

FIDO's K'Gari E-News No 9 (2nd January, 2017)

Rounding off of a very busy 2016 update by the Fraser Island Defenders Organisation

The big event of the year for FIDO was the Beach to Birrabeen BioBlitz that was held only a few of weeks ago. But so much more has happened. John Sinclair recently completed a trip through western China visiting nine World Heritage sites along the eastern edge of the Tibetan Plateau while volunteers spent two separate weeks working on Happy Valley and Eurong weeds and two other volunteers installed another on-line weather station at Eurong this time as we assist in expanding the capacity for environmental monitoring on K'Gari. This ends the 46th year of FIDO's indefatigable efforts to protect and have recognized K'Gari's outstanding natural integrity

The First K'Gari BioBlitz

From 28 November to 4 December, 2016 a multidisciplinary team based at the University of the Sunshine Coast's (USC) Dilli Village Research and Education Centre carried out the first of what are hoped to be regular BioBlitzes to better document the species on Fraser Island (K'Gari).

The BioBlitzes are a kind of stocktake to develop an inventory of every living thing on K'Gari. They are extremely important on K'Gari because biological values are one of the three natural values for which K'Gari has been inscribed on the World Heritage list. Criteria (vii) recognizes K'Gari's outstanding aesthetic values. Criteria (viii) recognizes the ongoing geological processes which are currently being studied over three years by a team from the University of Queensland. Criteria (ix) recognizes that the island *"represents an outstanding example of significant ongoing biological processes. These processes, acting on a sand medium, include biological adaptation (such as unusual rainforest succession), and biological evolution (such as the development of rare and biogeographically significant species of plants and animals). Vegetation associations and succession represented on Fraser Island display an unusual level of complexity, with major changes in floristic and structural composition occurring over very short distances."* It is this criteria that the BioBlitz was addressing.

Establishing base-line data about the biota of K'Gari is an extremely challenging task. It requires lots of human resources, more resources than the Queensland Government can provide. That is why FIDO hit on the idea of engaging citizen science and volunteers to assist the process and engaged in a collaboration with the University of the Sunshine Coast to embark on a Bioblitz to build on the Wildnet list of the various life-forms that have been reported. A start was made selecting a 50 km² study area reaching north and west of Dilli Village. It encompassed all of K'Gari's dune systems and sampled most of its ecosystems. It is expected to take years to complete the species list but a significant jump in the Wildnet species list was made.

There were two very significant impediments to maximising the species list/s.

The first impediment was restrictions on where the scientists could work created by the extremely hot dry conditions. In the interest of public safety the QPWS had closed most sections of K'Gari's Great Walk and feeder tracks. This was justified when one of the many bolts of lightning we saw during the BioBlitz ignited a serious wildfire. Luckily the wind drove the fire away from Dilli Village to Hook Point. The event also coincided with a serious heatwave in South East Queensland.

The other impediment was that the University of the Sunshine Coast was denied the requisite Research Permit. A permit under Queensland's Nature Conservation Act is required *"to take, use, keep or interfere with a cultural or natural resource"* within a National Park. The lack of a permit for scientific research meant that several scientists were unable to participate and those that did were seriously hampered by the lack of a permit that would have allowed the collection of specimens in accordance with the terms of the permit. It would have allowed specimens of plants with questionable identity to be sent to the herbarium for positive identification and invertebrates to be put under the microscope to clearly define them. Notwithstanding, the results of our observations were very impressive.

Methodology and People

The Bioblitzers covered a large age range from early 20s to advanced 80s with equally divergent levels of expertise from enthusiastic rank amateurs to PhDs covering a range of specialities. Not all of the Bioblitzers could be there for the whole week. Some came late and some had to head home early so that the full complement was never there at any one time. While some Bioblitzers came from far afield (Melbourne and Ballarat) there was strong local participation from the Fraser, Cooloola and Sunshine Coasts.



Some of the Bioblitzers at the conclusion of the event.

