

protected

Magazine of National Parks Association of Queensland

The Benefits of Citizen Science

Biodiversity Assessment & Monitoring in
Protected Areas

Great Sandy National Park

Fraser Island

Perched Dune Lakes

The National Park Experience

Issue 13 February - March 2017



Connect and Protect



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Cover - Lake McKenzie (Robert Ashdown,
Queensland Government).

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FROM THE PRESIDENT



Michelle Prior, NPAQ President

Welcome to 2017 at NPAQ.

To start the year off, the Department of Environment and Heritage Protection has released the Draft Protected Area Strategy for public comment (until 24th February 2017). The draft Strategy is the first substantial terrestrial conservation policy released by the Queensland Government since the Biodiversity Strategy 2011.

The Draft Strategy identifies eleven Guiding Principles and covers four key components: 1) Expanding and better managing the protected area system, 2) Private protected areas, 3) State owned and managed protected areas, 4) Shaping the future of Queensland's protected area system. After noting the existing initiatives within each component, 19 proposed actions are identified that aims to reform Queensland's protected area estate. Proposed actions include:

- increasing recognition of Indigenous Protected Areas,
- improving the protection of private conservation land through legislation,
- developing incentives to establishing and maintaining private conservation land,
- protecting local government conservation lands,



- reviewing revenue and funding mechanisms for the parks estate,
- exploring alternative ways to manage parks (eg partnerships, volunteering),
- encouraging philanthropic investment in the parks estate,
- developing a medium-term target for working towards a 17% terrestrial protected area coverage.

Queensland is internationally renowned for its biodiversity and natural beauty and is in need of a forward-thinking strategy to deliver a work-class protected area network. NPAQ will be looking closely at the detail in the draft strategy and drafting a submission. Our submission will focus on ensuring the best outcomes for national parks and Queenslanders.

After reading the draft Strategy, you may like to participate in the Government's online survey, or send your feedback to the NPAQ office by email (admin@npa.org.au) or post (PO Box 1040 Milton QLD 4064) – keeping in mind the date consultation closes.

This edition of Protected includes an article on citizen science. From humble beginnings, citizen science now plays an important role in scientific research. Eager community volunteers spend their free time collecting a wealth of data, and playing an important part in conserving our unique wildlife and landscapes. Citizen science projects are invaluable in collecting data that compliments or enhances professional scientific data, or fills important gaps.

Whilst citizen science projects may entice prospective volunteers with a catchy name, such as 'Who's Living on my Land?' (NSW National Parks Association), or 'Caught on Camera'

(Victorian National Parks Association), projects channel the enthusiasm and dedication of thousands of Australians into valuable conservation outcomes. In order to ensure that the community's efforts are effective, citizen science projects are supported by training, manuals, guidelines, and a range of IT resources.

Many citizen science participants enjoy not only the ability of contributing to a worthwhile endeavour, they learn about the species being monitored, which enhances their appreciation of the natural world around them.

If you are interested in participating in exciting citizen science projects, keep an eye on the Community Conservation section of fortnightly editions of Neck of the Woods.

Images

Birds in the Reeds, Lake McKenzie -
Robert Ashdown (QLD Government)

Citizen Science - NPAQ Image Library



THE BENEFITS OF CITIZEN SCIENCE

Lucy Hollingsworth, Project Officer, NPAQ

Encouraging our urbanised population to connect (or re-connect) with nature is one of the most effective means of changing people's perception and encourages an appreciation for protected areas such as National Parks.

Citizen science initiatives provide the ideal chance for people to get involved directly with conservation and through doing so gain a greater understanding and respect for it.

Citizen science also enables members of the public a great opportunity to work closely with scientists on important scientific projects which benefit the wider community.

Many Australians cherish their environment, as we are so fortunate to be surrounded by such rich biodiversity at every turn. As such, there are currently approximately 130,000 Australians that are active in over 90 citizen science projects, predominantly in environmental science fields.

