MOONBI 140

MOONBI is the newsletter of FIDO, "The Watchdog of K'gari" The word Moonbi is the Butchulla name of the central part of their homeland, K'gari. ISSN: 0311-032X

A warm welcome to all you new FIDO members and, to our long-standing FIDO members, thank you for your loyalty and patience.

29 March 2024

FIDO, "The Watchdog of K'gari", aims to ensure the wisest use of K'gari's natural resources.

IN THIS ISSUE:

President's Report

Zela Bissett

2023 was another productive year for FIDO. We ran 4 weeding trips to Happy Valley in April, May, August and October under the leadership of Peter Shooter. Su (Tokiko) Dawson and her team made week-long trips to Eurong in February, May, August and October. Interim trips took place in April, May, August and October. The short trip group have coined their own name, the "Wide Bay Locals" and they did trips in June, August and November. Eurong groups also work in public areas too like Central Station or roadsides around Eurong where they connect with visitors and pass on valuable information. The Pandanus Team has now made 6 trips starting in March of 2023, with a 7th trip planned for June of 2024. So far the Pandanus Team has planted 1,077 trees in the ground across 28 sites and collected and laid 15,564 seeds. You can read all about that on pages 7 – 11 of this issue. We are happy to welcome new members. At FIDO's November K'gari conference at Hervey Bay's USC campus we met some members in person for the first time Including Charlene Brown, who is working with her 4WD club to do beach clean-ups on K'gari, and 3 members of the "Wide Bay Locals" volunteer team.

Some of my personal highlights from our activity in 2023 include:

- K'gari conference Djaa-Ngarawinj (Land and Sea) report November 9th and 10th 2023. Hearing the speakers and presenters gave some detailed insights into the work of university students and lecturers in turtle recovery, peat bog monitoring, post-fire recovery and a range of other topics. The engagement of Butchulla and other Indigenous presenters including Uncle Glen Miller, Christine Royan, Veronica Bird, Shawn Foley, John Greene, Bob Broome, Jade Gould and Shania Spross was noted, as was the attendance of Les Malezer, a founding member of FAIRA (Foundation for Aboriginal and Islander Research Action) and long-time advocate for Aboriginal rights. Read more on pages 23 – 23 of this issue.
- Meeting at Charmaine's house at Nambour with Brisbane and Maryborough members to plan the year. Thanks, Charmaine, for your generous hospitality and a memorable lunch!
- Raising funds to print the Tide Times booklet, with in-kind support from Mike Oram in design and layout. Thanks to Charmaine for finding sponsors and thanks to the generous sponsors who helped bring this project to fruition including K'gari Beach Resort, Eurong Bakery, Eurong Store, K'gari Holiday Lodges, Noosa K'gari 4WD, The Haven Poyungan and University of the Sunshine Coast. I urge members of the Communications committee to be more prepared next year as we have prospective advertisers willing to contribute and this is a valuable channel to share FIDO's existence and value.
- Our favourable mentions in the monthly magazine Gympie Living, the Fraser Coast Chronicle and USC's media releases.
- Efforts to bring fresh content to the Facebook page and webpage, posted by Keith and Chmura Sinclair, ensured our online presence is more up to date.

In 2024, our plans include:

- A more independent "Wide Bay Locals" group with Lyndall organising trips with the capable help of JT and other team supporters. This allows Su Dawson to focus on her longer Eurong trips.
- Aiming for publication of two issues (140 and 141) of Moonbi during 2024. Moonbi 140, our second since the passing of John Sinclair our founder, is finally here, thanks to contributions from Isaac Neisler, Frances Thomas, Margaret Sinclair, Peter Shooter and Keith Sinclair. Short excerpts from Pandanus Team volunteers Len Mitcham, Breannah Duthie and Diana Korving also add interest to the issue. I have endeavoured to follow the prolific writing output of John Sinclair with four contributions! Thanks also to John Cruickshank and Charmaine Foley for compilation and layout work.
- Examining and refining our safety procedures.
- The biennial John Sinclair Memorial Lecture, which this year will be delivered by Bob Brown, with whom John worked on the Kimberley campaign and other projects, will take place at 2.00 – 4.30 pm on June 15 at the Auditorium of the Mount Coot-tha Botanical Gardens, Mount Coot-tha Road Toowong, QLD 4066. Tickets are available for $25 per head, search eventbrite.com John Sinclair Memorial Lecture
- Aim to have John Sinclair's memoir in book form launched and ready for sale at the event. Thanks to Keith and Matthew Englert at AndAlso Press.
- August Cooloola Bioblitz at Rainbow Beach in partnership with Cooloola Coast Care with Lindy Orwin.

There are also some plans that are in their early stages, including the Paper of Weeds Pilot project, using a process which I hope to demonstrate at the FINIA meeting on K"gari on June 6 -7 which can turn some weeds into botanical paper. I am working with Charmaine on a RADF grant application for a pilot project. So far I have support from FINIA, Papermakers of Queensland and BNTAC. I had a meeting with the RADF chair Amanda Kratzmann in Maryborough and she seemed supportive.

Organisation overview: Our success is directly linked to the hard work of our team, with members contributing in various capacities. FIDO's original mission was to ensure the wisest use of K'gari's natural resources. I think there is scope to reconsider both the name and the mission during 2024 and I encourage creative thoughts on this matter for consideration.

Thank you all for another excellent year. I look forward to continuing to achieve and refine FIDO's goals in 2024.

Zela Bissett – Fido President.

Team Leadership

Dr Frances Thomas

My first contact with FIDO was when John Sinclair came to a meeting of the Norman Creek Catchment Coordinating Committee (N4C). Through that group I was involved in bush care at Moorhen Flats and John lived nearby. My husband and I were recruited to go on his last Safari Trip to Fraser Island in August 2007. Some years later John phoned and asked if I would like to go with him and Su on an interim trip to Eurong. He was quite ill by then.

In October 2019 I went with Su on my first full bush regeneration trip to Eurong. Also around that time FIDO meetings were held monthly at Su's place in Coorparoo and I attended these. That is where I first met Peter. The succession of the Presidency of FIDO was tricky but it fell to Peter and I was always impressed with his knowledge and organisational skills. This continued through the Zoom meetings forced on us by Covid.

I went to Happy Valley in August 2020 on one of Peter's weeding trips. I had shingles at the time and he made things bearable for me. We also had to deal diplomatically with Abrus. I have valued him as a friend and also his leadership in solving the ongoing issues posed by K'gari.

Peter Shooter. Photo: Sandra Naidoo

Thoughts on FIDO's Future directions

From the new President Zela Bissett and the immediate past President Peter Shooter

FIDO has a great history. Our historic work in the 1970s to end mineral sand mining on K'gari was recognised internationally. Similarly, the 1990s campaign to end logging was widely recognized.

So what are our roles and priorities now?

Partnerships

Partnerships are vital to keep FIDO relevant and in touch.

FINIA

Our most important partnership is via the K'gari (Fraser Island) Natural Integrity Alliance (FINIA).

FINIA is a community based partnership dedicated to protecting the Natural Integrity of K'gari. It meets 4 times a year, including once on country at Dilli Village. On that occasion we stay over and do site visits.

Affiliates include QPWS, Butchulla Aboriginal Corporations, relevant State Government Departments, Fraser Coast Regional Council, the University of the Sunshine Coast and other tertiary institutions, Community groups and several Conservation and Environment groups including FIDO.

BAC and BNTAC

Our partnerships with the two Butchulla Aboriginal Corporations, The Butchulla Aboriginal Corporation (BAC), which has custodianship for the island of K'gari, and the Butchulla Native Title Aboriginal Corporation (BNTAC), which has

responsibility for the remainder of the Butchulla nation including the surrounding waters and lands from Burrum Heads to Double Island Point and Mount Bauple.

FIDO has very good relations with both these organisations and seeks to deepen those relationships in a respectful collaborative way.

Land Care through weed control

We have had a major focus on Land Care, especially weed control on the Unallocated State Land (USL) that surrounds the villages. Only FIDO is doing weed control on the USL. The quality of our work is recognised by the Department of Resources that is responsible for its management. Similarly residents, Local Government, the Butchulla community and Parks recognise the good work we do.

