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Sustaining the natural integrity of K'gari together

November 2023

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As things hot up towards the end of the year it was a bitter-sweet announcement from the Bureau of Meteorology that Australia is now formally in an El Nino weather pattern on 19 September 2023.

El Nino has a profound effect on Australia's climate, depleting rainfall and increasing daytime temperatures, and the chance of bushfire. This one is expected to last until late summer or early autumn.

I'm keeping everything crossed that K'gari stays bushfire free this Summer.

The Editor

Genetic health and status of K'gari wongari (dingoes)



This project was a cooperative study between the Queensland Parks and Wildlife Service (QPWS), the Butchulla Aboriginal Corporation, the University of Southern Queensland and the University of Cape Town and was conducted to assess the current genetic status of the wongari population on the island.

The project commenced in 2020, with the overall aim to provide managers with robust and policy-ready information on the genetic health and status of wongari on K'gari – information that also met stakeholder expectations and was widely supported by the scientific community.

Tissue samples from 243 wongari were collected between 1996 and 2020 by QPWS rangers, but conservative sampling requirements and DNA quality checks meant that only 144 samples were analysed for the project. Using genome-wide SNP analysis, the samples were compared to determine genetic similarities among individuals in the K'gari population, along with samples taken from nearby mainland dingoes.

Key findings of the research include:

- comparisons with mainland dingoes from Rainbow Beach and other areas across Australia showed that K'gari wongari are easily distinguishable from mainland dingoes.
- there is no evidence of recent connectivity between dingoes on the mainland and the island, or no evidence that dingoes are moving on or off the island and assimilating into local populations.
- wongari are observed to live in separate packs, but analysis of the number of genetically distinguishable
 packs revealed that there is only 'one large pack' on the island from a genetic point of view. In other
 words, wongari from different packs mate or mix with each other frequently enough that the observed
 packs cannot be genetically distinguished from each other; and
- the inbreeding levels of wongari are high on the island and will increase over time in the absence of
 migrants from the mainland. But no morphological signs or physical abnormalities associated with
 inbreeding have been observed and their abundance does not appear to be declining, so it is likely that
 the population has not yet exceeded its tolerance for inbreeding.

The research also found that the genetic ancestry of the island's wongari has changed over time, with certain alleles (versions of genes) becoming more prevalent in the past 25 years.

It was considered that this change may be the result of one or more long-lived individuals becoming highly successful at raising litters and spreading their genes throughout the island over many years. The removal of 32 wongari in 2001 might also have contributed to this genetic change.



K'gari's wongari population is sustainable, but we must maintain genetic health (Photo: QPWS).

The research concluded that the change seen in the past has since stabilised, and the current genetic status of the island's population reflects the current and ongoing ecological and demographic processes within the population.

Overall, it was determined that the wongari on K'gari is a sustainable population, but it will be important to continue to monitor their genetic health for any morphological signs or physical abnormalities associated with inbreeding. A summary report of the project is available <u>here</u>.

Contributed by Coastal and Islands Region, Queensland Parks and Wildlife Service

A Historical Perspective on Dingo Attacks in Australia

A fascinating paper was published last year in the Journal: Animals. Titled *Before Azaria: A historical perspective on dingo attacks.* The paper was written by Adam Brumm from the Australian Research Centre for Human Evolution, Griffith University. The paper investigates the origin of the once popular belief (and misconception) in Australian society that wild dingoes do not attack humans.

A digital repository of archived newspaper articles and other published texts written between 1788 and 1979 (Trove) were searched for references to dingoes attacking non-Indigenous people. A total of 52 accounts spanning the period between 1804 and 1928 were identified.

Reports from the earliest period of colonial settlement (1788 until the turn of the century) were, perhaps understandably, not well represented - the colony's first newspaper, the Sydney Gazette, was only established in March 1803. This was Australia's only newspaper until the mid-1820s, when other Sydney papers (and the first provincial newspapers), were founded.

A comparison of the historical accounts with the details from modern dingo attacks suggests that at least some of the historical accounts are credible. The paper also notes that minor (non-lethal) attacks would, almost certainly, have been under-reported.

The paper examined commonly held attitudes towards dingoes in past Australian society based on historical print media articles and other records.

