



MOONBI 134

MOONBI is the name given by the Butchalla Aborigines to the central part of their homeland, Fraser Island or "Kgari"

MOONBI is the newsletter of Fraser Island Defenders Organization Limited

FIDO, "The Watchdog of Fraser Island", aims to ensure the wisest use of Fraser Island's natural resources

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Monitoring, Recording and Climate Change are heavy themes in this issue of MOONBI. The world has witnessed the devastating impact of climate change already on the Great Barrier Reef World Heritage Area. While FIDO is impotent on its own to stop Climate Change, there are some measures that can be taken to lessen its impacts and to be better prepared. Key to this is information and that is why Monitoring and recording as much information as possible is vital. For years FIDO has led advocacy for research and utilizing Fraser Island (K'Gari) as a natural laboratory. MOONBI 134 reports on some progress being made.

Eye of the Storm: As a leading advocate for recording and preserving data, John Sinclair realized that some events have not been well documented and so he set about writing his experience as the eye of a cyclone passed over him on K'Gari on 1st January, 1963. He hopes this may encourage more people to record memories and impressions of memorable but previously undocumented events relating to K'Gari.

A Fraser Island Repository: FIDO's collaborations with the University of the Sunshine Coast continue to yield many positive mutual benefits. Major current collaborations include the biennial Fraser Island Conference, the Bioblitz (see p7) the Barbara Winkley Scholarship, (p3) and the establishment of the Fraser Island Repository. The latter has been established by the Librarians at the Sippy Downs campus and aims to build on its current substantial collection to hold copies of all significant historical and scientific records of Fraser Island so as to have the most comprehensive repository all available in one place. FIDO encourages people who may wish to contribute to these records to contact the library which is interested also in collecting historical photos and oral histories.

The Political Scene: The outcome of the Federal Election on Australia's immediate environment policy has yet to be assessed but the decision to instruct the CSIRO to resume a strong focus on climate change research may be a welcome straw in the wind. FIDO has written to the new Federal Ministers for Science and for Environment urging them to take full advantage of Fraser Island's potential as a National Laboratory for the study of climate change. See p 6.

Call for Volunteers: FIDO volunteers have achieved remarkable results in the last decade by working on maintenance of the George Haddock Track, weed management and bush regeneration programs now contributing more than 2,000 on-ground hours annually. This is equivalent to almost two fulltime year round jobs. This year (2016) FIDO has also hosted two Green Army projects that have augmented that work as well as providing training and practical experience to a dozen young men including five Butchulla. In the next few weeks FIDO will be again putting out its 'Call for Volunteers' to join one of the eight very popular week-long programs planned so far for 2017. If you

know anyone who could be interested in the "Call" they should contact: john@fido.org.au to get on the Email distribution list.

How many is too many? That question is being increasingly asked as the erosion of K'Gari roads continues and 2017 is scheduled to see seven cruise-liners anchor off Kingfisher Resort. Each liner is capable of dispersing 1,000 visitors around Fraser Island. The heaviest impact will be on the Central Station and Lake McKenzie (Boorangoora).

Dingoes are a constant topic of conversation when the name Fraser Island is mentioned. The topicality is based on misinformation by some dingophiles who want to find examples of bad management to fit their positions. New data though shows that K'Gari dingoes may be the healthiest wild population in the world (p9).

Backgrounders: The story of the central role played by Balargan (North White Cliffs) in K'Gari's recorded history continues with an examination of its role in establishing and shaping the timber industry over 128 years in Backgrounder 77. Backgrounder 78 summarizes a series of studies that describe a range of impacts of off-road vehicles on a range of fauna from worms to iconic birds.



A QPWS and FIDO collaboration assisted by the Green Army has already expanded the capacity of the QPWS Eurong nursery to enhance capacity for rehabilitation and bush regeneration. It also provides appropriate native replacement plants for K'Gari domestic gardens. John Sinclair and volunteers, including Suzanne Wilson who has led FIDO's nursery efforts inspect the nursery,

In This Issue

Eroding roads, Sustainable transport, Seeking data & answers ..2-3	
Coming to terms with Climate Change on K'Gari	4
Some severe K'Gari weather events	5
Fraser Island — A Natural Laboratory	6
Changing the Ecology, BioBlitz — Learning about life on K'Gari ..	7
T,T&T Conference, Consultation?, Maritime anniversaries	8
New data reveals healthy K'Gari dingoes, Fire questions	9

Eroding Roads

by John Sinclair AO, Honorary Project Officer FIDO

Of the many Issues FIDO has dealt with in the 46 years since it was founded and the 24 years since Fraser Island's World Heritage listing, one of the most difficult has been the degradation resulting from the erosion and down-cutting of the roads of the interior. This is also a problem for island managers who have to deal with vehicles becoming bogged, complaints from the public and remediation and hardening of road surfaces. FIDO's concern is with the impact on the World Heritage Outstanding Universal Value. Aesthetics are depreciated; vegetation is being eroded or smothered, run-off and silt pours into some lakes and wildlife habitat is being severely disturbed. FIDO is now assessing and quantifying the environmental damage in the hope that this will result in the development of more sustainable transport options for K'Gari.