However, we need funding to continue this valuable work. To date our work hasn't leveraged us sufficient response in that regard. We keep trying.

Future of USL – Transfer to Butchulla control

Over time it is Government policy to shift large amounts of the USL to Butchulla control. This has started with the transfer of two parcels of land at Eurong.

As this happens we need to reach an understanding with the Butchulla about FIDOs ongoing role to ensure that all the benefits of the work we have done since 2005 are not lost. FIDO is keen to keep working on this project. However the goal should be to work with the Butchulla to help skill their Rangers to eventually take control. To this end we work with Butchulla Rangers wherever possible and share knowledge. It is a great learning experience for both the Butchulla Rangers and FIDO volunteers. We value it.

Financial survival

As a voluntary organization we must organize our finances responsibly. We have recently applied for and been granted Voluntary Organisation Charitable Status and are in the process of getting Tax Deductibility Status. This will potentially give us access to a range of funding sources we are not currently able to access. We have received some grants of recent times that have helped partially fund some of our work.

New vehicle

We received a substantial grant towards the purchase of a new Toyota Hilux. Our old vehicle, which was coming to the end of its life, caught fire and was completely destroyed. The insurance topped up the grant for the new vehicle.

Outgoing/expenses

Working as a voluntary organization on K'gari is expensive. Our weed control programs, unlike many similar community-based programs across the country have the added costs resulting from operating on an island. We are up for transport, ferry and accommodation cost on top of all the usuals. Accommodation has become very expensive, and the cost of fuel continues to increase.

We have numerous other projects that draw on our resources. We have published a tide timetable brochure with FIDO and K'gari information. We are in the process of publishing a John Sinclair autobiography, to be published in June.

We join with Cooloola Coastcare to run Bioblitz on K'gari and at Cooloola, which along with K'gari is part of the Great Sandy Region and hence relevant, having similar plants, insects, birds, and animals.

We stage biennial conferences that involves staging costs, keynote speakers, publishing, and catering.

On alternate years we run a biennial John Sinclair Memorial lecture.

Some of these projects do generate funds, but usually not sufficient to cover costs.

So where is FIDO now?

FIDO remains a vibrant organization, with a wide range of involvements. For many years we were very John Sinclair centric. This was both natural and positive. John's enormous energy, depth of knowledge of K'gari and huge experience was very conducive to people aggregating around him.

John passed on in February 2019. This left a huge gap in FIDO, but the gap has been filled, as much as a John Sinclair void can be filled, by new talented and enthusiastic people including members of the Sinclair family.

I feel very privileged to have been elected President of this historical and very worthwhile organization and feel fortunate to have many experienced members to support me in the role.

There is much to be done.

What is a Bioblitz?

Is the Bioblitz a significant way forward for environmentalism?

FIDO President Zela Bissett, veteran of 4 Cooloola Bioblitzes, argues that it may well be.

Zela Bissett

What is a Bioblitz? One answer is "an intense period of biological surveying in an attempt to record all the living species within a designated area within a set time frame." After the first Cooloola Bioblitz in 2018 identified a rich trove of species, particularly arachnids, not previously known to western science, Cooloola Coast Care member Randy Orwin introduced participants to the app iNaturalist. This app helped make the observations of amateur naturalists more scientifically credible, by noting GPS coordinates and allowing photos to be verified by a range of outside experts. The iNaturalist app offers this definition:

> *A bioblitz is a communal citizen-science effort to record as many species within a designated location and time period as possible. Bioblitzes are great ways to engage the public to connect to their environment while generating useful data for science and conservation. They are also an excuse for naturalists, scientists, and curious members of the public to meet in person in the great outdoors and are a lot of fun!*

FL with Patrick the spider man and Sandra the fungi expert.

Groups of scientists, naturalists, artists and volunteers conduct an intensive field study over a continuous time period. The 2022 Cooloola Bioblitz was held for the first time in the month of November. This allowed regular participants to see various species at different stage of their life cycle or growth. By all accounts, it was an outstanding success in both documenting the species to be found in the Cooloola region and allowing the very productive networking between experts and keen amateurs that leads to a deeper understanding of interconnections within ecosystems. The host group, Cooloola Coast Care Association Incorporated (CCAI), reported that feedback they received from the team leaders and from participants was extremely positive and enthusiastic. CCAI President, Linda Tabe said, "Clearly, professional scientists and citizen scientists alike relished their time discovering the biodiversity of the beautiful Cooloola environment." Linda paid tribute to event organisers by Lindy and Randy Orwin, and the many CCAI volunteers who helped ensure the smooth running of the event.

The Rainbow Beach/Cooloola bioblitz was born in 2018. After a controversial Bioblitz on K'gari in 2016, permission for another one the following year was not granted by the Butchulla Aboriginal Corporation (BAC). John Sinclair was disappointed by this, but it turned out well as it led to the formation of a very strong partnership with Cooloola Coast Care. FIDO members Saren Starbridge and Maria Miller assisted with the running of the event.

As explained above, a bioblitz is an intensive citizen science project where each team has a scientist team leader and participants can choose between birds, small mammals, arachnids, different types of vegetation (such as grasses or sedges) so it's all very fascinating. John attended the 2018 Cooloola Bioblitz but it was to be his last.

Lindy rallies the troops.

In 2022, Bioblitz teams visited a number of iconic places around Cooloola, including Seary's Creek, the Bymien track and Lake Poona, Carlo Sand Blow, the Big Blackbutt and the patterned fens. This year, Lindy Orwin organized for Bioblitz teams to have 4wd access into the heart of the national park, to survey areas unexplored by previous Bioblitzes. Team leaders Greg Tasney and Scott Gavens shared their truly impressive skills in plant identification in the field and contributed enormously to the documentation of the weekend's results in iNaturalist. An exciting find was a flowering specimen of Yellow Hyacinth Orchid, (Dipodium hamiltonianum).

In 2021 and 2022 nature journaler Dion Dior led groups sketching in the field. She really emphasised the value of being able to sketch quickly in the outdoors, indicating the setting and vegetation. Journals by Dion were on display and reveal how sketches are a good complement to photographs because one can annotate circumstances such as weather, season, time of day, other details. On Sunday 2022, the Nature Journal group had an exciting time investigating pandanus trees with team leader Joel Fostin.

Randy Orwin has provided these remarkable results from observations recorded on iNaturalist:

- Observations - 2,826
- Species - 797
- Observers, people who created the record - 61
- Identifiers, people helping us to identify the observations - 195
- Research Grade Observations - 1,544 or 58.35%
- Plants - 373 species or 46.98%
- Insects - 225 species or 28.34 %
- Spiders - 76 species or 9.57 %
- Fungi - 42 species or 5.29%
- Birds - 27 species or 3.4%
- smaller numbers fall into Ray-fin Fishes, Molluscs, Amphibians, Reptiles and a few miscellaneous species
- Listed species - 53 observations of 17 species:
    - 1 Critically Endangered
    - 5 Endangered
    - 6 Vulnerable
    - 5 Near Threatened

We also set a new record for number of people who made observations as well as people who joined the Cooloola Bioblitz 2022 Collection Project, 69. We had a grand total of 98 participants at the event, including 17 team leaders.

At the 2023 K'gari conference at the University of the Sunshine Coast's campus at Pialba, one of the afternoon discussion themes was on the topic of how to bring new people into the conservation movement, particularly younger people. The Bioblitzes of 2018 and 2019 saw the introduction of some very keen young people into the wonders of nature, several of whom have gone on to study science. I believe that the Bioblitz has a huge role to play here in improving the science knowledge of the general public and in encouraging young people to seek a career in the natural sciences. Two Bioblitzes are foreshadowed for 2024 and I do urge FIDO members to attend the August 2024 Bioblitz at Cooloola. Thanks to the advocacy of Lindy Orwin of Cooloola Coast Care, permission from BAC has been granted for a very small Bioblitz to be held on K'gari in May with a specific scientist investigating a particular location. Looking to the future, when demand for natural resources will put pressure on every ecosystem on the planet, the Bioblitz format seems a promising way to engage local residents of all ages to become citizen scientists who can work in support of their local region's biodiversity treasures.