Early chroniclers of Australian rural life and culture maintained that dingoes occasionally killed and ate humans out of a predatory motivation. However, by the early decades of the 20th century, an opposing view of dingo had emerged: namely, that dingoes were timid animals that continued to pose a danger to livestock, but never to people.

This change in the cultural image of dingoes can possibly be linked to more than a century of lethal dingo control efforts greatly reducing the frequency of human–dingo interactions in the most populous parts of the country. This intensive culling may also have expunged the wild genetic pool of dingoes that exhibited bold



Post-1920 dingoes were believed to be timid and wary (Photo: MK Oldfield)

behaviour around people and/or created a dingo population that was largely wary of humans.

Correspondingly, there were no historical reports of dingo attacks reported during the period between 1929 and 1979 (Azaria Chamberlain died on 17 August 1980).



The dingo is an intelligent and powerful hunter (Photo: MK Oldfield)

The 20th century belief that dingoes do not attack humans without provocation was misguided.

Since the 1990s there have been many documented incidences of dingo attacks on K'gari, including the death of nine-year-old Clinton Gage in 2001. The current picture of the dingo is of an intelligent and powerful hunter, but also a highly versatile scavenger that readily exploits anthropogenic foods when available. The latter behaviour brings some dingoes into close contact with people, and, in very rare cases, for reasons that are not yet fully understood, attacks have occurred.

The paper also acknowledges that during the period of early European settlement, Indigenous peoples in Australia had a complex relationship with dingoes that was based on taking pre-weaned pups from wild dens and hand-rearing them. [This was certainly the case with wat'dha on K'gari]. There were also several references in reports to assistance provided to colonists by Indigenous trackers.

Brumm, A. Before Azaria: A Historical Perspective on Dingo Attacks. Animals 2022, 12, 1592. https://doi.org/10.3390/ani12121592

K'gari Fire-Gym - 'Lay Flat Fun'

The K'gari Fire Enhancement Team are prepping for the bushfire season with regular equipment maintenance and training days. 'Fire-Gym' is an initiative of the team 2IC, Rachel Killer to ensure the fire team and other fire trained personnel keep their skills honed for bushfire season in a safe and fun environment.

The Fire-Gym program will continue and incorporate fire-relevant activities such as safe equipment use and maintenance, mapping skills, fitness and other tasks designed to encourage team building, experience, confidence for newer staff and collaboration between K'gari units.

The QPWS K'gari Fire Enhancement Team of four staff specialise in K'gari fire management, process implementation and collaboration to ensure planned burn program objectives are met and the island's Parks staff and equipment is bushfire season ready.

Collaborative fire management is important, and we acknowledge and thank stakeholders and other fire practitioners who apply appropriate fire on K'gari.



K'gari Fire Enhancement Team members Jack Nolan and Billie Rashleigh competing in the Fire-gym lay-Flat Fun activity to hone their skills to protect K'gari (Photo: QPWS).

Article contributed by Linda Behrendorff, QPWS K'gari NRM – Fire Enhancement Team

Consensus Building in K'gari Fire Management – Outcomes Report

Following the wildfire that affected over 50% of K'gari in October-December 2020, the <u>IGEM Review 2020-</u> <u>21</u> identified that risk exposure mapping at the time was primarily related to people and structures, rather than significant environmental areas on this World Heritage-listed Island. It acknowledged the importance of collaboration among key agencies and volunteer bodies, and that the sharing of Butchulla knowledge was a significant contribution to fire management. It suggested the need for a well-functioning Locality Specific Fire Management Group (LSFMG) to focus on environmentally significant areas that 'need their own approach'.

Also important are the increasing risk of wildfire and shorter windows of opportunity for prescribed burns due to climate change, as well as the international significance of the environmental and cultural resource of this unique island.