Many kinds of organisations are also involved, including universities, all levels of government, schools, industry groups, community groups and museums. Hence, attracting a range of people- those with little prior knowledge of Australian wildlife to experienced amateur naturalists, all making a difference to the environment around them.

The diversity of the projects and sheer amount of data that can be collected through these projects, provide observational records that could otherwise not be achieved by a single scientist, or small study team, which are subject to time and funding constraints.

It is also crucial in the face of a fast-paced changing climate, that everyone be involved in citizen science projects. In this way mega-data can be collected and analysed so that adaptive mitigation responses can be formed and we can (hopefully) avoid complete disaster.

It also aids scientific research greatly, especially where development springs up in the blink of an eye before studies can be completed. For example, a koala search in South Australia conducted by over 500 people managed to record 1,500 sightings in a single day as part of *The Great Koala Count*. Enabling researchers to develop a model of koala distributions from the spatial data collected. Such an undertaking would otherwise have taken months to complete by a small research team.

There are many benefits of citizen science programs, including the vital contribution to the growth of Australia, and the protection of its unique fauna and flora as well as tangible advantages gained for the research community, individuals, and society.

Citizen science is a way to further increase a person's exposure to the natural world, and through this, manifest a deeper appreciation and sense of belonging to something greater.

When the Australian Conservation Foundation asked readers to participate in a survey, inquiring whether they would rather be a part of - a movement, a team, a network or a community - the majority vote was to be a part of a community. There is no better community than one that is environmentally conscious

through involvement with citizen science projects.

Citizen science provides new information to protected area managers and decision-makers, through highlighting issues such as; pest and disease outbreaks, pollution breaches or the discovery of new species.

It also creates a greater understanding of science principles, increasing education which leads to the development of new skills, and helps the research community gain an increased scale of data collection and access to resources such as private land.

One citizen science project of great success in protected areas is that of the 'Eye on the Reef' monitoring and assessment program run by the Great Barrier Reef Marine Authority (GBRMA). The Great Barrier Reef is an extensive ecosystem and is one of Australia's most obviously and disastrously affected by climate change. Extensive research is conducted for mitigation control, but it is impossible to cover such a vast and complex area.



The Eye on the Reef program encourages and provides every visitor (over 2.62 million/yr in 2016), the opportunity to aid in data collection and analysis, subsequently, contributing to the reef's long-term protection.

The program provides different opportunities depending on skill levels and commitment. For example, more experienced reef users with more time might be involved in underwater monitoring to record specific reef health observations which can be uploaded online. While any regular tourist can easily download the app and report their sightings while aboard their first ever glass bottom boat tour of the reef.

All data is then combined into one data management and reporting system which informs Marine Park managers and researchers of up-to-date information regarding reef health, trends and distribution of important species.

Another recent citizen science expedition with encouraging outcomes occurred on Fraser Island in December last year (2016) organised by the Fraser Island Defenders Organisation (FIDO). It was the largest biological stocktake to be undertaken in a World Heritage Listed site.

The Bio-blitz involved over forty scientists, and supporting citizens from all over Australia spending a week photographing, documenting, catching and releasing Fraser Island's plants and animals, specializing in a range of fields from grasses to native bees.

The primary aim of the expedition was to create a database but the team also ended up identifying numerous new species, not believed to have been documented before.

Not only is citizen science benefiting scientific research it also enriches human wellbeing by acting as an experience to further encourage people into National Parks and other protected areas.

With the majority of Queensland's population residing in cities and highly urban areas our children are spending more and more of their down time indoors.

This brings to life new terms such as 'Nature Deficit Disorder' and the 'Extinction of Experience' which describes how more people, especially children and teenagers, are losing touch with their surrounding natural environment.

An active connection with nature provides a way to address a range of health issues, and Queensland's parks and forests provide unlimited citizen science opportunities to encourage this connection.



What better way to get young boys and girls out and away from that computer screen then with the prospect of helping save the world?

We are in the centre of a phase in history where every single human being should understand how they impact the Earth. Individuals alone cannot solve the pollution and extinction crisis, but perhaps if we work together as a mobilised and organised community, we might just create the change we wish to see in this world.