Footnote 1

Wide Bay Locals Group

Lyndall Bissett

The Wide Bay Locals group of FIDO bush care volunteers got off to an excellent start, thanks to the enthusiasm of Su Dawson in initiating it and assisting us last year. We are based at Eurong.

I had a positive response to my initial overture in 2023 to Fraser Coast Regional Council's volunteers under the Community Environment Program, enabling us to have people experienced in plant ID and safety procedures.

We've just completed the first trip of 2024 and am glad to report the March flies were less of a problem - however on the downside, the dingoes no longer remain outside the fence. The Dingo-Ranger email hotline got several reports from us. No aggressive behaviour was witnessed, just sightings and one boot was stolen (latter found only slightly damaged). I expect the dedicated team of Rangers will soon be on top of it.

John Sinclair always maintained that since the application for World Heritage status included the Cooloola National Park on the mainland, the job was not complete until Cooloola was added. Some progress towards this has occurred with Cooloola progressing a step in the process by being included on an Australian recommended list recently.

My Brother John

Margaret Sinclair

"Ask not what your country can do for you — ask what you can do for your country."

John Fitzgerald Kennedy
Inaugural speech, 1961

John and Margaret - San Francisco - 1993 Goldman Awards

If that does not reflect the actions of my brother, John, I don't know what would be comparable to his life's work, to do, at any cost, something wonderful for the country that he loved.

My brother, John was an amazing man, a rebellious son, a loving father, a brother and mentor to me. In some ways we were similar, in that whenever he saw something that needed fixing or improving, he went out of his comfort zone to effect change, regardless of the personal or financial cost.

Our parents were married in 1935 and honeymooned at Happy Valley just 2 months after the Maheno was grounded. It was my parent's love of the Island that spurred our father, Charlie, to build a house at Eurong in 1965 where he and Beryl could retire to their paradise. I believe our parents incentivized John's attention and interest in protecting the island from commercial interests while preserving the beauty and delicate eco-system before it was too late.

1971 was a year of life altering changes for our entire family:

1. John began his epic fight for Fraser Island with the formation of FIDO
2. I was recruited to work as an Intensive Care Unit Registered Nurse in Dallas, Texas.
3. Our entire family was shattered by the sudden, tragic loss of our brother, Noel.

1976 was also another big year:

1. John was named **AUSTRALIAN OF THE YEAR** by THE AUSTRALIAN NEWSPAPER
2. It was also the 200th Anniversary of the USA Declaration of Independence in Boston and John visited
3. It was also year I married a Greek born surgeon, Peter Alivizatos, and John was the first member of my family to meet my husband to give me the family "seal of approval". Peter was highly impressed with John's amazing gifts and his dogmatic dedication to win his epic fight for Fraser Island, which was not dissimilar to his fight as a Greek Surgeon fighting for recognition in a foreign country, hence they formed a very close friendship despite living worlds apart.

While living in opposite sides of the world, John always found time to keep me up to date with the family, particularly since our father's death in 1979 and then our mother in 1990. It had been particularly difficult to come to terms with family deaths while not being able to grieve together as a family and John was always aware and saw it as his duty to take care of his little sister! John was always the one to pay close attention to keeping up to date with our Family Tree and Heritage.

1993 was another important year when John visited the USA on two separate occasions.

1. To accept the prestigious GOLDMAN AWARD in San Francisco. I had the good fortune to attend the presentation, and it was the proudest moment of my life to see my brother, along with the recipients

from each of the 6 continents, honoured for their amazing environmental contributions. To see John's video presentation of his work in person was surreal.

2. Another memorable event in 1993 was John's visit to introduce his adopted son Andres from Columbia.

1996 Peter invited John to Dallas to be Guest Speaker at an important dinner to honour Heart and Lung Transplant recipients and families. At this event, John proudly recalled his life's work in the fight for Fraser Island to an audience of 300.

Throughout my 48 years overseas in Athens, Greece, Boston, Richmond, London and Dallas, John never failed to bring our family together whenever I was able to visit Australia, and as often as he could find the time to fit a visit to me into his busy schedule, John ALWAYS TOOK THE LEAD and was very much the GLUE that held our family together after the deaths of our parents and brother.

Our final quality time together was when I was able to return to Australia and meet him in Sydney for his final train trip back home, and again for his final Christmas in 2018. While unable to be with the family for his funeral I was able to be present again at his beautiful Memorial Service.

I am so proud of my brother John, who certainly made Australia a better place with his tireless perseverance to his cause.

THE PANDANUS PROBLEM

… and what FIDO volunteers are doing to help

Isaac Neisler

What is Pandanus?

Imagine if you cut the leafy top off a pineapple, stretched it to 10 times its normal size, slapped it on top of a deeply ribbed palm tree and then stuck a bunch of (oddly phallic) shaped support beams underneath it. Most times, there will be several large pineapple looking heads (the crown) growing on multiple trunks and when the plants grow, they grow up from these crowns. Now you've got rather ridiculous but strangely accurate picture of a pandanus. It's as magical as it sounds.

Pandanus tectorius, a beautiful, integral and threatened part of K'gari's ecosystem. Photo supplied by I. Neisler.

The leaves are fibrous inside but smooth and almost polished outside, in delightful shades green that can change from specimen to specimen. The leaf margins are spiky. The trunk, ringed and textured, is rough to the touch. Aerial roots shoot down from the trunk and all along the branches like stilts to help stabilise the plant in loose sand and support the weight of the crowns above.

The trees can grow in so many ways. Some spread like a hydra, with 20 heads covering as much space as possible in all directions, while the support roots dig in to support the vast expanse. Others may have a single head that shoots directly upwards before vaguely beginning to spread out, but the support roots can still be absurdly numerous, bunching together at the base like a teepee fire.

Around 578 species in the Pandanus genus grow around the world in tropical and subtropical regions. On K'gari, there is only one (that I know of): *Pandanus tectorius*. Native to Malaysia, Papua, the Pacific Islands and of course, Australia, it typically grows in the coastal lowlands near the edge of the ocean, but can also fare quite well further inland if conditions are right.

Pandanus on K'gari

Pandanus is a genus of beautiful plants. *P. tectorius*, though, I find absolutely stunning. Maybe that has something to do with the place it has stolen in my heart.

It's an integral part of the K'gari ecosystem, providing shelter and habitat for many species of birds, rodents, lizards, insects. Those creatures relying on pandanus as a food source, primarily rodents, are then food for predators such as wongari (dingos).

Pandanus are very tolerant of salt spray and shield other dune plants from the damaging spray. Lastly, they provide much needed stability to the sand dunes. Without the pandanus, whole ecosystems would drastically change or even completely fall apart.

Project reflection!

Breannah Duthie

I volunteered with FIDO in March 2023, it was an awesome experience getting to visit K'gari for the first time and explore such a beautiful and unique natural setting. The group I was with was a diverse mix of people which made for a fun dynamic and lots of shared knowledge. Every day at K'gari was different, whether it was driving up the beach to plant Pandanus, collecting seeds or working in the nursery it was certainly never boring! In our down time or when the tides were unfavourable we also got to explore the island including Boorangoora (Lake McKenzie), Eli Creek and the SS Maheno shipwreck. Our group leader Isaac was easy going and very knowledgeable, he made sure everything ran smoothly and valued everybody's input. I can't wait to get back to K'gari and would recommend the trip to anybody thinking about volunteering in the future!

For humans, the fibrous ends of ripe seeds are edible, although reports vary as to safety. The chemical composition varies among species — some have enough calcium oxalate to irritate the mouth —so some reports mention cooking over fire, stewing, or drying and grinding into a flour for baking. None of the seeds I've found look very appetising, so I haven't tried them yet — but it's on my list! I have also read that the male flowers are edible, very fragrant and used as perfumes in some regions. The terminal bud and the white tip of the very end of the leaf where it attaches to the rest of the crown are also edible. I have even come across some reports of the prop roots being cooked and eaten or brewed into a drink. The leaves are used in all sorts of weaving and basket making.

A pest and other disasters

Pandanus tectorius populations on K'gari are dying, and unfortunately the issue isn't just isolated to the picturesque island Paradise. As of 2019, pandanus populations from Agnes Waters down to Coffs Harbour were experiencing die-off, with predictions the problem will spread further north to Townsville and south to Port Macquarie in the coming years.