The project focused on how to tailor fire management to best protect K'gari's natural and cultural assets that are of outstanding international value and critical to the tourism-based economy. A University of the Sunshine Coast-led workshop was held at Dilli Village, K'gari from 20-22 April 2023 with key stakeholders including QPWS, QFES, Butchulla Aboriginal Corporation, FIDO, Happy Valley Rural Fire Brigade, Kingfisher Bay Resort, and Wide Bay Burnett Environment Council. Key outcomes included:

Collegiality and Collaboration



The north section of K'gari is dominated by BALOW Banksia aemuela low open woodland: Regional Ecosystem 12.2.9

One of the most important outcomes was that all stakeholders at the workshop shared their perspectives and were listened to and acknowledged with respect. There was substantial agreement about communication and working together in the future.

Prescribed Burns and Cultural Burns

The purpose of prescribed burns is to reduce fuel load to protect life, the built environment as well as ecological and cultural assets. Cultural burns aim to make the land healthy again including removal of pest plant species, and managing the undergrowth to ensure that desired native species can regrow after fire. Monitoring the effects of burns can provide information to improve outcomes, and help build trust, credibility, and social licence by demonstrating effectiveness of outcomes.

Wildfires

Unplanned fires need to be detected and responded to early and collaboratively to present the fire front from expanding. QFES reinforced that an Incident Management Team (IMT) needs to be formed quickly with the capacity to make decisions as soon as possible. Better coordination is needed among all agencies in



Wildfires need early detection and a quick and collaborative response

future, but the telecommunication and internet network on K'gari is a major liability in enabling fire managers to communicate with each other and the community.

In general, impacts of fires on the environment are usually assessed visually and through photos documenting changes. Monitoring vegetation and fauna community recovery is essential to understand the status of vulnerable or endangered species and ecosystems, and how to manage regrowth into the future.

Some recommendations emerged to address underlying constraints identified at the workshop. They mainly require resources (budget) for:

- Improved telecommunication network for the entire island.
- Improved accommodation and resources for QPWS staff.
- QPWS to have rolling programs for prescribed burning with key performance indicators reflecting the effectiveness of the burn rather than the size of area burnt.
- Mapping and sharing asset and equipment information ahead of time.
- Accurate public communication of fire progress during a fire.
- Public education and signage about prevention of fires and preparedness for fires.
- Well-designed monitoring of both planned and unplanned fire severity and recovery including cultural burns.
- Similar workshops should be held again with a broader attendee list and additional focus on ecological and cultural risk mapping.

The workshop consensus was that fire management is a collaborative journey. All participants want better fire outcomes through collaboration on the ground and can help achieve this by breaking down barriers and disjointed communication.

Article based on Outcomes Report by the University of the Sunshine Coast and available on FINIA's website.

Talking Trash

K'gari beckons visitors with its pristine beaches and lush forests but pristine they are not. To preserve this natural haven, Hana Robinson, co-founder of Drop Bear's K'gari Adventures, is calling on all stakeholders to join the Community Beach Clean Up program. This innovative initiative aims to create a continuous marine debris collection solution and establish a volunteer registry for K'gari.

Equipping volunteers with collection bags, weighing stations, and personal protective equipment (PPE), the program empowers visitors to clean K'gari's beaches year-round. In 2022, nearly 300 volunteers rallied to collect an astounding 50 tonnes of debris after the floods. It was an incredible collaboration and showcased the community's dedication.

Designated collection points strategically placed across the island will make it convenient for locals and visitors alike to participate. Weighing stations not only track progress but also serve as a visual testament to the collective impact.

Hana and Mark Robinson are reaching out to stakeholders, including local businesses, environmental organizations, and government agencies, emphasizing collaboration as the cornerstone of this endeavour. The program's goal is to create a sustainable, long-term solution that sees marine debris collected on K'gari year-round.



Encouraging year-round beach clean-ups for K'gari (Photo: K'gari Adventures)

As the program gains momentum, excitement ripples through the community.

Together, we can ensure that K'gari remains a testament to the power of community-driven conservation efforts for generations to come. If you would like further information, please reach out directly to Hana via email – hana@kgarifraserisland.com.au.

Article submitted by Hana Robinson, Community Beach Clean-Ups, K'gari Adventures

FIDO's Pandanus Restoration Program

Since about 2008 on the singularly beautiful island paradise of K'gari, the pandanus palm (*Pandanus tectorius*) has been plagued by the pandanus leaf hopper (*Jamella australiae*). Infestations of this sap-sucking insect occur most prominently on the east coast of the island, with death tolls of the plants estimated to be around 50,000 as of 2019, and steadily rising.

