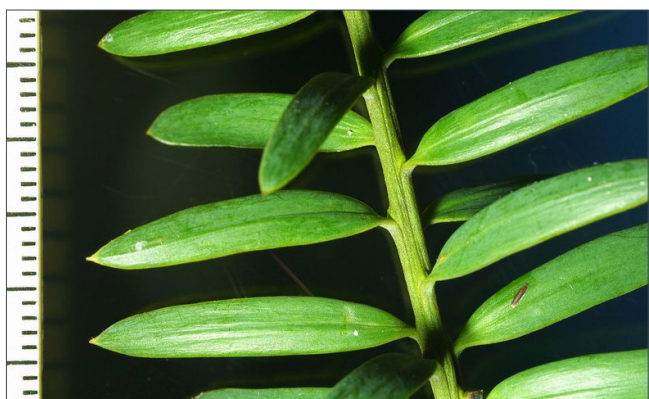
Podocarp family: Podocarpaceae

Gymnosperm

Podocarpus totara – tōtara; also Omaka (South Island), kotukutuku

Two Varieties: Podocarpus totara var. *totara* *Podocarpus totara* var. *waihoensis*

Podocarpus laetus – mountain tōtara, Hall's tōtara, thin-barked tōtara



Etymology

podocarp – latin 'fruit-footed', totara – Maori. 'To' means stem or stalk; 'tara' means spiky or sharp

Distribution

Tōtara is an endemic species and taxon found growing throughout New Zealand, predominantly in the North Island from lowland to montane where the soil is fertile and well-draining, but also in the north-eastern South Island lowlands to lower subalpine forests of up to 600 metres in elevation. It is regarded as a hardy pioneer for its ability to readily establish on open sites even amongst weedy grass cover.

Habitat

Tōtara can handle a wide range of conditions. They do not mind being out in the open and exposed or in the forest. They are tolerant of sun, wind, and high rainfall. But also more tolerant of dry soils and seasonal drought than other podocarps, but intolerant of poorly drained soils.

Descriptive Features

Tōtara is tall as a forest tree which grows slowly and lives long, from 800 to 1800 years. Commonly achieving a height of 20-25 metres, and exceptionally to 35 m, with a trunk reaching a diameter of two metres. The trunk is without branches at its base, the branches are stout and spreading.

Tōtara have a juvenile, adolescent and mature form; beginning as a fine-neededled spindly youth to a pyramidal juvenile, eventually becoming a dense decurrent canopy supported by a massive trunk. The bark is dark reddish-brown or with a purplish to golden brown hue. It is fibrous, deeply furrowed, thick and stringy, separating into long narrow strips. *P. laetus* has notably thinner bark.

Vegetative Characteristics

The leaf form is linear, needle-like, sharp tip, stiff and leathery to about 2 cm in length. A dull green, brownish or yellow-green. Juvenile leaves are smaller. Leaves are arranged singly along the stem in a whorl.

Tōtara are dioecious. The male trees bear cone-like catkins (pollen cones) while the females produces ovule cones which become a bright red fruit with the seed attached to it. The male pollen cone is 10-15 mm long. The ovule cone is 5-8 mm. After fertilisation the bases of the fertile and sterile bracts fuse and become fleshy to form a red receptacle (or 'foot') situated below the seed. The mature seed cone is 10-15 mm long, containing 1-2 rounded seeds at the apex.

Flowering occurs in (August-) October (-December). Totara produces seed every year. Fruits take a year or so to ripen, and may be found throughout the year; usually peaking at about the same time that cones are produced. They are most frequently seen between April and May.

Cultivation

Tōtara grows easily from fresh seed and cuttings. The seed is widely dispersed by birds which results in establishment across farmed landscapes and throughout forest floors.

Pests & Problems

Tōtara are fairly immune to pests and disease. Both sapwood and heartwood are resistant to insect attack. Possums will eat the buds and young leaves in spring causing severe damage all through NZ, resulting in tree mortality in the hundreds of thousands.

Wood Properties

Tōtara wood is light-weight, hard, straight-grained and very resistant to rot, especially its heartwood. It is also very durable in water. The timber is not very strong, and the dry heartwood is brittle. The heartwood is an even reddish brown and the sapwood a pale brown. The growth rings are distinctive and even. The wood has a fine, even texture.

Uses

Tōtara wood is light in weight and prized for its easy-to-carve properties. It was the primary wood used in Māori carving. It was used in many and varied applications including buildings, joinery, furniture, fence posts, railway sleepers, wharves, house piles, crafts – the list goes on. It was the primary wood used to make waka in traditional Maori boat building due to its relatively light weight (about 25% lighter than kauri), long straight lengths and natural oils in the wood which help prevent rotting.

Bark from tōtara is used to cover and protect traditional pōhā bags to hold preserved birds and contain food.

The extraction of totarol from the bark and wood is now being used as an odourless antimicrobial/preservative extract in a range of personal health care products for anti-acne skin care products, toothpaste, mouthwash, wound healing cream, disinfectants, sunscreen lotion, shampoo, conditioner and soaps. Trees need to be at least 150 – 200 years old when the anti-microbial constituents develop to protect the tōtara from microbial attack.

Tōtara trees make great hedges if planted around 1m apart and trimmed yearly; they tolerate hedge shearing and turn into a dense wall of foliage that's quite prickly, a good security deterrent, and a great habitat for birds.

Fun Facts

Tōtara are considered a 'rakau rangatira' – a chiefly tree.

The largest known living tōtara tree is the Pouakani tree. It grows in a forest near Mangakino 60 km north-west of Taupo, in the central North Island. The tree is 42 metres tall and has a trunk diameter of 3.8 meters at breast height. It is estimated to be well over 1000 years old, and was first recorded in 1950. Other large trees are known in this area; Whirinaki forest, to the east, has groves of very tall tōtara (over 40m in height).

References:

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The University of Auckland:
nzplants.auckland.ac.nz/en/about/seed-plants-non-flowering/native-conifers/podocarpaceae/podocarpus-totara.html

Wikipedia:
wikipedia.org/wiki/Podocarpus_totara



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Treesafe Arboriculture contractors	Auckland	nick@treesafe.co.nz	0800 873 3769

Waikato / Bay of Plenty

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Arbor Care Ltd	Tauranga	info@arborcare.co.nz	(07) 543 1775

Manawatu

Vertical Arborists	Palmerston North	hello@verticalarborists.co.nz	0800 967 528
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