The cause of the die-off is a sap-sucking insect from north Queensland, *Jamella australiae*, the pandanus leaf hopper, which is believed to have arrived in southeast Queensland from the north via nursery stock.

Interestingly enough, it's not the sap sucking that harms the trees but the conditions that the leaf hopper creates. The leaf hopper makes its home in the protected area where the leaves emerge from the trunk. While living between the leaves, the hopper feeds off the tree and excretes a sugary substance, or honeydew, as it's sometimes called. This build-up of honeydew creates an ideal breeding ground for all sorts of bacteria and other microorganism (such as yeasts and fungi) to grow and infect the plant, weakening and eventually killing the crown. Once that crown is dead, the whole branch or trunk is lost.

In 2011, FIDO founder John Sinclair reported an infestation at Happy Valley. It is now island-wide.

Seeking solutions

It has no effective natural predator here, but in the north, a very small parasitic wasp, *Aphanomerus pusillus*, the size of the smallest sand fly, parasitises the eggs of the Jamilla, reducing the outbreak so the trees can recover. After an exhaustive process, constrained by the fact that K'gari is both a National Park and World Heritage-listed, approval was obtained to release the wasp in 2015. The tropical wasp is not well adapted to our cool winters, which slows the establishment process. But there are indications that it is having a positive effect.

Then in late 2020, bushfires, sometimes extremely hot and driven by strong winds, swept up the eastern dunes and severely damaged all the vegetation including the already weakened pandanus. FIDO expressed concern to the Queensland state government and, as part of a fire recovery program, received a grant to embark on a Pandanus Restoration Program.

In early 2023, I was just beginning my TAFE Diploma in Conservation and Ecosystem Management. I had volunteered with FIDO on K'gari in 2022, collecting seeds of native coastal species as part of the QPWS-funded Duling Bushfire Recovery Plan. It was such a wonderful experience that when I heard about another opportunity to plant trees on K'gari with FIDO I dropped everything else and put my hand up to take part in this new project. And that is how I came to be leading a group of volunteers on the Pandanus Restoration Program. It is probably the best decision I have yet made in my life.

FIDO Pandanus volunteers search for ripe pandanus seeds. Note the wongari sticks for warding off wongari that venture too close for comfort. Photo supplied by I. Neisler

On to the good stuff: finding seeds

We spend a lot of our project time travelling up and down K'gari's east coast looking at the ocean, tourists, wongari and other animals, listening to music — and keeping our eyes trained on the dunes for the slightest sign of yellow in the pandanus trees. That's the colour of the much sought after seeds. It can take an hour or more of fruitless driving before we see anything. Other times its feels as though we might never stop finding them.

We pull over, jump out of the car, grab a wongari stick (a piece of conduit pipe, usually with a QPWS label, used for fending off any wongari that may approach too closely) and an old bag each and head into the bush. At each site, we keep about half of what we find. Half of the rest we plant directly in the ground where it lays and scatter the rest in every direction to increase their spread. Some we just toss a couple of meters away; others we throw with all our might towards the heavens or over the horizon.

Propagating procedures and trials

When our seed bags are full, we haul the precious cargo back to Eurong Nursery and soak the seeds in fresh water for about 48 hours, changing the water 24 hours in. Like coconuts, pandanus seeds can float in water before washing up somewhere to settle their roots in. The soaking seems to help kick-start the germination process while also flushing out any bugs that might be feeding on the nice tasty parts and softening the seeds for the next step.

We move the soaked seeds to 80 trays containing propagation media we are trialing: various combinations and ratios of sand with organic matter from the island, all-purpose potting mix, coco peat and perlite. We have also begun experimenting with using secateurs to remove the mesocarp (the fleshy, fibrous and apparently edible part) while leaving the seed germ intact. All the roots grow from this section; our aim is to reduce the work necessary for them to emerge.

Once the seeds germinate we prick them out and pot them up into large tubes to be slowly sun-hardened and ready for planting. On each trip, we prick and pot new seedlings, put them in the shadiest section of the nursery to adjust to their new homes and move the most recently potted up plants into a sunnier position, until they are ready for big wide world outside the nursery.

And, at last, planting!!

Arguably the best part of the operation in my opinion.

When the tube stock in the nursery is sun hardened enough for the best chance of weathering the elements we gather them up and hit the road (or the sand I suppose). Starting with plants with the largest roots (or, occasionally, root bound as we cannot monitor them as frequently as I would deem desirable), we work our way through and load the vehicle with the baby pandanus, shovels, hand trowels, wongari sticks, water crystals, fertiliser and buckets to carry all the small items and sail off into the blissful sunset of planting trees on an Island paradise.

Using old water bottles we have found washed up on the beach, we add some dry water crystals (necessary because we won't be around for follow-up watering) and fertiliser, fill it with water, give it a good shake and let it sit for a couple of minutes. What results is a very bland, unappetising-looking, jelly-like substance.

When we're out hunting for seeds I'm also scouting for appropriate planting sites. If a spot looks good, I mark it down in the GPS. Sites marked on previous trips are rechecked. This suitability checklist includes the site's proximity to dying pandanus tree with (almost always) a J. australiae infestation; ease of access and traversal (team safety is the #1 priority); signs of wongari activity; proximity to campsites; the amount of shade young plants would receive throughout the day as they are establishing; proximity to waterways where possible; and also elevation.

The elevation is something I have begun to consider to maximise the impact of our small number of plants over time. For example, DEC SITE 7 – 8-12-23 is effectively a ridgeline surrounded by small valleys. If the *P. tectorius* tubes were planted at the highest points of elevation, pollen from male plants could travel much further on the wind. Female plants could catch the pollen more easily and their fruit could spread more widely as it drops and rolls down into the valleys.

At each site, we dig holes appropriate to the size of the seedling and its root ball, add a good helping of wet water crystal mix, plant the seedling and back fill around it. We place each seedling to maximise daily shade (i.e. next to the trunk of a dead tree, underneath the canopy of established casuarinas, or in amongst clumps of bladey grass) and, where possible, clustered about 3 meters apart. I have noted, on the island and in other places, groves of pandanus seem to fare just as well if not better than solitary trees, *J. australiae* notwithstanding.

For safety, we work in pairs or small teams and always within sight of the other team. We keep a well maintained first aid kit in the vehicle at all times and carry a snake bite kit when working away from the vehicle. In our travels, we come across a heartbreaking amount of rubbish that has washed up on the island so we always devote a bit of time to picking up what we can.

Project reflection!

Diana Korving

I participated in a week long trip to K'gari. Before I arrived I was not aware that the Pandanas on the island were affected by a bacterial infection caused by the Jamella insect. We spent a week transplanting immature plants and collecting seeds. Hopefully our work will pay dividends. We also got to see a bit of the island but I think the best bit was that the people in the group were easygoing and super interesting and we spent a lot of time talking and having fun. A good mix of social and work!

With the efforts of all our amazing volunteers willing to dedicate their time in helping collect and propagate seeds, monitor their germination and plant the young trees in the ground, we have good chance of stemming the tide of the die-off until we can implement controls.

Note: As of November 2023, Pandanus Restoration volunteers have collected 3,300 seeds, and planted almost 700 young plants at 19 sites between Yidney and Dundaburra

FIDO Pandanus volunteers enjoy music and great scenery while searching for ripe pandanus seeds on K'gari. Photo supplied by I. Neisler

So, if you feel inspired by this little info-dump of mine and want to help us out in anyway, please reach out as we can always use an extra set of hands! FIDO has a diverse range of people with differing skill sets and abilities, but our family will never be big enough. We're always looking to grow!

If the Pandanus program has piqued your interest and you're comfortable getting your hands dirty, traversing up and down steep slopes while carrying several kilos of plants and tools or have experience working in and maintaining a nursery please reach out to us here: fido@fido.org.au

Or if you would prefer to spend your time weeding or offering us the assistance of any other skill you possess, please reach out to us through the above email. Just let us know your name, your skillset, what you're interested in helping out with and your availability, or simply inquire about what we have coming up and we'll get back to you asap!