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Koala, Karen Langton

Coral Reef, Toby Hudson via Wikimedia Commons

BIODIVERSITY ASSESSMENT & MONITORING IN PROTECTED AREAS

Extracts from the KMTNC and UNEP-WCMC Guidelines

Graham Tucker (Ecological Solutions), Phillip Bubb (UNEP-WCMC), Mireille de Heer (UNEP-WCMC), Lera Miles (UNEP-WCMC), Anna Lawrence and Jeanette van Rijsoort (Oxford University Environmental Change Institute), Siddhartha B. Bajracharya (KMTNC), Ram Chandra Nepal (KMTNC), Roshan Sherchan (KMTNC) and Nawarai Chapagain (KMTNC).

The King Mahendra Trust for Nature Conservation. Nepal and the UNEP-World Conservation Monitoring Centre, Cambridge, UK

One of the principle reasons for creating National Parks and other types of protected area is to conserve the special biodiversity values within them. Effective conservation of this biodiversity normally requires management actions that are best carried out within some form of management planning framework.

To develop an effective management plan requires an initial assessment of the status of biodiversity, to set the priorities and objectives for management, and then ongoing monitoring, to establish whether, management actions are achieving their objectives.

Biodiversity assessments, therefore, normally form key components of protected area management plans, from which monitoring strategies and programs are identified and implemented.

Biodiversity assessment is the first stage in the process of defining the biodiversity management objectives for an area. Its purpose is to gather and assess the information required to make decisions and recommendations for the future.

In the context of management planning for a protected area a biodiversity assessment involves measuring or surveying what exists in the area and what is known about it, judging its value and identifying the most important features.

Assessments therefore need to involve a social component that identifies biodiversity features of high socio-economic value, as well as features of high aesthetic, cultural or intrinsic value. Assessments also typically include identification of the principal factors affecting the

important biodiversity features within the protected area.

Biodiversity Monitoring

Protected area management defines monitoring more rigorously as: "the collection and analysis of repeated observations or measurements to evaluate changes in condition and progress toward meeting a management objective"

Thus, in the context of protected area management needs, monitoring is carried out to determine if biodiversity conservation, livelihood enhancement and other objectives are being met, such as the maintenance of the existing area of a particular habitat or a specified number of a particular species.

It is better to think of monitoring in this more precise way, because it helps to ensure that protected area monitoring programs and their methods are focused on protected area objectives, and so support their achievement. Thus, a protected area monitoring program has a specific purpose, tied to objectives that have already been defined.

Monitoring should not attempt to describe the general ecology of a site or measure things that may merely be of interest. Unfortunately, monitoring schemes often resort to measuring a wide variety of variables, which may or may not be related to the protected area objectives and management questions that need to be addressed.

Thus, time and money may be spent collecting unnecessary data. Even worse, it may be found that key management questions cannot be answered with the information obtained.

Nor should monitoring programs be confused with research studies that are designed to establish why something is happening.

Many of the field methods and scientific principles of biodiversity assessment and monitoring can be used in research, but their purpose is different.

In particular, research may often need to be more detailed, sensitive and scientifically rigorous than required for many monitoring purposes. For example, it may be adequate to monitor vulture numbers by occasional counts of soaring birds.

This may establish if population trends are meeting conservation objectives, but will not reveal the factors determining population size.

To establish what influences population size would require much more time consuming, difficult and costly studies. These would probably not be necessary if according to monitoring data, populations appear 'healthy' and conservation objectives are being met.



However, such detailed research could be triggered if monitoring data reveal a decline below a preset warning level (which should be above the conservation objective population level).

Data Gathering

The principal aim of data gathering is to prepare an overall description of the protected area, including an inventory of the known biodiversity components that are present.

This should be carried out in partnership with stakeholders, by collating and reviewing all relevant and available information on the protected area's status, biophysical characters, human use and biodiversity.

Additional information may also need to be gathered from new field surveys and analysis of remote sensing data.