With the 2020 Duling bushfires destroying over 70,000 hectares of the island, the pandanus palm population took another drastic hit. In collaboration with and funded directly by Queensland Parks and Wildlife Service (QPWS) of the Great Sandy National Park region, the Watch Dog of K'gari, FIDO (Fraser Island Defenders Organisation) have taken up the challenge of revegetating the pandanus palm along the east coast, focusing our efforts primarily between Eurong and Red Canyon.

Beginning in March of 2023, Isaac Neisler has now led four groups of dedicated volunteers onto the island to begin

the restoration of the Pandanus palms. Across these four trips, the teams have planted out 691 Pandanus plants over 19 different sites, collected and laid 3,314 Pandanus seeds in the nursery at the QPWS Eurong Station and so far, cultivated a stock of 474 young Pandanus plants ready to go in the ground soon.

There is still a lot of meaningful work to be done to help protect this integral part of the K'gari ecosystem, and with three more trips planned this financial year, FIDO is going to give our everything to get it done.

Article contributed by Isaac Neisler, FIDO – Watch Dog for K'gari

K'gari Land and Sea Country: djaa – ngarawinj 2023 Conference



Djaa ngarawinj (Photo: University of the Sunshine Coast)

The University of the Sunshine Coast (UniSC) and FIDO - The Watchdog of K'gari are jointly hosting the K'gari Land and Sea Country: *djaa-ngarawinj* Conference on 9–10 November 2023, at UniSC Fraser Coast. The event follows the third symposium hosted by UniSC and a series of biennial conferences hosted by FIDO. This is the first time the UniSC and FIDO have cohosted the conference.

The <u>K'gari Land and Sea Country: *djaa* – *ngarawinj* Conference 2023 will be delivered with the support of the Butchulla Aboriginal Corporation (BAC) and the Butchulla Native Title Aboriginal Corporation (BNTAC). The event is an opportunity for UniSC and partners to share research, identify key issues, opportunities, and collaborations. Past UniSC K'gari symposiums and FIDO conferences have focused on the Land. The aim of this conference is to also examine the issues relating to Sea Water.</u>

Key conference aims:

- Map current research on K'gari and surrounding Sea Country
- Identify current management practices and key initiatives in caring for K'gari and surrounding Sea Water
- Generate key research questions, opportunities, and collaborations
- Share the work of UniSC researchers
- Share the work of FIDO and other K'gari stakeholders
- Promote engagement in the Fraser Coast community and,
- Promote engagement in three adjoining biospheres and World Heritage.

Registration is only \$150 for the two days, or \$50 for students. Please <u>register online</u>. For further information please contact <u>Kim Walker</u>.

Article contributed by Dr Kim Walker, University of the Sunshine Coast

Pandanus Restoration Program Volunteers. LtoR - Tori Pearce, Genevieve Kenna, Diana Korving & Jade Anstee (Photo: FIDO).

Pest Spotters: Watch Out for Platies on K'gari

Platies (*Xiphophorus maculatus*) are a popular aquarium fish that have become a pest in some Queensland waterways due to people deliberately (or accidentally in the case of backyard ponds) releasing them. Platies spread between water bodies during flood events (like the one in February/March 2023). Recent monitoring discovered platies established in two creeks on the west coast of K'gari – Bogimbah and Poyungan.

Growing to around 6cm, they are a stout fish with rounded dorsal (upper) and tail fins and an upturned mouth. In aquariums, they are highly variable in colours, but in the wild they are generally yellow-olive brown with 2–5 distinct bars along their body.

Native to Central America, platies are now established in many areas including Hawaii, the United States, Puerto Rico, Palau, Madagascar, Jamaica, Columbia, Sri Lanka, Bahamas, and Australia (particularly in coastal drainage around Brisbane and in the Wet Tropics region in North Queensland).