The Scale of the Erosion

To quantify the scale of the erosion, I decided to estimate the volume eroded away from a road I knew quite well, the infamous Cornwalls Road near Kingfisher Resort where many a vehicle has been bogged since the resort was established. Until 1990 Cornwalls firebreak extended across Fraser Island from the eastern beach to North White Cliffs adjacent to McKenzies Jetty. In 1991 the Forestry Department created a new road from the western end of Cornwalls break to go up and over a hill to access the site of the proposed Kingfisher Resort. That approximately coincided with Fraser Island's World Heritage nomination.

FIDO often used Cornwalls firebreak during the 1970s and early 80s as we explored the island. Originally it had been used for a short period to haul timber to the cliffs adjacent to the McKenzies Jetty and for the former Z-Force camp. Soon after the new road to Kingfisher was created FIDO traversed Cornwalls Break to snoop on the proposed resort.

In April 2016 I sought to more accurately estimate how much erosion had occurred in the 25 years since the resort was built. Of the 3.2 kilometres of the original firebreak between the Northern road and the new connection, I found 1.5 kilometres had eroded down an average of 1.5 metres, 0.3 kilometres had a depth of 1 metre and along 1.5 kilometres there was an average of 0.5 metres. The depths were conservative estimates but in places the cuttings were deeper than my 2 metre high vehicle. The average width of the road was 4.5 metres. **By my calculations over 10,000 cubic metres of sand (15,000 tonnes) has disappeared from the road in 25 years.**



The 3.2 kilometre section of Cornwalls Break rises progressively from 42 metres at the western end of the section to 107 metres at the eastern end. The overall slope on the road is approximately 2%.

In 2002 independent environmental consultants, GHD consultants studied Fraser Island's road network and found:

- Moderate severity smothering 6% of road network;
- Moderate downcutting 7% of road network
- High severity siltation 8 sites
- Cultural heritage site, 1 site impacted by roads
- High severity smothering 1% of road network
- Severe downcutting 2% of road network
- Moderate severity siltation 12 sites

"Aesthetics are depreciated; vegetation is being eroded or smothered, run-off and silt pours into some lakes and wildlife habitat is being severely disturbed."

For too long a blind eye has been turned to the environmental implications resulting from the erosion of Fraser Island roads. The problem has remained in the "too hard basket" for far too long.



Part of the infamous 3.2 kilometre section of Cornwalls Break where 15,000 tonnes of sand has been lost. Roads through open sclerophyll forests erode faster than roads through rainforest and the canyons tend to be wider.



This 2 metre deep gash on the Woralie track running for 300 metres developed in less than 40 years. Rain and traffic has eroded so deep that people see the surrounding rainforest

Seeking answers and data

FIDO's awareness of the seriousness of the eroding roads is not new. For far too long many were prepared to turn a blind eye to the problem. It is a problem that can no longer be ignored in a World Heritage area. While FIDO had proposed addressing the problems by using the unexpected Barbara Winkley bequest to finance a detailed Feasibility Study for a light rail to link Kingfisher, Lake McKenzie (Boorangoora), Central Station and Eurong, the QPWS saw a number of impediments to that approach. In negotiations then with Environment Minister Steven Miles and the QPWS, FIDO found support not for a feasibility study for a specific light rail project but for a study into sustainable transport options. Now with QPWS support, FIDO has commissioned the University of the Sunshine Coast to embark on that study.

Impediments

The QPWS identified four impediments to supporting FIDO's proposed Light Rail Feasibility Study. These underlie the QPWS position:

- *The development of a railway system on National Park World Heritage area is not considered appropriate infrastructure or an activity that could be approved under the current Nature Conservation Act provisions.*
- *A light rail proposal does not satisfy the requirements for consideration as a legitimate ecotourism proposal as provided for under the current legislative and policy frameworks.*
- *Changes were made to the NCA under previous linear administrations to specifically exclude infrastructure in national parks as it has been broadly recognized that this is a type of infrastructure and activity that would be inconsistent with the National Park and World Heritage values. Any endorsement of other linear infrastructure needs to consider undesired precedence.*
- *All Fraser Island commercial activity holders have transitioned to 15-year commercial authorities under the Government's Queensland Eco and Sustainable Tourism program. As these arrangements only transitioned at the end of 2015, there is no short-term scope to review these authorities or request operators to accept new arrangements to pay an exclusive operator for an activity they currently undertake free of charge.*

Addressing K'Gari's roads problem

The existing pattern of tourism based on 4WD road transport is unsustainable. On average every visitor to Fraser Island travelling by any form of 4WD (including buses) is responsible for stirring up more than a tonne of sand that will be scoured downslope when it rains and some of this is filling some of the precious lakes on Fraser Island. FIDO recognized the problem of road erosion on K'Gari as early as 1974 when it advocated the establishment of a light rail people mover. The Barbara Winkley unexpected and generous bequest put FIDO in a position to address the critical obstacles to possibly developing a light rail. FIDO proposed carrying out a detailed feasibility study that would examine the environmental, cultural and economic impacts of the proposal and identify the most feasible route. When that option wasn't supported by the QPWS, FIDO looked at other options.