This stage of an assessment may potentially be very time consuming, and could easily become overwhelming, so it is important to focus attention on key information requirements of the stakeholders that are directly relevant to the management planning process.



Biodiversity Assessment

Unless protected area values are understood, there is a risk that inappropriate management may be undertaken, resulting in a decline in the value of the protected area and its important features.

The evaluation, therefore, forms the basis upon which conservation objectives should be set, which explicitly ensure that each feature is conserved appropriately. A biodiversity evaluation consists of two parts:

- An evaluation of protected area as a whole, which places the site in the context of its regional, national and international importance, and identifies its overall value and importance to various interest groups.
- The identification of the key biodiversity features that must be protected and conserved to maintain the importance of the protected area.

An evaluation of the biodiversity of a protected area as a whole may take into account a wide range of potential biodiversity values, including intrinsic and socio-cultural values.

Key biodiversity features (e.g. species, habitats, ecological functions) should include features that are: of high nature conservation importance. socio-economic importance. cultural importance.

The identification of key biodiversity features of high nature conservation importance should firstly take into account broad international and national conservation objectives.

In terms of global objectives, there is broad agreement that the prevention of global extinction should be the

highest priority, and therefore the degree of threat (i.e. risk of extinction) is of primary concern in setting priorities.

This is reflected in the production of IUCN Red Lists (see www.redlist.org) of species that are considered to be at risk of global extinction. The risk of extinction at national level is also the commonest basis for identifying national species conservation priorities.

Biodiversity plays a central role in our lives. We depend upon plants and animal species for food, medicines and raw materials. The genetic resources contained within biodiversity hold the basis of our continued existence. The services provided by biodiversity and ecosystems helps to sustain our livelihoods and protect our health. There has been increasing global recognition of the importance of biodiversity, but also acknowledgement that it is being lost at an alarming rate.

These Guidelines are a significant contribution to reducing this loss, as they help the managers of protected areas obtain and use the biodiversity information necessary for their work. helping them know if their actions are being effective.

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Images:

Page 6 - John Sinclair, Page 7 - Robert Ashdown

PARK IN FOCUS

Great Sandy National Park - Fraser Island Section

John Sinclair AO, Fraser Island Defenders Organisation

Fraser Island (K'Gari) has many claims to fame. It is the largest sand island in the world but is clad with the tallest forests growing on sand in the world and has more lakes than any other part of Queensland. Its natural beauty, the biological processes, and the active geomorphic processes allowed the island to meet three of the four natural criteria for World Heritage listing in 1992.

It is South East Queensland's largest natural area and with its stunningly attractive perched dune lakes, the long stretches of beaches with many sections backed by attractive coloured sand cliffs plus its impressive rainforest, it is small wonder that it attracts about 400,000 visitors annually and is Queensland's most popular National Park.

Just 260 kilometres by road north of Brisbane, K'gari's closest mainland towns are Rainbow Beach and Hervey Bay with vehicular ferries operating from Inskip Point and Mary River Heads. It is elongated, stretching 123 kilometres from Hook Point in the south to Sandy Cape in the north with an average width of 22 kilometres. 99% of the 184,000 ha island is covered by National Park and since the 2014 determination, the Butchulla people hold Native title over the whole of the National Park.

The areas excluded from the park are mainly the small urban centres of Eurong, Kingfisher Bay, Happy Valley, and Orchid Beach plus a 313 ha freehold block in an environmentally sensitive area near Moon Point.

Fraser Island's official name is derived from Captain James Fraser who died there after surviving the loss of his ship north of the island. The ordeals of his wife there in 1836 have been

widely written about and made into a film. However, it was known to the Butchulla people for thousands of years as K'Gari and there is an increasing acceptance of the K'Gari name, just as many place names on the island are now of Butchulla origin.

K'Gari forms the eastern shores of both Hervey Bay and the Great Sandy Strait, a Ramsar site. The waters surrounding it are all within the Great Sandy Marine Park.