Classified as potential pests in countries where they have been introduced, platies will compete with native fish for food and space, dominating waterways due to their high ability to reproduce and



Colourful platies are generally yellow-brown if found in the wild (Photo: Queensland

survive in habitats not suitable for native fish. This is particularly problematic for K'gari, which supports several species of threatened fish including the Endangered Oxleyan pygmy perch (*Nannoperca oxleyana*), Vulnerable honey blue-eye (*Pseudomugil mellis*), and ornate rainbowfish (*Rhadinocentrus ornatus*).



Distribution of platy (Xiphophorus maculatus).

Platies love warm springs, canals and ditches with slow-moving water, silty bottoms and weedy banks and can survive in waterways that are too degraded for native fish. Reaching sexual maturity after only 3-4 months, platies reproduce frequently and in high numbers giving birth to live young. The fish are omnivorous, feeding on any available food source including worms, crustaceans, native fish eggs and fry, insects, and plant matter.

Platies are certainly NOT welcome on K'gari. So, what do you do if you find a platy?

If you catch platies in the wild, humanely kill them and do not return them to the water. Report all invasive fish captures through the Department of Agriculture and Fisheries' <u>online reporting form</u>. Take photos, if possible.

For anyone looking for a place to dispose of unwanted aquarium fish, please give them to your friends or a pet shop rather than letting them go in the wild. Under the Biosecurity Act 2014 everyone has a general biosecurity obligation (GBO) to take reasonable and practical steps to minimise the risks associated with spreading or introducing pest fish. This includes any fish that is not native to Australia. Releasing live fish into Queensland waters is illegal as a breach of your general biosecurity obligation under the Biosecurity Act 2014.

Article contributed by Sue Sargent, FINIA

Dates for the Diary

What:	K'gari Land and Sea Country: djaa – ngarawinj 2023 Conference
Where:	University of the Sunshine Coast, Fraser Coast Campus
When:	Thursday 9 to Friday 10 November 2023
For:	Join the UniSC and partners to share research, identify key issues, opportunities, and collaborations. Past UniSC K'gari symposiums and FIDO conferences have focused on the Land (K'gari). The aim of this conference is to also examine the issues relating to Sea Country including the Great Sandy Strait.
Cost:	\$150 for the two days, \$50 for students.
More info:	<u>Register online</u> or for more information, please email <u>Kim Walker</u>

What: FINIA Meetings

Where: Town Hall, Maryborough

- When:Tuesday 14 November 2023, Tuesday 13 February 2024, May (date to be advised), Tuesday 13August 2024 and Tuesday 12 November 2024
- For: FINIA's partners meet quarterly to provide updates and collaborate on projects. Three meetings are held on the mainland, generally at Maryborough Town Hall (in February, August, and November), with an annual field trip to K'gari in May each year.

Cost:

More info: To register for the meeting, please email Sue Sargent at <u>contactFINIA@gmail.com</u>.

What: K'gari 4WD Clean Up

Where: K'gari (East Coast)

Free

When: Friday 17 to Monday 20 May 2024 (registration opens in November).

- For: The event is held annually over a weekend with Four Wheel Drive Queensland affiliated club members and event sponsors volunteering their time to clean marine debris from World Heritage-listed K'gari. Four Wheel Drive Queensland K'gari Fraser Island Clean Up does not receive government funding for this event which is delivered with the generous support of sponsors.
- More info: To register <u>https://www.4wdqld.com.au/kgari</u>

What: Bush Regeneration and Monitoring

- Where: Eurong, K'gari
- When: Dates to be advised.
- For: FIDO has been conducting weeklong weeding-bush regeneration programs in Eurong since 2005. These have progressively transformed Eurong and dramatically reduced the weed threats there. Based at Tallinga, the former Sinclair family home in Eurong Village, work will focus on weeding, bush regeneration, building the Eurong nursery's capacity, and continuing FIDO's ongoing environmental monitoring programs. The program is supported by Eurong Resort, providing dinner for the volunteers each night.
- Cost: \$300 (\$200 for concessions) to subsidise costs.
- More info: Please send any questions to <u>weeding@fido.org.au.</u>

What: Weed Management

Where: Happy Valley, K'gari

- When: Sunday to Saturday 18-24 February (6 nights), 12-18 May, 14-20 July and 20-26 Oct 2024.
- For: Peter Shooter leads these trips to help tackle the heavy weed infestation around Happy Valley. A group of up to eight will share "Kurrawa", a comfortable holiday house in the Centre of Happy Valley. The group will work to contain a particularly aggressive weed with poisonous seeds, *Abrus prectorius Var. Africanus*. This weed heavily impacts the vegetation but isn't found anywhere else on Fraser Island. As the *Abrus* comes under control, the team will increasingly eliminate large woody weeds, Easter cassia and lantana. Again, fitness is needed to carry heavy chemical backpack sprays across steep terrain.
- Cost: \$300 (\$200 for concessions) to subsidise costs.