FIDO has now provided the University of the Sunshine Coast with \$100,000 to support a three-year study by a PhD candidate to explore sustainable transport options for Fraser Island. The University is now in the process of advertising nationally for the most suitable candidate who is expected to be chosen in December.

FIDO Facilitates Species Identification

Part of the Barbara Winkley Bequest is providing five listening posts on permanent loan to the QPWS to help detect the presence or absence of rare and threatened species of frogs and birds by their calls. The small electronic listening posts can be located in places well off the beaten tracks. They record the sounds over the whole 24 hour cycle and remain listening for the calls of the birds and frogs to determine the presence or absence of particular species of interest. The Queensland-made, bio-acoustic recorders are lightweight, rugged and easy to use with a built-in GPS. They are highly sensitive and produce excellent sound quality enabling detection of species without undue time spent in the field. They may prove to be as valuable as camera traps.



QPWS's Linda Behrendorff with one of the five new 'Listening Posts' provided by FIDO on permanent loan. They will provide valuable data for the BioBlitz

How Old Are K'Gari's Oldest Trees?

For years FIDO has hypothesized that there are many trees on Fraser Island that are 2,000 to 3,000 years old based on evidence that they were partially entombed in a passing sandblow before being exhumed. The trees in question are all *Melalucua quinquinervias* and all are growing in the wake of a large sandblow such as Hammerstone, Kirrar or Wungul. In fact the best assemblage of these ancient survivors is in the Dundubara Campground. The thick adventitious roots are both evidence of their having been buried and their survival mechanisms. Evidence of *Melalucas* surviving while being buried many meters exist in many places. Some near Wabby Lakes may have up to 40 metres of their trunks entombed but still they survive. Other examples can be observed on the Eurong Nature Walk. FIDO hopes scientists may soon confirm the theory.

Coming to Terms with Climate Change on K'Gari

FIDO doesn't want the Fraser Island World Heritage site to suffer the impacts of climate change as abruptly or as seriously as it has already manifested on the Great Barrier Reef where dead and bleached coral is replacing one of the greatest natural wonders of the world. FIDO is doing all we can to help minimize the worst impacts but we are impotent to address the worse consequences that are:

- Changing the coastline due to rising sea-levels and more severe storm erosion;
- Changing fire frequency and ferocity increasing the probability of more severe fires
- Changing forest structure resulting from a decline of major tree species Scribbly Gums, Satinay, Blackbutt and Tallowwood with some possible extirpations; and
- Increasing the number of pest fauna species and populations and the number of feral plants, not native to K'Gari (weeds).

Apart from advocacy, FIDO's main contribution to help combat the impacts of K'Gari climate change are (1) monitoring changes already occurring, (2) promoting research to seek better ways of addressing the impacts and (3) dealing with alien species on K'Gari as we have been particularly with weeds. MOONBI 134 discusses the threats of and specific known impacts

Changing coastline:

The sandy coastline of K'Gari is highly erodible and may already be feeling the impacts of some sea level rise. There has been significant erosion that can be attributed to storm impacts eroding away its western coastline but the erosion seems to coincide with a significantly higher proportion of days with strong winds blowing from the North-West.

For the past few decades, the western shores of K'Gari have been slowly eroding while vegetation on the eastern side of the island has thickened up on the foredunes and gradually over four decades covered what was once beach. There are no definitive answers to why the western shores should be eroding as much as they are while the beachside vegetation on the east coast has experienced little such erosion. One theory is that the proportion of days when the wind now blows from the north west seems to be greater than in the past. Sand cliffs from McKenzies Jetty to Sandy Cape are eroding and this and both the frequency of more severe storms and the prevailing wind direction are a function of climate. Relocated sand is building up Pelican Bank.



In January 2013 Ex-Cyclone Oswald passed by Fraser Island dumping enormous amounts of rain, that flooded Brisbane and brought down many trees in K'Gari's forests. The coastal erosion was sufficient to cut off vehicle access to the Sandy Cape lighthouse. As will be seen from the next photo much of this sand had been replaced in the interim. However in 24 hours in June 2016 all that sand and much more was swept to sea.



Sandy Cape Lighthouse old entrance morning 6 June, 2016



Sandy Cape Lighthouse old entrance morning 7 June, 2016

Monitoring and Recording

Monitoring and recording matters are vital to being able to sensibly address all the issues of climate change. This prompted John Sinclair to record a couple of cyclonic incidents he and his parents experienced. FIDO began a project of collecting photographic records of Fraser Island to enable comparisons 21 years ago to mark the Silver anniversary. Old photo records are invaluable. FIDO is always keen to see photos. FIDO is also stepping up its weather monitoring and plans to complement the Happy Valley weather station with one in Eurong this year.

Some severe K'Gari Weather Events

By John Sinclair AO

Despite the disastrous beaching of the *SS Maheno* in 1935 and the *Cherry Venture* in 1973 both in July East Coast Lows, Fraser Island and Cooloolool have largely so far escaped the ravages of severe weather events that have been inflicted on more tropical parts of Queensland. Although there was an extended period from the mid 1970s when Fraser Island evaded some threatening cyclones, the frequency and intensity of cyclones is expected to increase as the cyclone belt extends south. During recorded history, Fraser Island has experienced some savage cyclonic events.