The lack of a Permit stopped many professional biologists participating; however, it certainly didn't stop the extensive mentoring of the citizen scientists by those that were there. In addition to the expert and amateur biologists who had assembled to document their sightings

there were two other groups of people. There was a support team of technology specialists and librarians from the USC as well as people assisting with the administrative tasks. Science and arts were combined with the participation of a team of five artists from the local region who shadowed the event photographing, painting and drawing the participants and the activity.

Despite the impediments, the Beach to Boomanjin and Birrabeen BioBlitz pioneered a new approach to evaluating K'Gari's natural resources using citizen science through observations only to develop a comprehensive species list of sightings from dingoes and snakes to fungi, native bees and ants, birds and plants.

Teams were loosely based around those with a special interest in plants, those interested in any kind of terrestrial fauna (the Critters Team), those with a passion for birds, and those with a special interest in fungi.

Due to the restricted use of walking tracks (most of which were closed due to dry weather and safety considerations) the teams couldn't move far into the bush and were mainly confined to roads. They were also working in searing heat with daily temperatures away from the coast well into the 30s.

There were five study areas and the groups rotated over five days into different habitat zones. The zones were:

1. The Eurong township area
2. Central Station area
3. The Southern Lakes
4. The Airstrip and environs and the DM sandmined areas
5. Dilli Village the adjacent creeks and the beach.

It will take time to digest and fully analyse the findings but the process is well under way and further reports will flow. All of the data has been added to the Fraser Island Repository at the University of the Sunshine Coast. One Bioblitzer was a grass specialist. She was able to visually identify 50 species of grass. This greatly expands the number of grass species previously known from K'Gari. The Fungi team is reported to have identified 74 species of fungi which means they have added many new species to the Fraser Island Wildnet List. Skeletal remains were found of a giant cockroach and a Cooloola Monster.

This event, along with potential future Bioblitzs, and together with the USC's growing Fraser Island Repository, will all help to add to our knowledge of this World Heritage site inscribed for its biological, aesthetic and geomorphological values.

The outstanding naturalist and photographer, Ian Morris, came down from Darwin and has produced a fabulous photographic presentation of his observations during the BioBlitz demonstrating how much can be achieved from observations only. There will soon be an 18 minute presentation available for viewing at www.fido.org.au

The blending of such a diverse group of people with such a range of expertise and experience produced an outstanding learning environment. People learnt from and about the environment and their fellow citizen scientists. Everyone was left wanting an encore as soon as it can be arranged. FIDO thanks the staff of Dilli Village and the caterers but we are most indebted to University of the Sunshine Coast for its generous strong logistical

and moral support to help this first Bioblitz on Fraser Island (K'Gari) turn out to be such a pleasurable learning experience in citizen science.

Fraser Island BioBlitz ABCs

By Maria Miller

Azure Kingfisher, Angiosperm, Aquifer, Airstrip, ABC
Butchulla, Blackburn, Barge, Beach, Banksia, Bumps, Bats, Birds and Bees
Caspian Terns, Critters, Cycads, Citizen Science, Collembola
Dingoes (Canis familiaris), Dunes, Dilli Village
Eurong, Ecology, Escape, Estuarine
FIDO, Fungi, Fen, 4WD, Fearless Leader, Fire
Graham and Simon fuelled us, GPS, Goannas
Honeyeaters, Hethland, Hoya Australis
Island, Insects
Jack and I made it to Basin Lake and back to Central Station
K'Gari
Lightning strike, Lichens, Lakes, Long Nose, Librarians
Mosses Mistletoe, Marine, Maheno, Magic, Moon
Nursery, Night sky
Ocean, Osprey, Office Lens App
Pile Valley (and the eel) Perched Lakes, Permits, Plants, Photos
Quail (Black-Breasted Button)
Regional artist, Rangers, Rainforest, Rhizoid
Sea Eagles, Satinay, Skinks, Sand, Swamp, Springtails
Trees, Timber, Traction mat, Tipple
USC (a great partner) UNESCO
Vines, Vertebrates, Vegetation
Wallum, Water, Wedding Bush, Wompoo, World Heritage
Wind n'Waves
Xcellent collaboration
Yankee Interloper ("Yes" to another Blitz or Bee)
Zonation or Zamia (as in Macro)

to be continued ...