Hervey Bay is more saline, warmer and calmer than the ocean on the other side of the island and is famed for the opportunities it offers to watch humpback whales cavorting there during their southward migration. Hervey Bay is also home for significant dugong, turtle and dolphin populations while the waters surrounding the island have long attracted recreational and commercial fishers.

The terrestrial fauna is mainly nocturnal and little seen except for the birds and dingoes which have

attracted international attention especially since 2001 when dingoes attacked and killed a young boy. Since then the Fraser Island dingoes, have become the nation's most studied population, and may become the purest strain of dingo in South-East Australia and perhaps Australia-wide, due to their relative isolation from domestic and feral dogs.

However, it is the invertebrate fauna that holds the greater interest because sand allows a wider range of soil fauna including ants and other insects, earthworms and lizards to move through it more easily than most soils.

This group of fauna is known as the 'sand-swimmers'. Due to the scarcity of grasses, there are few larger herbivores. K'Gari hosts surprisingly few arboreal mammals, although about half the total bird species of Australia and an impressive array of reptiles have been sighted there.

K'Gari's grandest features are the tall forests, the highest in the world

grown on sand dunes. The secret is in the soil profile. As the nutrients are leached to greater depths the forest declines to mallee and heathlands that mainly occur on the western side of the island where the dunes are much older.

The grandest of the trees growing in the closed forest were known to the Butchulla as Pibins (*Syncarpia hillii*). They are almost endemic to the island and grow in close association with Brush Box (*Lophostemon confertus*) and Kauri Pine (*Agathis robusta*) in a strip in the higher middle part of the island. This forest is fringed by Blackbutt (*Eucalyptus pilularis*) forest.

Although the Australian Association for the Advancement of Science identified the whole of Fraser Island as one of four outstanding areas of Australia, most suitable for national parks in 1893, it took more than 100 years before the first Gazettal in 1971 and some monumental political struggles before the National Park reached its current extent.

It required the Federal Government over-ruling the Queensland Government to end sandmining in 1976 only after a six-year conservation super storm and a commission of inquiry. It took another protracted 16-year conservation campaign, a change of government and another commission of inquiry to see the end of logging and the island's World Heritage listing in 1992. Even then it would be a further four years before the southern half of the island was given National Park status.

Based on camping statistics, Fraser Island is the most popular National Park in Queensland despite a trend away from camping to resorts and rental accommodation in the villages.

Fraser Island topped the list for affordability for any Australian beach holiday according to a Roy Morgan Holiday Tracking Survey released last October. At \$94 per person per night, it comes much cheaper than the average cost per night of \$151 per person for a domestic holiday.

K'Gari is accessible from Hook Point where the vehicular ferry lands on the island or from Mary River Heads where vehicular ferries operate to Kingfisher Resort and Wanggoolba Creek.

Fraser Island is a mecca for 4WDing, with no bitumen roads on the Island at all. Visitors should be mindful of the sensitive natural environment, and take care when travelling around the island, keeping to existing tracks, and not contribute to excess sand erosion.

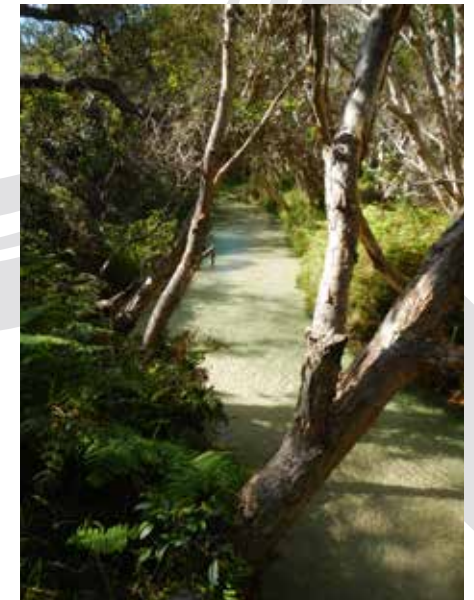
Fraser Island is a large National Park that requires significant, intensive management. It is well worth a visit, and deserving of conservation efforts and resources.