Cyclone Daisy: Cyclone Daisy passed over Fraser Island on 10 February 1972. It passed right down the east coast of the island having made landfall at Sandy Cape where the barometer dropped to 968.8 hPa. A three-metre storm surge was reported on the western side of Fraser Island. Had the cyclone tracked inside Hervey Bay, the impact might have produced a super tidal surge that would have been catastrophic for the City of Hervey Bay. The devastation on the island was hard to imagine. Forest giants were tossed around like fiddlesticks and when it was over, it took a gang of foresters and chainsaws a week to reopen the road out of Happy Valley through Yidney Scrub. In Eurong where Beryl and Charlie Sinclair were experiencing the brunt of the ferocious winds all night, their house was in danger of exploding if a doorway on the windward side yielded to the wind's force. By barricading the door with all available furniture and bracing against that all night, they helped the house survive as the eye passed slowly over them. As I flew over Eurong as soon as I could take off, the ground below was strewn with debris.

Eye of the Storm

A personal recollection

Patrick White set a cyclonic event on Brumby Island, a *nom-de-plume* for Fraser Island in his prize-winning novel "Eye of the Storm". Brumby Island was then inhabited by feral horses. The [Swedish Academy](#) specifically named "*Eye of the Storm*" as the book that confirmed White's designation as a Nobel Literature Laureate. White told me that until that book, he had only a fleeting encounter with Fraser Island when he was researching to write the libretto for an opera "*Eliza Fraser*" that never made it to the stage. White was able to retrieve and rewrite the story of Eliza Fraser in his tenth novel "*A Fringe of Leaves*". However his research and description of a cyclone passing over the central characters in the novel had great resonance with me.

Seven months after our marriage in 1962, my wife Helen and I decided to spend my five-day break over the Christmas – New Year period on Fraser Island. Dad had negotiated for us to stay in Harry Warren's unlined fibro shack in Poyungan Valley. We had anticipated being able to supplement our supplies with fish during our stay but from the time we arrived under a dark brooding sky, the fish were almost totally elusive. Over the next few days, the sky grew progressively darker and the waves and wind ever wilder. Helen who grew up with tropical cyclones in Mossman declared that a cyclone was on its way. I pooh-hoed the suggestion because there were no suggestions of any cyclone in the weather reports we could get.

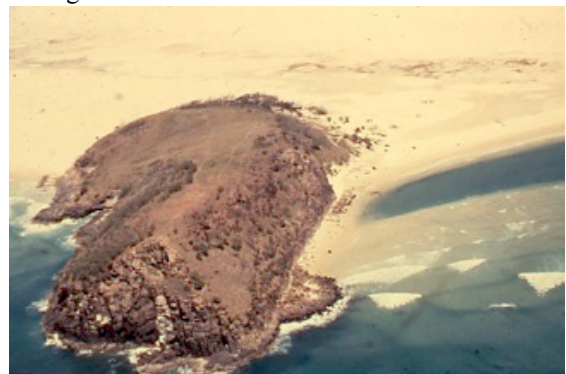
As darkness fell on New Year's Eve, the wind became a frenzied, howling and screaming through the many openings in the crude shack. Rain blew in under the eaves and ran down the inside of the walls. The floor was awash. We pulled the bed into the centre of the one room. It was the only remaining dry place left and we took refuge there. We managed to sleep despite the roaring of the wind and the thunder of the nearby surf. Luckily the hut had no glass windows because one of the shutters was wrenched from its hinges. One of the other inhabitants of the hut, a native Melomys rat drowned in our water bucket.

At about 5.00 am I was woken up by the abrupt silence that had descended. We were in the eye of the un-named cyclone. An eerie almost psychedelic green light pervaded

the still air outside. The tone of the surf had changed. I looked out and saw monster walls of green water lift themselves above the surging sea before momentarily standing vertical and then toppling over on to the beach with such a thunderous crash that every mollusc buried in the beach was shaken from its underground refuge. As the wash receded the beach looked as if it were littered with river gravel.

It later transpired that we had experienced a very malevolent cyclone that had built up off Waddy Point. As such it could not be detected by Weather Bureau radar and so no warnings were issued. It had spun into two different storms after passing over us. It left us marooned on Fraser Island because it disrupted our proposed plans to return to the mainland.