Project work:

FIDO PANDANUS PROGRAM – Trip 2 - April 26th to May 1st 2023

Len Mitcham

I was on the second Pandanas planting trip this year at end of April 2023. We were very successful in planting many of the mature Pandanas plants in the nursery, leaving some for special visitors, some for the next group as well as restocking the Nursery by repo□ng smaller plants to be hopefully ready for the next group and starting the germination of seeds for future plantings. We also checked on the progress of previous plantings and am happy to report these plants were doing extremely well in the short time since they had been planted. I was very happy with the work achieved in a short □me on the island.

A good start for this Pandanus Plant

This was my second trip to K'gari, my first being with FIDO in July 2018 on the "Eurong Bush Regeneration" program where we removed a large number of Lantana plants to the South and some to the North of Eurong, along with a large variety of garden weeds in and around Eurong Village and collected seedlings to restock the Nursery after a community promotional give away of native plants. Along with repairs and maintenance to the Nursery shade cloth and watering systems. Once again, I was very happy with the results achieved.

Paper of Weeds: Utilising the weeds of K'gari:

Education and employment proposal modelled on NT Arnhem Djurra example

Zela Bissett

Background:

Gamba Grass is an invasive weed threatening a large are of the Larrakia Lands in the Northern Territory near Darwin. Papermaker Winsome Jobling has undertaken a project with the local community to harvest the Gamba Grass and turn it into paper, which is sold to artists and as souvenirs to tourists. K'gari has a number of weeds which have papermaking potential, notably Mother-in-Law's Tongue (Dracaena trifasciata) which is currently being dumped at the tip. Another is sisal. Experiments may reveal other weeds are also suitable. The process is low-tech and enviro-friendly and Zela is experienced at it. This proposal has five clear advantages:

(a) Weeding should have an aim rather than just relocating pest plants to municipal facilities.

(b) This idea can generate income, education and employment possibilities for young Butchulla people for the future as well as improve the natural environment on K'gari.

(c) Paper-making is a low-tech process which need not generate any harmful waste.

(d) This model is already working in other countries Including France, the US and Slovenia and in the Northern Territory so we have some working examples we can refer to.

(e) Dumping plant waste at the Fraser Coast Council Tips is not favoured by FCRC.

Progress so far:

Samples of weed papers were shown at the FINIA meeting in February. Requests for support have been sent to both BAC and BNTAC and received an interested response. Zela has offered to give an information presentation at meetings. Gatakers Artsapce in Maryborough has agreed to provide the venue for a week-long pilot workshop and Charmaine hand Zela have begun a RADF grant application. Letters of support have been received from FINIA and Papermakers of Queensland who have agreed to lend equipment.

On this page are two Arnhem Djurra examples shared by Winsome Jobling who has been a mentor on this program. We would aim to use designs by local Butchulla artists featuring endemic K'gari species.

K'gari's Dingoes – The Wongari

Peter Shooter – My observations and material from various sources

Wongari patrolling beach on K'gari.
Photo: Peter Shooter

History

The Australian wild dog, the Dingo, *Canis lupus dingo*, has a fossil history that indicates that they arrived around 5000 years ago. They are not part of the Australian fauna that evolved here. They are relatively recent arrivals. They are found throughout Australia, except in Tasmania.

Fossil evidence indicates that the Australian Aboriginal People have had a presence here in excess of 50,000 years. Dingoes did not accompany early migrations of people to Australia, but came much later. There is a view that dingoes came from Asian regions, possibly with seafarers from the islands to our immediate North, now part of Indonesia, or from New Guinea. It is known that Asian seafarers came to our Northern shores well before the early European explorers arrived just a few hundred years ago.

I have travelled extensively in the Eastern Indonesian Islands, and there are certainly dogs on these islands that greatly resemble our Dingoes.

It seems that the arrival of dingoes had a propound effect on the composition of Australian fauna. Till their arrival, the Thylacine (Tasmanian tiger) was the apex predator. It ranged throughout Australia including Tasmania. By the time of the arrival of the dingo, Tasmania was separated from mainland Australia due to sea level rise. Dingoes never got to Tasmania. There is no fossil evidence of them ever having been there. It seems they out-competed the Thylacine on the mainland and drove it to extinction. Thylacine continued on in Tasmania in the absence of dingoes until Europeans arrived, resulting in their extinction.

Interaction with Aboriginal people

Throughout Australia Aboriginal people coexisted with wild dingoes over thousands of years They also took young pups from dens in the wild and raised them as ''çamp dingoes", where they provided some protection, assisted with tracking, hunting and provided warmth. However they were never domesticated, and returned to the wild to breed. They did not breed in camps.

This happened across Australia including K'gari. The Butchulla people called "camp dingoes" Wat'dha as opposed to fully wild dingoes that in Butchulla language are called Wongari.

Wat'dha were believed to provide protection from evil spirits in camps, as well as providing protection from Wongari.

As a result of early Government intervention, Butchulla people were dispersed from K'gari, and now there are no Wat'dha. All dingoes on K'gari are Wongari or wild dingoes.

Many Aboriginal people have spiritual relationships with dingoes, including the Butchulla who have a totem relationship.

Wongari on K'gari

Approximately 100 to 200 Wongari range across the whole of K'gari. The numbers fluctuate with seasons and conditions. Socially they form packs and have territories, but it is loose knit, and at seasonal times like turtle nesting season they will travel great distances away from their usual range to feast on turtle eggs. They have dominant alfa males and females inside the pack structure, who are the main breeders, but not exclusively.

Wongari with bandicoot. Photo: Bernie Baulch

Unlike domestic dogs, Wongari breed only once a year. Litters are usually between four and six pups. Breeding season is mainly between March and June. Testing dominance by fighting and snarling occurs all the time but especially during mating season to determine which dingoes will mate. The pack takes collective responsibility for rearing and feeding the pups.

Genetic studies show that K'gari's wongari are very distinctive from other dingoes, and with DNA analysis are easily identified. There is no evidence of importation of genetic material from the mainland. While there are well established packs, there is sufficient interpack breeding to result in the population being very similar genetically throughout the population. Genetically they are all one pack.

Wongari have a very varied diet. They are omnivores. That is they eat plant and vegetable material. While their diet is mainly animal based, including bandicoots, bush rats, reptiles, fish and crabs, they also eat various berries, mainly midyim and Dianella that are plentiful on K'gari at times. In turtle nesting season they eat turtle eggs, and are scavengers, especially eating dead sea birds, stranded sea mammals like whales and anything else that turns up.

Interaction with humans

I am not aware of records of Butchulla or any aboriginal people interacting with wild dingoes. I have seen no reference to feeding wild dingoes. The presence of "camp dingoes" or wat'dha probably served to decrease Butchulla interaction with ''wild dingoes".

My observation is that the interaction between wongari and non-aboriginal people has changed markedly over time. Slowly but surely it increased. It is directly related to the number of people on K'gari. Firstly there were timber workers, followed by township expansion and associated services, then mineral sand mining, then a huge boom in tourist visitation. We now have in excess of 400,000 visitors per year going to K'gari. Interaction with wongari has spiraled out of control.

Many wongari now have no fear of humans. More and more they associate humans with food. Westerners get joy out of feeding wild animals. We also have a deep love of dogs. Food was, and unfortunately still is being provided by visitors. Wongari now associate humans with food, and can be aggressive if it is not provided.

Ancient cave painting of Thylacine – Kakadu. Photo: Peter Shooter

I first went to K'gari with a work colleague, who was part of a CSIRO team studying the soil science of the Great Sandy region. Myself and my wife accompanied him and his wife and three small girls for the Easter of 1969. He knew K'gari very well. We only saw about 5 or 6 other vehicles for the entire Easter period. It was paradise. We lived on fish, which was in abundance and so easy to catch, camped on the beach and saw no Wongari. We did see the odd track, but no Wongari. They kept themselves well hidden from humans.

I later stayed at Dilli Village (now the University of the Sunshine Coast, K'gari Research and Learning Centre) with friends and family on a number of occasions in the early 1980s. This collection of buildings had been the headquarters of the American mineral sand mining company Dillingham United until sand mining was ended in 1976. It then became a camp ground and basic accommodation destination. It was unfenced, and there had been a human presence for a number of years. We did see the odd dingo lurking in the shadows at night, but they were shy and quietly melted away into the dark if approached. They were no doubt attracted by the smell of our BBQs and other foods, as they

would have been with the mineral sand mining residents. They were no doubt picking up scraps in the dead of night and some people were probably throwing them the odd chop bone. But they were still very shy of humans. They certainly never approached us.