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Images

Champagne Pools, Ship Wreck, Eli Creek
Images provided by Tracy Brown.



FEATURED WALK

Pile Valley to Basin Lake, Fraser Island

John Sinclair AO, Fraser Island Defenders Organisation

Fraser Island is a bushwalkers dream. It has a subtropical, frost-free climate enticing to year round walking. The forest-clad dunes rise to 240 metres but walkers welcome the relatively easy gradients without precarious ridges or rocks to trip over. A most impressive landscape featuring tall forests, expansive beaches and the lure of lakes, topped by the lack of mud are just some of the attractions.

There is, however, seasonal closure of the 90 kilometre long Fraser Island Great Walk, from 1 November to 28 February due to the high fire danger conditions. There are a few walking tracks where the fire risk is deemed to be so low as to allow the tracks to remain open all year round. The most magical of these is the section of the Great Walk between Pile Valley and Basin Lake which is insulated from fire as it is in closed or wet schlerophyll forest. Part of the walk includes

the highly acclaimed Central Station boardwalk used by about a quarter of a million visitors annually.

Syncarpia Forest

The section from Pile Valley to Central Station passes through a section of intact Satinay Brush-Box forest that never felt a loggers axe. This is some of the grandest forests anyone could see. It so awed the early foresters, that it was decreed to be a Beauty Spot where no logging could be contemplated.

The dominant species is *Syncarpia hillii* that the tourist industry likes to call "Satinay" based on a marketing name for the timber coined in the early 1960s. I prefer to call these magnificent trees that grow 20 to 25 metres to their first branch by their Butchulla name Pibin. That name was used for thousands of years before the names Satinay and Turpentine used by the timber industry.



The Pile Valley section of the walk is reminiscent of walking in a Californian Redwood forest.

K'Gari Hydrology

The walking track then descends down a series of steps to Wanggoolba Creek. At first glance the water is so clear that it isn't immediately apparent that it is a running stream until the bridge across provides confirmation. Wanggoolba Creek's source is a re-entrant valley just upstream at the level of the regional water table. The creek effectively represents the level of the water table as it flows westward towards the Great Sandy Strait.

While it doesn't take long for water to filter vertically through the sand, once it reaches the water table dome, it then moves laterally on the dome ever so slowly because there is little fall until it reaches the creek.

Based on evidence gathered in Cooloola, it is estimated that it could take up to 200 years for some water falling as raindrops far from this creek to actually reach the creek. Some take only days or weeks but the mean residence time of water in the dune system before it emerges is about 100 years.

Having been so thoroughly filtered, the water emerging is bereft of nutrients and some of the freshest naturally occurring water in the world. It is worth reaching down from the bridge just to taste this incredibly pure water.

Wanggoolba Creek

Due to the lack of nutrients Wanggoolba Creek supports few fish although eels may be seen at times.

Despite the lush forest in this deep valley, there aren't rich pickings for birds either except for the Wompoo Pigeons and Sulphur-crested cockatoos in the canopy and the occasional Azure Kingfisher or a White's Ground Thrush near the creek.

The canopy is mostly Piccabeen Palms with a mix of rainforest species. It takes an hour or more to savour the loveliest of walks (only 2 kms) between Pile Valley and Central Station.

It is entrancing to follow the silent creek through this verdant scene that is a photographer's delight. At the Central Station boardwalk pause to wonder at the remarkable King Fern (*Angiopteris evecta*), a relict of a bygone era when it had global distribution and provided food for dinosaurs. Wanggoolba Creek is one of the few places in Australia outside the Wet Tropics where this fern with huge fronds survives naturally.

At the end of the boardwalk it is worth a brief exploration of Central Station that has historical information, picnic tables and toilet amenities.