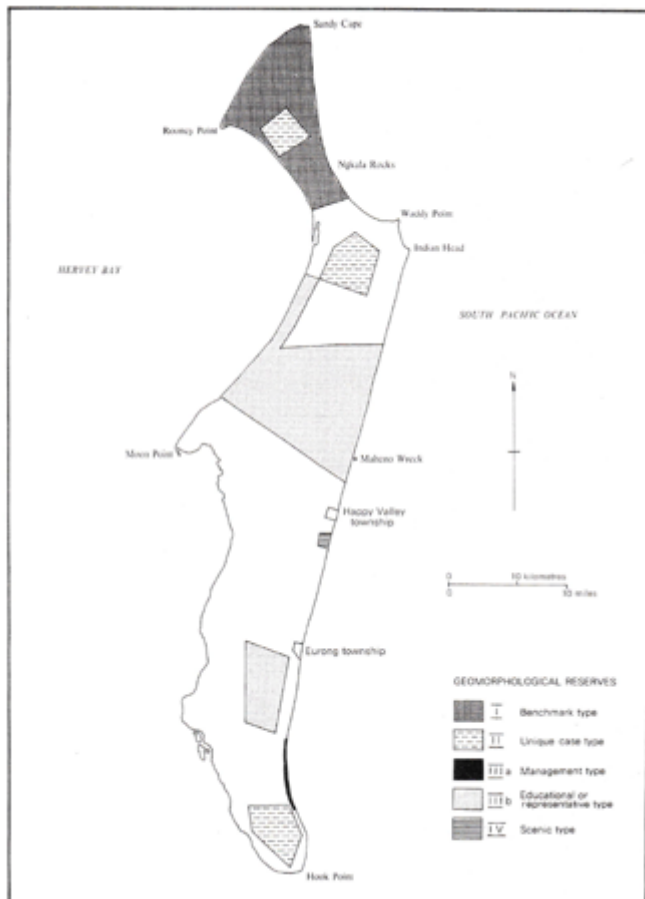
Indian Head New Years Day 1963: The two couples in the neighbouring house planned to drive to Indian Head that day. They offered to take us with them to see if they could find anyone that might be heading back to the mainland. That day I saw Indian Head for my first time. Two aspects of that visit are indelibly ingrained in my mind. The cyclonic surge had the sea encircling the rocky headland. Around at the base of the headland, the sand was wet and spongy. The saturated sand wobbled with each step taken across the surface. It was a relief to walk on the firm surface up to the surprising precipice at the very summit. What I won't forget was that the lawn-like grass kept clipped by brumbies grew to within a few metres of the summit.



Fraser Island — A Natural Laboratory

It seems a strange but true observation that less is known scientifically about Fraser Island (K'Gari) than is known about the Great Barrier Reef. This is despite the undoubted significance of both World Heritage sites. However research on the Great Barrier Reef in warm tropical waters, working in swimsuits is deemed sexier than exploring the scientific mysteries of Fraser Island.

The call to establish scientific reserves and for more research isn't new. Ever since it was first proposed by Professor Bruce Thom at FIDO's 3rd Biennial conference in 2009, FIDO has advocated for Fraser Island to become a National Laboratory for the Study of Climate Change. However the development of a new Great Sandy Region Management Plan provides an opportunity to give effect to one of the recommendations of the Fraser Island Environmental Inquiry in 1976 and create some scientific reserves on the island.



Proposed scientific reserves recommended by the Fraser Island Environmental Inquiry in 1976.

Justification

Prof Bruce Thom advocates “a science exclusion zone so we can monitor ecologic and geomorphic change with minimum human interference”. He points to the more remote north section of the island where the topography is more subdued. He justifies his case for Fraser Island becoming a National Laboratory for Climate Change thus:

The accumulation of massive amounts of sand deposits on Fraser Island is clear evidence of episodes of climate change over at least the past 800,000 years. The varying age of the dune systems Fraser Island and the types of vegetation are all products of different episodes of climate change and demonstrate how climate changes over the millennia have impacted on the geomorphology and ecology of Fraser Island. Almost completely devoid of rock, the highly erodible coastline provides an opportunity to study the impact of sea level rise as well as the influences of high energy storms.

Fraser Island is has critical latitudinal position for seeing impacts of global warming combined with natural extreme events driven by decadal forces on dune dynamics.

1. Fraser Island provides a long-term geologic record of dune sand accumulation without parallel especially as this record has not been disturbed by mining.
2. This record reflects the interplay of interacting but at times opposed forces of wind, waves, sea level change and vegetation recovery and destruction over many different episodes during the Quaternary era.
3. The interplay of forces continues today and will continue into the future.
4. The scale of changes between episodes of dune construction and stabilisation has varied over time but essentially involves the establishment of two types of transgressive dunes; parabolic and long walled.
5. The different ages of the dunes are well represented by associations of distinctive plant communities and soil types, which have been well studied and provide a background for the documentation of future changes reflecting sea level and wind-wave regimes.
6. Dune lakes contain histories of both ecological change and dune building episodes and as such provide a depository or library of island history that will continue into the future; selected lakes should be used to continue to monitor ecological changes including those imposed on the island by human use (at least one lake must be isolated from human presence as with science designated reefs of the GBR).
7. Blows, where connected to the beach, are where the action is. Impacts of storm periods like that of 1974 offer examples of measuring change so that several blows and beach profiles are needed in locations to record into the indefinite future the long term trends in dune morphology, rate of sand movement and vegetation and other ecological changes that are driven by the interacting forces.
8. The western side of the island and the tidal deltas also need to be monitored—the extent to which sea level rise is impacting on these shores needs investigation and again the island offers locations that should be monitored. There is an issue of contrasting responses of east and west shores to wave erosion and recovery after storms; we don't understand this at this stage.
9. Fraser Island is a protected World Heritage site in a transitional latitude open to the uncertain impacts of climate shifts arising from global warming, located on the east coast of Australia. Its potential value to science and our understanding of climate change impacts could more than rival its value as a tourist asset. It must be seen as having value for understanding the nature of climate change along the east coast of Australia. While the Great Barrier Reef provides one story, more locations in strategically vital positions are needed to inform the nation of changes in forces that impact on its natural and built assets. Too many sites to the south of Fraser Island are conflicted or contaminated by human interference with natural systems; Fraser Island represents a key location in what should be a national/international grid to help us pick up the signals/tipping points of climate change.