More info: Please send any questions to <u>weeding@fido.org.au.</u>

What: IGEM Bushfire Recovery Project

Where: East Coast, K'gari

When: ALL PLACES FILLED FOR 2024

- For: FIDO's bushfire recovery project 2022-25 is being conducted on the east coast of K'gari. Volunteers are restoring the low coastal vegetation complex on the foreshore and undertaking Pandanus recovery works by monitoring, establishing a seed collection and restoration protocol and on-ground works, including restoration training. FIDO is also interested in hearing from other groups interested in partnering on the project.
- More info: For more information or to register your group's interest in this activity, please get in touch with Mark Dwyer at <u>mdwy.dbq@gmail.com</u>.

Funding Opportunities

What: Gambling Community Benefit Fund

For: Provide one-off grants for not-for-profit organisations to help provide community services or activities that benefit the Queensland community. The next funding round is a \$35,000 round for all priorities.

When: Round 119 is open now and closes on 7 November 2023.

Email: <u>cbf@justice.qld.gov.au</u>

Phone: 1800 633 619

Website: https://www.justice.qld.gov.au/initiatives/community-grants

What: Volunteer Grants

For: Start planning now for the 2023–24 Volunteer Grants. Volunteer Grants support the work of local community organisations by enabling the inclusion of vulnerable people and promoting awareness to increase participation in volunteering. Grants of between \$1,000 and \$5,000 will be available to assist eligible not-for-profit community organisations support the efforts of their volunteers.

When: Open now

Contact: For additional information please contact your local MP or visit GrantConnect.

What: Engaging Science Grants

For: Queensland Government's Engaging Science Grants are currently available to support teachers, scientists, organisations, citizen science groups and community groups to increase participation in science-based activities and engagement between scientists and the community. Grants of up to \$20,000 are available to support projects that contribute to conservation and/or threatened species recovery.

When: Applications close 4pm Wednesday 8 November.

Website: https://www.chiefscientist.qld.gov.au/science-comms/engaging-science-grants

What: Wettenhall Environment Trust — Small Environmental Grant Scheme

For: Projects that enhance or maintain the vitality and diversity of the Australian natural living environment. Objectives of the Small Environmental Grants Scheme (up to \$15K) are flora and fauna conservation and threatened mammal conservation with one or more of the following: monitoring/recording data, community education, community capacity building (training), and research/science.

When: Next round opens on 1st December 2023 (funding released February 2024)

Phone: (03) 5472 1316 or 0431 219 980 - Elizabeth (Beth) Mellick, Executive Officer Email: beth@wettenhall.org.au

Website: <u>https://wettenhall.org.au/grants/small-environmental-grants/</u>

What: Purves Environmental Fund

- For: Supports 12-month proposals of up to \$50,000, that meet the Fund's current focus areas: degradation of wilderness, over exploitation of natural resources and pollution. Grant applications are through an EOI process.
- When: Applications are open year-round.

Website: <u>https://www.purvesenvirofund.org.au/funding</u>

Thank You to Our Sponsors!

FINIA – the Natural Integrity Alliance for K'gari is a non-incorporated, not-for-profit umbrella organisation for its partners. As a non-incorporated organisation with no dedicated funding to support our meetings, administration, barge transfers, or accommodation, we rely on our partners to support activities on the K'gari (Fraser Island) World Heritage site.

We acknowledge Fraser Coast Regional Council, Sealink – Kingfisher Bay Resort & K'gari Explorer Tours, the University of the Sunshine Coast and our outstanding contributors, volunteers and donors for their generous support.

Thankyou

Without this generosity, FINIA's activities would not be possible.