Logging had been happening on K'gari since the 1860s. So there has been some interaction with timber workers going right back to then. But it was minimal.

Townships began to grow with similar increases in interaction. Bit by bit human interaction increased and slowly the wongari became more at ease with humans and less shy and afraid.

The once shy and reclusive wongari will now trot along the beach oblivious to the traffic streaming by. Some will approach a stationary vehicle or a group of picnickers hoping for food. On occasions they can be aggressive, growling and baring fangs. And of course there have been attacks, some serious, sometimes involving more than one animal, and sadly there has been one recorded death. Of recent times these incidences have increased.

They are highly intelligent animals. They know where food can be found around camps, in eskies and close to beach fishers.

Gone are the days of the reclusive shy wongari that faded into the bushes or shadows if people were around.

They have become humanized and can now be dangerous.

What has caused the change and what can be done about it?

It is very clear that increased interaction including feeding is responsible for loss of fear and the increased aggressiveness of Wongari.

The solution is to change human behavior. We are the problem. We have to fix it.

Parks management have education programs for visitors and have erected extensive signage warning of the danger, but some visitors have taken insufficient attention. Penalties have increased, but offences continue.

These are the basic rules to be Wongari Safe

- Never feed dingoes
- Always stay within arm's reach of children, even small teenagers
- Walk in groups
- Do not run. Running or jogging can trigger a negative dingo interaction
- Camp in fenced areas when possible
- Lock up your food stores and iceboxes (even on a boat)
- Pack away your food scraps
- Dispose of rubbish correctly
- Store fish and bait correctly
- Be dingo-safe at the lakes

Managing visitor interaction with wongari is an ongoing difficult issue for Parks Rangers. All reported negative interactions with wongari are carefully investigated and every attempt made to identify the wongari(s) involved.

In the event that a wongari is involved in a number of attacks, and a view is formed that a particular animal is highly likely to continue this behaviour and as such is a dangerous animal, regrettably Park managers have to take the decision to humanely euthanise the animal. This is done in consultation with Butchulla representatives.

The destruction of any wongari is a cause of distress for all involved. The poor animal becomes the victim of human's bad behaviour.

Butchulla people hold smoking ceremonies to see off the spirit of the wongari.

Seeing a wongari in the wild is a great privilege that can be experienced on K'gari. We can all love this experience but visitors must be more respectful and responsible.

Follow the rules and keep wongari and visitors safe!

Don't interact with a wongari. It may result in you being attacked and lead to it's death.

Another Environmental Hero - Ronda Cook

Zela Bissett

In the course of researching John Sinclair and his work other fascinating individuals emerge. One of these is Ronda Cook. Ronda and her husband managed a bird sanctuary called Parraweena Park at Gatakers bay. They brought up 6 children there and one of those children, Linda Hill, recently contributed to this research.

Forest blockade K'Gari

Zela: Linda why do you think your mother was such a passionate conservationist?

Linda: Well actually she was more concerned with Aboriginal rights first. She belonged to OPAL, the One People of Australia League. She was always concerned with social justice. I think this all became more urgent after my parents adopted Michael. I was 8 years old and my mother already had 5 children when she applied to adopt a baby. I remember the adoption authorities telling my parents, “Look we have a child available but he is part Aboriginal.” My mother immediately said, “That doesn't matter at all!” Michael is my little brother and he has now become an internationally known artist. He draws on his knowledge of Hervey Bay and Butchulla people in his work.

As far as wanting to save the natural environment, Mum always loved nature but I think the incident that may have made her more of an activist happened when I was a young child. Mum and Dad had a caravan and they used to take the whole family up to camp at a beautiful place to the north called Granite Creek. Next to the camping ground at Granite Creek was a patch of beautiful rainforest. There was a crystal-clear flowing creek where we used to see a platypus nearly every day. I remember running up big mossy logs and walking in the cool forest. But one year we went back up there and it had all been destroyed! There were broken trees lying everywhere, elkhorns and staghorns crushed on the ground. It just ripped mum's heart out. Mum immediately went into action, picking up anything she thought could save. Soon the caravan was full of elkhorns and staghorns and orchids. Finally my Dad said to her, “Look Ronda, we can't save everything and the caravan is full of centipedes and scorpions.” But my mother was a determined woman and we took home a caravan full of everything she thought she could save. The result is, I've still got some of those elkhorns growing in my own yard today!

Zela: So you think your mother became more concerned with the environment after this?

Linda: After this she began to see more and more environmental causes all around her. I remember there was a plan to put a 4-lane highway along the esplanade at Scarness and Torquay and clear the foreshore. That was a big win that group had and that's why we still have a beautiful foreshore at Hervey Bay today. Of course they didn't win every battle and unfortunately tips were allowed to be established near some of the beautiful creeks. She was terribly upset when the council destroyed the rock pools on Tuan Creek near our place at Paraweena. Mum made friends with Ted and Fay Smith. Ted was a wildlife photographer and Fay was very devoted to bird watching and preserving habitat.

Mum was elected to the Hervey Bay Council and served as a councillor for six years during the 1970s. During that time she opposed the development of high rise along the coast which also helped make Hervey Bay more beautiful today.

When the sand mining leases were applied for on Fraser Island Mum immediately stepped up to the fight. I would come home from school and put my bag down on the lounge and Hansard would be on TV. John Sinclair became part of the furniture at our house. I have so many memories of him. We kids would be going in and out of the house swimming and snorkelling and they would be writing press releases and planning their campaigns. Our two families became friends. I remember camping in the Bunya Mountains with John and his family. One day I got lost with two of the Sinclair boys and we came back with tick bites.

Zela: Can you remember any specific anecdotes from that time?

Linda: I do have a strong memory of John. One day we were visiting his house in Queen Street. There was a big gum tree outside and all the bark was peeling off. I just kept peeling and peeling more bark until I made a huge pile of bark all around the tree. When he came out, John said to me, very gently, “Don't go pulling the bark off, Lindy. It drops off naturally in its own time.” He was always trying to make sure kids understood nature.

Zela: I have heard that Ronda was with John when a major deception by the sand-miners was exposed.

Linda: Yes, Mum and John took a light plane flight over the sand mining operations on Fraser Island in the 1970s. Flying low they had a feeling that something didn't look quite right in the supposedly revegetated area down below. They were not supposed to land but of course John insisted and the plane landed on the beach anyway. The two of them walked in over the sand dunes to find that no revegetation had been done at all. What the mining company had done was cut branches from the remaining forest and just stuck them in the sand to look like re-planted trees.

Zela: Do you also remember the anti-logging campaign in the 1990s?

Linda: I was grown up and married by then and our place became a kind of base for the protesters who went over to the Island. We had a constant stream of people coming through. Some of them were pretty radical; they ranged from broke students to very highly qualified academics and professors. I remember we did a tour where we saw the logging dumps and it was quite obvious that weeds were coming in. The big wounds everywhere in the forest were allowing lantana and other weeds to take root.

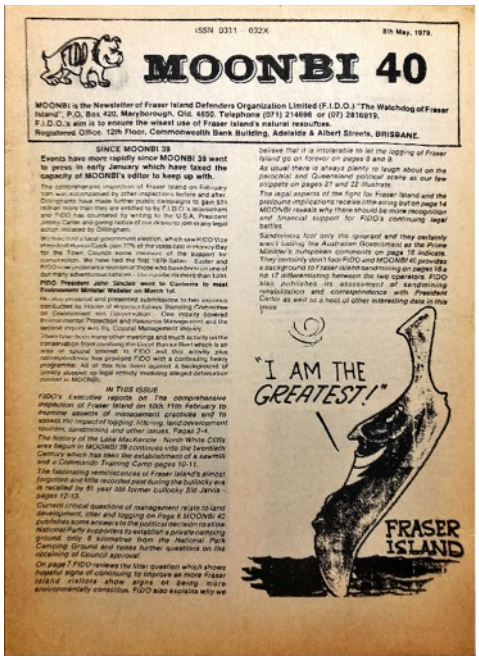
Some of the protesters suffered quite a bit of violence by the loggers which has never really been reported. It did get a bit much for us in the end, so many people coming and going at all hours, ringing us to bail them out of jail in the middle of the night! Achieving the world heritage status was gained by the efforts of thousands of people.