Changing the Ecology

Threats to the Forests: Climate change is threatening many large and dominant tree species of the tall forests and increases the potential devastation by wildfires. *Syncarpia hillii* (**pibin** or satinay) *Eucalyptus pilularis* (**kwaiyi** or Blackbutt) *E. microcorys* (**ti** or tallowwood) and *E. racemosa* (scribbly gum) are at the northern limit of their range, suggesting a threat to their continued survival on Fraser Island as the mean temperatures continue to rise. Added to the temperature rise are the impacts from more weather extremes, more droughts and more intense fires. Some scribbly gums succumbed in an intense 9-month dry period in 2013-14. The losses could be greater if such events are more prolonged. The great unknown is what if anything will grow in their place. There is already an indication that feral (weed) species may be more resilient and cause further changes to the ecology.

Invasive species (especially weeds and cane toads) and introduced diseases such as myrtle rust are affecting the ecology. These are issues that FIDO has been acutely aware of for decades and has been actively addressing through our increasing number of working bees.

Abrus: While there are many major weeds that FIDO has been systematically addressing in the Eurong and Happy Valley areas including Lantana and Easter Cassia, the most recent serious weed to arrive on Fraser Island Abrus is found only in and around Happy Valley. *Abrus precatorius subsp. africanus*, a vine very similar to an Australian vine, *A. precatorius*, has become naturalized in some areas in Australia and is proving to be a very invasive weed. It will rapidly out-compete Australian native plants and could devastate Australian ecosystems if uncontrolled. Abrus is aggressive even climbing to smother the canopy to the extent that patches of Abrus can be detected from space. That has made it a top priority for elimination. Although it is very difficult to near impossible to remove manually, fortunately it is vulnerable to chemical spraying. Because it extends over a large area in isolated outbreaks, Peter Shooter has led teams to locate and spray every identified infestation for the last three years. It has been a challenging task but at last Peter can see light at the end of the tunnel and believes that he is at last getting on top of the problem.

A question remains how long does the seed remain viable and how long does the Abrus vigil need to be maintained because it is such a prodigious seeder. One of Peter's volunteers, Peter Dorney is a nurseryman who has assigned himself the task of assessing the seed viability of Abrus seeds with very detailed scientific experiments using a large amount of seed gathered in March 2016. We now receive quarterly reports and will soon be in a position to know when we can be rid of Abrus.

Vigilance: FIDO's vigil to spot other weeds that have spread from Happy Valley will need to be strictly maintained for much longer. For example, FIDO thought that Umbrella trees had been eliminated from Happy Valley years ago only to find a large infestation well outside the village in July 2016. It seems that some early escapees took refuge on the slopes surrounding Yidney Lake. These and other bird and bat spread seed from some of their other favorite plants such as Brazilian Cherry, Easter Cassia and Cocos Palms may be becoming furtively established in Fraser's forests. It is up to everyone to be vigilant.

Learning About Life on K'Gari

FIDO in a close collaboration with the University of the Sunshine Coast and the Queensland Parks and Wildlife Service is organizing the biggest scientific event on K'Gari from 28 November to 4 December to blitz 50 square kilometres from Dilli Village to Lake Birrabreen to discover and identify as many species as possible ranging from ants and mosquitos to eagles and dingoes.

It is ironical that K'Gari's two smaller sister sandmasses (Stradbroke Island and Cooloola) have been better researched for species than the World Heritage island. In the late 1970s, a CSIRO team studying Cooloola soils discovered 280 species of ants, many new to science, belong to 55 genera. It shows that there are many forms of life probably on K'Gari that we are yet to discover. We all need to know the full extent of all forms of life on K'Gari if we are to manage it properly. That is why the BioBlitz is being so enthusiastically supported. All participants are volunteers paying their own expenses.

Details of the BioBlitz including Application Forms can be found at www.fido.org.au. To receive bulletins contact bioblitz@fido.org.au

The Wildnet records for Fraser Island list 878 vascular plants — 195 weed spp. and 673 native spp) including introduced weeds. More native species have been identified from Cooloola than Fraser Island because it has been more intensively researched. Stradbroke Island has a list of 599 native plants. Curiously despite its greater exposure to weed threats in 2008, only 181 species of weeds had been listed. Most observers agree that there are many new species of both plants and animals waiting to be discovered on Fraser Island (Kgari).