Fraser Coast Regional Artists and Tutors (RATS) creatively capture the Bioblitz in many forms and, media and styles

Handling the Millions in Chinese Natural World Heritage Areas

by John Sinclair AO

Last October I learnt many lessons on how the Chinese are managing millions of tourists as the Chinese travel more extensively. The most significant ones pertinent to the five natural sites were crowd management and valuing World Heritage recognition.

I visited 9 World Heritage sites in the journey in western China from Xian where the Silk Road to the west begins to Yunnan Province where the southern Silk Road (better known as the Tea and Horse trail) into Burma and Southern Asia begins. My travels criss-crossed the Tea and Horse trail that until the 1940s was still used by 10,000 horses and caravanners daily. The five natural World Heritage sites I experienced were near the eastern edge of the Tibetan Plateau where the basic height was 2,000 metres but reaching much higher.

The most memorable and exciting experience was visiting the Jiuzhaigou National Park that was inscribed on the World Heritage List in 1992, the same year as Fraser Island. At 72,000 hectares the Park is just under half the size of K'Gari. Visitation has grown from 5,000 in 1984 to 170,000 in 1991 just before World Heritage listing. Numbers increased to 1,190,000 in 2002, but are now estimated at 7,000,000 annually and expected to balloon even more when the new railway from Chengdu targeted at Jiuzhaigou is completed in two years time. There was a proposal to enforce a maximum quota of 12,000 but this obviously hasn't happened as the crowd now averages 30,000 daily.

There is only one entry station where our tickets cost \$Au40 each for seniors. Full adult price was \$Au80.00. Based on the average daily attendance, that produces an income of \$Au2,000,000 per day for at least 8 months of the year. In addition there was the other income generated by the businesses that capitalize on the tourists drawn to the park.

It was an amazing experience to be part of a crowd of 30,000 bustling to get access to a National Park and even more interesting to see how this park was able to cater for such daily numbers as well as the indigenous communities that still live within the park.



The largest of many waterfalls in Jiuzhaigou World Heritage site. — 320 metres wide, 23 metres in height

The management of the large crowds in these natural World Heritage sites was most informative. The only serious crowd control I saw exerted was by a small, unarmed contingent from the Red Army stopping a crush at the entry gates to Jiuzhaigou. The rest was managed by logistics. For example, entry to Wulong Karst was by elevators releasing about 12 people at about 3 minute intervals. This helped

spread the crowd out. There were shuttle bus services in every park and chair lifts in some and these had the effect of dispersing the crowds relatively quickly inside the World Heritage sites. Also although there was no sign directing pedestrian traffic, almost all of the pedestrian traffic followed in the same direction, which helped eliminate the bustling of crowds. Another measure was that all of the pathways were wide and slightly raised. Most were made of wood, grooved to be non-slip and well maintained. The boardwalks needed to be wide because of the extraordinary number of Chinese stopping in optimum positions to pose for selfies. This slowed up the traffic. Selfies need to be banned in parks.

The paths had the effect of stopping people straying. Only once in Wulong Cave did I see a person leave any path and they were quickly admonished by other visitors and returned to the path without any formal enforcement. The only prominent "don't do" signs were in sites that were very vulnerable to fire where there were reminders not to smoke. The rest of the signs bore positive messages.



Over 100 shuttle buses were used in Jiuzhaigou National Park to allow people to hop on and hop off to explore the attractions of the park as far as 30 kilometres up each of the two valleys. Pedestrian overpasses in safety interests have recently replaced zebra crossings. There is a toilet at every bus station.