My mother remained an activist all her life. Sometimes people would ask me, “How is your mum going?” And I would have to say, “Look she's well, but she's in jail at the moment.”

March through Maryborough

One time this happened was during the Franklin Dam protest. Mum and her friend Freda Goodsell went to join the protest camp on the Gordon River. One day the younger protesters set off up the river in canoes and Mum and Freda stayed behind to do work around the camp. The police arrived to break up the camp. Mum and Freda ran for it, but the police arrested them and took them back to Hobart where they were put in jail. Mum was actually in the maximum security section for 2 weeks. I was concerned because someone told me that she was in there with murderers and serious criminals. Mum told me, “Don’t worry Linda, the person on the murder charges is actually only here because she poisoned her abusive husband; she isn't violent.”

From this story we can see that many people dedicated immense amounts of time, energy and care to preserving Hervey Bay and K’gari and Ronda Cook has an honoured place among them.


ISSN 0311 - 032X 8th May, 1979.

MOONBI 40

MOONBI is the Newsletter of Fraser Island Defenders Organization Limited (F.I.D.O.) "The Watchdog of Fraser Island", P.O. Box 420, Maryborough, Qld. 4650. Telephone (071) 214696 or (07) 2816919.
F.I.D.O.'s aim is to ensure the wisest use of Fraser Island's natural resources.
Registered Office: 12th Floor, Commonwealth Bank Building, Adelaide & Albert Streets, BRISBANE.

SINCE MOONBI 39

Events have more rapidly since MOONBI 39 went to press in early January which have taxed the capacity of MOONBI's editor to keep up with.

IN THIS ISSUE

"I AM THE GREATEST!"

FRASER ISLAND

A front page from the past.

100 editions ago

MOONBI 40

8 May 1979

Report on the K'gari Land and Sea Country: djaa-ngarawinj Conference

Zela Bissett

Day 1 morning presenters Veronica Bird, Shawn Foley, Chair Sue Sargent, Andrew Olds, Glen Miller

On November 9 and 10, 2023, the University of the Sunshine Coast (UniSC) and FIDO hosted the **K'gari Land and Sea Country: djaa-ngarawinj Conference** at the Fraser Coast campus of the University of the Sunshine Coast. At this two-day event our own Peter Shooter presented a session on the Pandanus restoration programme that FIDO has been running with Isaac Neisler and his team.

The conference hosted a number of renowned presenters, so Peter was in very distinguished company. We heard from Professor Ian McNiven and Christine Royan about the new co-designed ARC Centre of Excellence for Indigenous and Environmental Histories and Futures. The BAC is 1 of 8 formal Indigenous Partner Organisations in the Centre, along with 7 universities and a range of museums and other government agencies. Called a Discovery grant, it is aimed at helping develop research methods which respect Indigenous perspectives and values. The Butchulla Aboriginal Corporation (BAC) is partnering with a team of distinguished academics in this programme which aims to support 70 Indigenous students to gain a doctorate.

This year's organiser Dr Kim Walker from UniSC involved a broad selection of Butchulla presenters and speakers. Auntie Veronica Bird from the Butchulla Native Title Aboriginal corporation (BNTAC) gave a very eloquent welcoming speech. We were also welcomed by Professor Alex Elibank Murray, Head of the Fraser Coast UniSC campus. Other dignitaries present were Adrian Tantari, the member for Wide Bay and George Seymour, Mayor of the Fraser Coast Regional Council. They both displayed a genuine interest in the progress of the conference and its outcomes.

A very popular presentation on the morning of Day #1 was from Butchulla elder Uncle Glen Miller. Glen's presentation included his personal memories of Korrawinga (the Butchulla name for the Sandy Strait). Glen works with Butchulla men and boys on a large property near Poona which includes the coastal sites where Butchulla people traditionally crossed from the islands to the mainland during their seasonal movements around their very large estate. He noted increased growth of mangroves and expressed concerns about decreasing amounts of seagrass growing in Korrawinga. On Day #1 we also heard from Professor Andrew Olds who comes from a Maryborough family and spent a lot of youthful holidays on K'gari. He presented a synthesis of some of the marine research done on Butchulla Sea Country. Andrew was interested in working with Uncle Glen Miller in collecting baseline data about the benthic sediments in Korrawinga. This is just one of the productive networking connections made during the event.

Auntie Veronica Bird, general manager of BNTAC and Shawn Foley spoke about the sea turtle rescue and research center which is being set up at Urangan. Auntie Veronica and Shawn elaborated on how the project implements the three main Butchulla lores:

#1 What is good for the land must come first.

For the Butchulla people the land is not just a place to live, it is a living entity with its own seasons, rhythms and natural life cycles. We believe the well-being of Country (land, sea and sky] is of supreme importance as it sustains us physically, culturally and spiritually. Our actions must prioritise its health, wellness and vitality. By nurturing and protecting country we ensure a harmonious existence for all living creatures and maintain a deep connection to our people, place and home.

#2 Do not touch or take anything that does not belong to you.

Aunty Veronica elaborated on this rule by saying that respect and reciprocity are fundamental principles in Butchulla lore. "We understand that every element of Country (land sea and sky] from the tiniest grain of sand to the tallest tree has its place and purpose. Our lore guides us to take only what we need and to do so respectfully seeking permission and acknowledging the custodian ship of others."

#3 If you have plenty you must share

We believe that abundance is to be shared not hoarded. Whether it's food, resources or knowledge our law teaches us that our way forward must not be ego focused but spirit centered and this means actively extending a helping hand to those in need.

This session was chaired by Sue Sargent who is the current chairperson of FINIA, an organisation dedicated to maintaining the natural integrity of K'gari and also of the World Heritage Advisory Panel.

After lunch there were presentations by students from the University of the Sunshine Coast (UniSC). Hannah Maloney has been collaborating with BNTAC and Australia Zoo to explore the waters of K'gari looking for potential important aggregation sites for manta rays. Caitlin Smith has been working on Sea turtle health assessments and ecotoxicology. Dedicated volunteers Don and Lesley Bradley presented reports on their work with turtles and shore birds.

Next came time for the participants to join together in in groups to discuss issues. With large sheets of butcher's paper and felt pens we recorded group discussions: One topic was the newly released Marine Park zoning plan. Another was the issue of the loss of seagrass in Korrawinga. The main concern here was to reduce sediment in during flood events which coats the seagrass and prevents it from photosynthesizing. The sheets from each table were collected and will be collated by organisers.

Day 2 began with a presentation by Shania Clark, a Butchulla woman who attended a cultural and language programme run by Auntie Joyce Bonner during her childhood. Shania, her sisters and other young Butchulla girls attended, learning Butchulla language, dancing, weaving and other handcrafts. She regards it as an excellent preparation for her adult life and paid tribute to Aunty Joyce's work.

Shania Clarke was the first speaker at the conference in Day 2

Jade Gould who has completed a science degree and worked in natural resource management spoke on the topic of bringing together western scientific knowledge with traditional Butchulla knowledge.

Dr Annie Ross, from the University of Queensland gave a talk based on her research with similar islands to K'gari further south including those that we call Stradbroke Island, Moreton Island and Bribie island. She presented an excellent summary of seasonal triggers which were used as a calendar in traditional times including the flowering of particular plants which would indicate that mullet were moving out of the rivers; when hairy caterpillars emerged this was associated with the mullet migrating to sea to spawn; increased numbers of lorikeets was seen as an indicator of abundance of the mullet and when the sea eagle flew high the mullet were coming up the coast and people would make preparations for fishing. An interesting angle on this was that in the area where Annie did her research the traditional owners had reciprocal relationship with dolphins and as the mullet moved into the Bay they would begin their ritual call to the dolphins which helped herd the fish for easy catching. Annie's presentation was accompanied by interesting maps and diagrams and created a great deal of interest. A distinguished guest at the symposium was Mr Les Malezer, a Butchulla man who has had a distinguished career in public service and as a representative to the United Nations. He has been involved since its inception with FAIRA, a trail-blazing Indigenous research organisation.