The BioBlitz starts knowing 112 species of fungi and 611 animals including 378 species of birds, 78 mammals (including horses, pigs, cats and dogs) and 46 reptiles having been recorded. It will be good if we can report a drop in species such as ruling out the presence of alien animals such as horses or dogs in the study area.

Discovering Another New Species

FIDO's new Nature Walk at Eurong passed through the middle of a curious plant that amateurs couldn't identify. So it was sent to the Queensland Herbarium for identification. It was confirmed as *Desmodium gunnii*. Although this species has wide distribution in eastern Australia, it had never before been recorded from Fraser Island. It makes you wonder how much more we may find if we start looking more closely.



Desmodium gunnii discovered on K'Gari by a FIDO volunteer

T, T & T Conference Developments

FIDO has collaborated with the University of the Sunshine Coast for years with our Biennial Conference. The collaborations have developed a stage further with the coincidence of FIDO's conference on the Ekka holiday (**Wednesday 16th August 2017**) and the planned USC Fraser Island Symposium oriented to a more academic audience on the next two days, followed up by a two day field trip to Fraser Island with accommodation at Dilli Village. Thus the T,T&T conference will be more relevant to laypersons than our 2015 S, S & S (Sand, Sun and Sea) Conference.

With only 11 months to go, FIDO's conference program is now taking shape and will have a heavy focus on identifying problems and discussing solutions to deal with them. FIDO has identified four major threats to Fraser Island (climate change, the fire regime, the impacts of traffic of all kinds and feral intruders (weeds and pest fauna). The Conference will be seeking to focus on ways that ordinary citizens can help understand and address these problems.

7th Biennial Great Sandy Conference

Fraser Island -
Time: 25 years since Fraser Island's World Heritage inscription
Tide: Trends influencing the island and surrounding sea environments
Tourism: Analysis of benefits and impacts from about 400,000 visitors annually

Wednesday, 16th August 2017, 9.00am to 5.00pm
 at Innovation Centre, Sippy Downs
 University of the Sunshine Coast, Queensland
 (PLEASE PUT THE DATE AND VENUE IN YOUR CALENDAR NOW!)

KEYNOTE SPEAKER: Writer and Broadcaster, Dr Martin Buzacott

The full program includes lunch and refreshments and will cover a range of citizen initiatives from planning to volunteer projects to protect Fraser Island (K'Gari)'s World Heritage values and natural integrity. It will discuss problems and solutions. Topics will range from findings of the BioBlitz to the use of the walking tracks as well as the many methods and collaborations to tackle weeds. The conference will also hear progress on the study exploring sustainable options.

As the conference program develops details will be posted at www.fido.org.au

Organized by: Fraser Island Defenders Organisation, FIDO: The Watchdog of Fraser Island
 Supported by: University of the Sunshine Coast & Fraser Island Natural Integrity Alliance

Drought in Community Consultation

Fraser Island (K'gari) has gone for a full 12 months without any formal community consultations. The last formal meeting of the wilderness World Heritage Advisory Committee was in August. The terms of the representatives on those committees expired in December so nominations were called from the public. Those nominations had to be evaluated, recommendations made approved by the Environment Minister Steven Miles and by the Federal Environment Minister, Greg Hunt. Then for unexplained reasons they became stalled in the Queensland Premier's Office. At the time of going to press the reappointment of a simple process for community consultation has been fumbled, stalled and bungled for more than 9 months to appease political processes while denying the community input into critical decisions being made on K'Gari's future.

Horses for Courses

It has been recently discovered that a very secretive mob of feral horses have been hiding away in the northern part of Fraser Island very anxious to avoid detection and subsequent deportation. After horse remains were detected in dingo scats, camera traps were able to confirm that K'Gari wasn't brumby-free as had been supposed for over a decade. In 2005 it was thought that the last of the brumbies had been moved to mainland homes. That supposition was wrong and it is now thought that numbers have built up to a dozen or more. While it isn't a high FIDO priority, we support the removal of this mob whose numbers are growing despite predation by dingoes.



Great Sandy Maritime Anniversaries

Some 2017 anniversaries are reminders of the significant role that shipping has played in Fraser Island history. For a time in the 1800s the Port of Maryborough was much busier than the port of Brisbane. That had sad consequences for the Butchulla who were introduced to opium and alcohol by passing seamen who also left behind venereal disease that seriously impacted the Butchulla lifestyle and health.

There may be a different impact from shipping in 2017. With sophisticated navigation equipment, large, ocean-going cruise liners can now anchor in the calm water off Kingfisher Resort and unload 1000 people at a time onto Fraser Island. In 2016 there will only be two such visits but 7 liners are due to anchor there in 2017. In aggregate those seven visits alone will increase annual visitation by about 1.5%. While these are short day visits the impacts come through having so many people at one time (POAT) at specific sites such as Lake McKenzie (Boorangoora) and Central Station.

2017 is also the 100th anniversary of the opening of the Urangan pier. The jetty decking stands atop turpentine piles drawn from Fraser Island. Because *Syncarpia hillii* was inclined to warp and twist, until the 1950s it was harvested almost exclusively to be used as piles. Turpentine piles were used for such formidable structures as the Urangan Pier. They were used to reconstruct London's Tilbury docks after the German blitz. They were used as shoring in the Suez Canal.