The most obvious aspect of a visit to these sites is just how prominently and how proudly these sites are badged with the World Heritage logo. Whereas it is hard to find a World Heritage logo on Fraser Island unless one looks towards the fine print and the certificate of inscription has been lost, in each of these Chinese World Heritage sites the logo was not only extremely prominent at the entrance to the sites but was shown throughout the site without being overdone. This had the effect of getting people to treat the sites more respectfully as a result. In the cultural sites the World Heritage Logo was on every street corner sign and on the safety signs such as warning on fire risks etc.

I have previously noted the prominence given to World Heritage by other countries. I have visited more than 100 foreign World Heritage sites and every one gives more prominence to the World Heritage status than Queensland gives to Fraser Island (K'Gari)' World Heritage status.



FIDO and the Butchulla

Since its formation in January 1971 FIDO has fought to protect the outstanding natural and cultural values of Fraser Island (K'Gari).

- FIDO succeeded in leading the fight to save Fraser Island from widespread sandmining in the 1970s.
- FIDO fought a 20-year campaign to see the cessation of logging and the listing of K'Gari on the World Heritage list.
- Throughout this time FIDO has sought to work cooperatively with Butchulla people to advance the Butchulla interests on K'Gari
- It was FIDO that obtained and presented submissions from Butchulla elders Isaac Owens and Ethel Richards to the Fraser Island Environmental Inquiry in 1975.
- It was FIDO who overcame objections by the Queensland Government to introduce Dr Peter Lauer to K'Gari which was the start of the recognition of the island's great archaeological heritage.
- Peter Lauer's interests snowballed into the uncovering of the cultural history published by the University of Queensland in 1978
- John Sinclair, FIDO's representative on the Community Advisory Committee, led the moves to restore Butchulla names to significant K'Gari places.
- John Sinclair at his own expense took Butchulla men on Kimberley safaris to gain wider cultural experience.
- FIDO volunteers have for the past decade been actively involved in preserving K'Gari's natural integrity by preventing the spread of weeds and controlling them in the centres of major weed infestation in the townships.
- For 46 years FIDO has published newsletters, backgrounders and a range of other publications to advance a wider appreciation of the Butchulla connection with K'Gari.
- FIDO fully supported the Native Title determination in December 2014 that was a long time coming.

FIDO has carried out all of this work with no member being paid for their services. Members are driven entirely by the desire to protect K'Gari's outstanding universal value. FIDO believes that we share that vision with the Butchulla people and seek to work collaboratively to achieve that vision and in the process to advance the interests and welfare of the Butchulla people.

The Green Army

FIDO hosted two Green Army teams on Fraser Island during 2016. The communications between the Green Army and FIDO, the project host, left a lot to be desired. There were no convenient opportunities to meet with the team supervisor. When we had a definite appointment to meet at Happy Valley in September, the team failed to even visit the island that week without notifying FIDO. The reason was that some of the team were waiting to be issued with new uniforms. The second truncated round began in August but we have no details other than observations. Many of the projects nominated in the application such as dealing with weeds at Indian Head weren't able to be dealt with due to teams only working on K'Gari from Monday to Thursday including travelling time. The participants in the Green Army

unquestionably developed their personal work-skills and there was some useful work done but the total productivity was well below FIDO's expectations. FIDO doesn't anticipate seeking to host future Green Army projects under the present arrangements.

FIDO's Newest On-line Weather Station

It is critical to have as much data as possible about Fraser Island (K'Gari). For some time now FIDO has worked on remote rain gauges to collect rainfall in three locations but these are difficult to access and monitor. In 2015 Dr Alex Zangeri volunteered to help Keith Sinclair establish a full weather station at Happy Valley where the data can be read on-line and in real time. It shows the data for the previous 14 days which gives some idea of the condition of the sand tracks. However the data is fed into both the Bureau of Meteorology and Weather Underground for all data captured to be stored permanently.