The next event on the programme was a presentation by Butchulla Rangers. We heard from John Green and Bob Broome. Bob has worked with FIDO teams on weeding programmes in the past and he is now the head of a newly recruited group called the RAM rangers. This team has been designed to advance the BAC's vision of greater influence in preserving K'gari and their work includes visitor engagement and compliance focusing on permit cheques, cultural compliance, education and visitor surveys at popular locations like Eli Creek, Boorangoora, Indian Head (Takky Woroo) and popular camping sites. They aim to record map and monitor sites across the island to better manage and preserve their cultural significance to the Butchulla people.

Les Malezer asks a question from the floor.

A researcher who has contributed a great deal to understanding of the sand dune formations on K'gari is Professor Jamie Schulmeister. Jamie has presented at K'gari conferences before and is currently working in New Zealand at the University of Canterbury but returned for the conference to present an interesting presentation about the sequence of sand dunes on K'gari, noting the vegetative progression from marram grass to rainforest and satinay and, in some areas, back to wallum.

Professor Kathy Yule is a UniSC researcher who's been doing some work based in Dili village. Her work deals with the patterned fens and the underlying peatlands and she provided some interesting explanations of how Empodisma minus (the wire rush) covers many acres of land in the fens in one complex superorganism. As it the roots go go how down they formed peat layers many meters thick. Surprisingly the acidic and low nutrient waters of the pattern fence support quite an array of creatures including acid tolerant sedge frogs and the elusive ground parrot.

Another presenter from UniSC was Gabriel Conroy. He asked some vital questions in relation to fire regimes: What are we burning for? Do we wish to preserve ecosystem identity are we trying to conserve threatened species? Is it for cultural values or to safeguard human habitations and infrastructure? He discussed the patch and mosaic burning

programmes traditionally used by Butchulla caretakers and noted that these types of firing regimes seemed to preserve biodiversity most successfully.

We also heard from Dr Linda Behrendorf who has earned a PhD from the University of Queensland for her research into wongari or dingoes. Unfortunately we didn't hear much about that research but we hope to at a future date. She tells us that a book is forthcoming. Linda spoke mainly about the challenges of managing visitors on K'gari. She examined reasons why people come to K'gari. These include sightseeing, fishing, bird watching, photography, water based activities and, increasingly, cultural experience. The Butchulla people have recently set up the Butchulla Enterprises Limited (BEL) which will hopefully provide some income for people and increase visitors' appreciation of the cultural heritage of K'gari.

Another group workshopping session followed the day's presentations on day 2 and on this occasion participants investigated issues such as visitor impacts on sensitive areas, alternative transport options and visitor education for safety. The huge question of how to attract interest in caring for K'gari from younger people generated some lively debate.

On the whole the experience of two days' intensive immersion in the issues confronting K'gari while in the company of a large number of people produced a feeling of intense cultural immersion. The round table sessions gave people a chance to discuss things and have a say. The presenters also took part in these roundtables so people were able to ask more questions than they could in the big group. Every piece of butcher's paper was covered in notes and arrows and different coloured words and underlined and circled sentences, so it seems that quite a lot of information will come out in due course when they're all collated. From FIDO's point of view it was really impressive to see Lyndall, Valerie and JT there from the short trip group based in Maryborough. We met FIDO member Charlene face to face for the first time. Charlene has been involved with beach cleanups through her four wheel drive club and done other work on the island. I am really thankful to have had the chance to share time with these far-flung members of FIDO. Hopefully many of the connections and partnerships initiated during the event will bear fruit in years to come.

Real Time Weather Monitoring on Fraser Island

Citizen Science on K'gari with FIDO

Keith Sinclair

The Problem

Since 2000 or so John Sinclair had noticed trees dying in the forests on Fraser Island. He suspected it was because of changes in rainfall. The **rainfall appeared to more localised**.

John had also been noticing the level of erosion in the roads, in particular big washouts on the tracks, and **John suspected rainfall intensity**.

John thought about how he could see what was happening, he bought a rain gauge which was installed at Lake Coomboo. (This required a laptop to connect and download.)

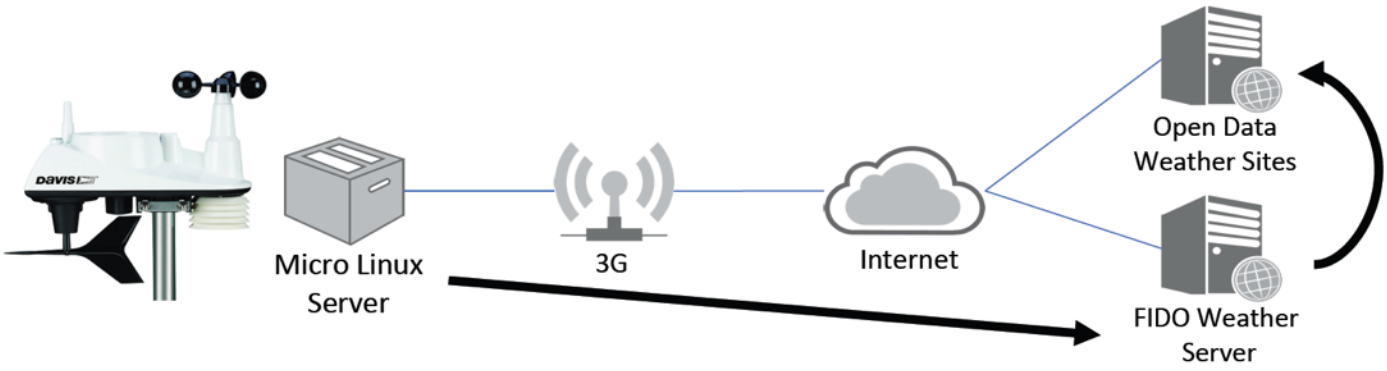
One day John asked me, how could he **collect data remotely from the rain gauge** located at Lake Coomboo (kilometres from any network services, and with limited connectivity options).

He had a budget of $1,000 (CSIRO's remote weather solution costs well over $10,000).

The Solution

After some ideation, consultation, and recruitment of volunteers (Alexander Zangerl), we had a solution. A Davis Weather station installed at Happy Valley Resort, using 3G to send data to FIDO. Create the FIDO website weather web page, and long-term data storage of collected data.

Weather data integrated with websites and services as identified to provide fully Open Data.



Benefits of Localised Weather Monitoring

There are many benefits to a micro approach to weather data collection.

- Up to date fire risk awareness
- Understanding the severity/intensity of rainfall for determining erosion (sand movement along the roads),
- When sand is involved, 6mm in a short time is worse that 20mm over a longer period.
- Conditions for recreation, fishing, walking, swimming, sightseeing
- Leading indicator of road conditions (no rain for 6 weeks means bad roads)
- Conditions for bush regeneration, to help with replanting activities, e.g. organising manual watering if no rainfall after replanting.

Some Details

- Dr Alexander Zangerl created the micro-Linux Server which connects to the Davis Weather Station.
- A pro-consumer unit, cheaper than a professional rain gauge and includes more weather metrics. The micro server is a Beagle Bone Black with Debian Linux, and includes systems for operational support, e.g., remote reboot, etc.
- Dr Zangerl also wrote the server software which receives and processes the weather data for multiple (unlimited) weather stations.
- Then he made ALL his plans and software Open Source:
    - http://www.randomkaos.com/the-public-fraser-island-weather-station/
    - http://snafu.priv.at/mystuff/fidobeagle.html
    - https://github.com/az143/davis_weather
- Find the results at https://fido.org.au/weather/

Future Plans

There are currently five weather stations, located at Eurong, Happy Valley, Kingfisher Resort, Cathedrals Beach, and Orchid Beach.

All the units are more than 3 years old, with some over 5 years. Maintenance in a hostile (salty) remote environment is a challenge, looking for ways to reduce the need for maintenance and increase the availability of weather data.

Telstra 3G network stopping in June 2024, all units will need to be converted to local networks or to use 4G.

FIDO Weather page updates, including incorporating open data from Bureau of Meteorology (who now have a live station at Double Island point).

Upgrade and add more monitoring, UV radiation, solar radiation at least at one site.