Bullocky Arthur George Smith's teams hauled the many logs used to support the jetty. Smith's Poyungan Road on Fraser Island was named after him.

The Queensland Government is spending \$175,600 to restore a quaint lighthouse that has stood on Woody Island at the head of Great Sandy Strait since 1867. Environment Minister Steven Miles told how his father was part of the team taking gas bottles and other supplies and services to Big Woody Island and his great uncle skippered the Urangan tug that serviced the island. The whole of Woody Island is part of the Great Sandy National Park and was one of the drivers for the establishment of the Fraser Coast conservation movement in 1967.

New Data on Dingoes Shows a Healthy Population

No visit to Fraser Island (K'Gari) now is complete without some unknowing person making a comment about "the dingo problem" there. So many reports have focused on dingoes attacking humans and humans poisoning or badly interacting with dingoes, that people are likely to overlook the reality. In the last twelve months FIDO volunteers have spent more than 450 person days working on Fraser Island (K'Gari) without any adverse interactions with dingoes. It is good therefore to read the latest peer reviewed scientific papers by Linda Behrendorff (QPWS) and Ben Allen (USQ) with real data showing what a healthy Dingo population lives on our island.

FRASER Island's dingo population is healthy and has a wide variety of food on offer in the animal kingdom. The data shows that Fraser Island dingoes are far from starving, or having restricted diets or are in poor physical condition. It indicates that dingoes on Fraser Island are capable of exploiting a diverse array of food sources, which contributes to the vast majority of them being in good to excellent physical condition.

On average K'Gari dingoes are a few kilograms heavier than their mainland counterparts due to a better diet and fewer parasites. They don't need feeding. Most dingo problems on the island result from visitors assuming that because dingoes looked like a domestic pet, they could be treated like one.

Queensland Parks and Wildlife Service rangers have been tagging the dingoes since 2001. This has provided data for a 14-year research program on the island led by Linda Behrendorff. So far the research has shown that Fraser Island's dingo population is healthy and has a wide variety of food on offer in the animal kingdom. The data is based on observations and records from tagged dingoes and from analysis of dingo scats to show what their diet consists of.

Not such scatty data: Some very interesting data has been derived from the dingo scats. For example, the detection of horse hair in the scats was a clue to the secret small population of brumbies hiding in the northern part of the island where they have been very keen to avoid being seen or captured for over a decade. They have also shown up the presence of threatened long-nosed potoroos and eastern chestnut mice. Eastern grey kangaroos and feral pigs rarely seen on the island have been also found in scats.

Back to a more natural diet: The analysis has shown a return to a more natural diet over the past 20 years as the exclusion of dingoes from open rubbish dumps and other substantial sources of human food (such as townships and campgrounds) is changing dingo behaviour.

Based on 2,196 dingo scats, 144 stomach samples and more than 30,000 camera trap records, it was found that Fraser Island dingoes eat prey ranging from tiny insects to giant dead whales washed ashore – and everything in between. The most frequently occurring food items in scats were northern brown bandicoots (47.9%), followed by fish (26.8%) and large skinks (11.5%). Unfortunately traces of plastic, fish hooks and shoes were also found in the dingo scats.

Weighty evidence: From 455 weight records (the largest known sample of dingo weights ever reported), Fraser Island dingoes over 12 months of age weigh in at 16.6 kg on average, compared to mainland dingoes' typical weight of only 15.7 kg.

When it comes to body condition, scores (ranging from 1 for skinny dingoes to 5 for grossly obese animals), nearly 75%

of dingoes scored 4 or 5. Only 5.6% had a score of 2.5 or less. Parasite loads were also low and comparable to other dingo populations.

Longevity: A female dingo was captured, microchipped and ear-tagged while a sub-adult in February 2003, recaptured and retagged in March 2012, and then found dead. At age 13 she is the oldest recorded wild dingo.



Eurong Dingo

Six Dead Dingoes

Another example of contempt of law at Orchid Beach: In June six dingoes were found dead in the Orchid Beach area in what has been described as a "very disturbing situation". Rangers found six dingo carcasses, with one of the bodies found buried in a shallow grave. All had been poisoned and autopsies revealed they were likely poisoned with 1080 (sodium fluoroacetate).

Fraser Island rangers were still searching the area for the killers of the dingoes. QPWS officers and the police are all investigating and will pursue them to the maximum extent possible under the law which is \$353,400 or two years' imprisonment. So far there have been no prosecutions.

Questions About the Fire Regime

Because the QPWS burning season on K'Gari hadn't ended as this MOONBI was being prepared for press, we don't have any firm details of the extent of the burning carried out during 2016. However the extensiveness of the area burnt between the Moon Point Road and Bowarrady has had many Fraser Island veterans shaking their heads and questioning the rationale for such a massive contiguous area to be burnt in one season rather than in smaller patches over a longer period. FIDO believe that fire needs to be part of the K'Gari environment but we wonder if the scale of the burnt area was determined by budget, whim or convenience?