In December, coincidental to the BioBlitz, the dynamic duo, Alex and Keith established a second weather station this time at the busiest hub on the island, Eurong. If you want to see any weather data you can see it on-line at <http://fido.org.au/weather/eurong> FIDO's thanks go to these technical wizards who are able to create and install these weather stations for a fraction of the commercial price.

If FIDO's grant applications are successful Alex and Keith have agreed to add three new on-line weather stations in 2017. These will help develop a more comprehensive picture of rainfall patterns and variability extending from Eurong to Waddy Point and complement other recording devices.

The potential network of weather stations is currently limited the range of 3G reception on the island but future plans will aim at providing more such stations as our resources allow. They are useful to help relate to erosion of the roads, fire management and impacts on ecosystems.



Dr Alex Zangeri proudly beside the newly installed device sending weather data from Eurong to three web sites

K'Gari Distances: Dilli Village-Eurong 20.4 kms; Eurong to Happy Valley 22.5 kms; Happy Valley-Cathedral Beach 10.6 kms; Cathedral Beach-Waddy Point 37.5 kms; Eurong to Kingfisher 20.6 kms.

Queensland World Heritage Area Advisory Committee members announced

Media Release 28th December 2016

Minister for Environment and Heritage Protection
and Minister for National Parks and the Great
Barrier Reef

The Honourable Steven Miles

Some of Australia's most eminent scientists will provide expert advice to the State Government on how to maintain and protect Queensland's World Heritage Areas.

Environment Minister Dr Steven Miles said five advisory committees had been appointed to cover the Fraser Island (K'gari), Gondwana Rainforests of Australia and Australian Fossil Mammals Sites (Riversleigh section) properties.

"The advisory committees will ensure the best management of the outstanding universal value of Queensland's World Heritage Areas," Dr Miles said.

"They will provide scientific, technical and community advice on how to conserve these properties.

"Our new members bring a wealth of knowledge from a diverse range of backgrounds including Traditional Custodianship, conservation, botany, zoology and tourism."

The committees are responsible for advising managing agencies and the Australian and State Government Ministers responsible for World Heritage.

This includes matters relating to the identification, protection, conservation, presentation and transmission of World Heritage values.

Dr Miles said Queensland's World Heritage Areas are some of the best examples of the world's cultural and natural heritage.

"Riversleigh has the richest fossil mammal deposits in Australia which have contributed to our knowledge of prehistoric mammals and the evolution of Australia's unique wildlife," Dr Miles said.

"Fraser Island (K'gari), the largest sand island in the world, is an outstanding example of ongoing biological, hydrological and geomorphological processes.

"The Gondwana Rainforests of Australia contain outstanding geological features and a number of rare and threatened species of international significance for science and conservation.

"The advisory committees play a vital role in ensuring these important natural and cultural sites are conserved for future generations to enjoy, and I welcome their appointment."

For more information about Queensland's World Heritage Areas, visit www.ehp.qld.gov.au.

Fraser Island (K'gari) Scientific Advisory Committee

Dr James Schulmeister (Chair)
Dr Sandra Brizga
Dr Terry Brown
Associate Professor Patrick Moss
Professor Ian McNiven
Associate Professor Annie Ross
Dr Andrew Olds
Dr Angela Wardell-Johnson
Dr Desmond Boyland
Associate Professor Neil Tindale

Fraser Island (K'gari) Community Advisory Committee

Ms Sue Sargent (Chair)
Mr David Anderson
Mr Glen Miller
Mr John Sinclair
Mr David Hay
Ms Shirley Blake
Ms Gemma Cronin
Cr George Seymour
Mr Luke Barrowcliffé
Ms Emma-Kate Currie
Dr Kim Moreland
Mr Paul Fishburn



The new Community Advisory Committee at first meeting at Hervey Bay on 9 November 2016



Juizhaigou daily disperses 30,000 people by shuttle buses