Basin Lake

Resuming the walk, cross over the creek on a higher bridge and take off for a brisker walk to Basin Lake known to the Butchulla as Tahwan. The undulating 2.8 kilometre walk to this picturesque lake passes through tall brush box and tall eucalypt schlerophyll forest. The shores of Basin Lake are ringed with sedges defining water levels in the lake at different times. Being a perched dune lake, Tahwan water levels are only maintained by natural rainfall. It has no catchment more than the surface of the lake and the beach. It is only

the equilibrium between rainfall and evaporation that maintains the water levels in this enchanting lake. The lake offers welcome safe swimming at the end of a most interesting and varied walk from Pile Valley.

Access

Light closed footwear and drinking water are suggested for this 4.8 kilometre walk that can be comfortably done in a day.

The nearest towns from which to embark for this walk are Maryborough and Hervey Bay and then via a ferry from Mary River Heads.

For those without vehicles, arrangements can be made with some tour bus companies or the Fraser Island Taxi to drop walkers off at Central Station where there is a hikers Camp.

If walkers have a support vehicle, and the track is open beyond Basin

Lake, walkers can be dropped off at Pile Valley and proceed a further 3.8 kms through to Lake McKenzie (Boorangoora). Here there is another hikers camp if continuing on the Great Walk or a vehicle pickup can be arranged from there.

Alternatively it is comfortable to park a vehicle at Central Station and make return walks to both Pile Valley and Basin Lake in a day.

The author has endeavoured to ensure that the information presented here is as accurate as possible. However, they or NPAQ do not accept responsibility for any loss, injury or inconvenience sustained by any person guided by this article.

Images

Syncarpia hillii - Pile Valley

King Fern - Wonggoolba Creek

Wind Rippled Sand - Hammerstone Sandblow

Images provided by John Sinclair AO.



WILDLIFE FEATURE

Perched Dune Lakes

Dr. Wade Hadwen - Australian Rivers Institute, Griffith University

One of the most unique and special features of Fraser Island, is the number and diversity of perched dune lakes. As their name suggests, perched dune lakes can be found 'perched' in dunes that lie above the regional water table. Since they exist in a sandy and highly permeable environment, perched systems only form when sand becomes cemented together with organic matter to form a semipermeable subsoil known as "coffee rock". As a consequence of this unique mode of origin, perched dune lakes are essentially basins of rainwater that do not have inflow or outflow creeks.

The unique mode of formation makes the perched dune lakes of Fraser Island quite special – indeed, Fraser Island is the world's hotspot for this type of lake. Significantly, perched dune lakes are shallow, acidic, dominated by sodium and chloride ions and are low in nutrient concentrations. Together these conditions make life hard for aquatic animals and plants – especially for the truly aquatic species that cannot easily disperse into these

disconnected aquatic 'islands' within an expansive sand mass.

Despite the challenges to life, perched dune lakes support many unique and endemic species.

Acid tolerant species thrive in these systems, as testified by significant populations of rare fish species like the honey blue-eye (*Pseudomugil mellis*) and the IUCN red-listed Oxleyan pygmy perch (*Nannoperca oxleyana*).

The geographically rare and restricted "acid frogs", such as the Wallum froglet (*Crinia tinnula*), the Cooloola sedgefrog (*Litoria cooloolensis*), the Wallum rocketfrog (*Litoria freycineti*) and the Wallum sedgefrog (*Litoria olongburensis*) are also abundant in perched dune lakes.

Many lakes also contain the soft-spined rainbowfish (*Rhadinocentrus ornatus*), and/or the fire-tailed gudgeon (*Hypseleotris galii*), but there are also perched lakes with no fish present at all and these conditions give rise to a different ecological community which is dominated by aquatic insects such as dragonflies

(Odonata), caddisflies (Trichoptera), mayflies (Ephemeroptera), beetles (Coleoptera) and true bugs (Hemiptera).

Of the groups that can live in perched dune lakes, there is a reasonably high degree of endemism, with several species of dragonflies known to be restricted to acidic dune lake systems. Population genetic studies have shown significant differences in invertebrate and fish populations living in different perched dune lakes across the Fraser Island sand mass, highlighting both the disconnection between these environments and the importance of managing them for conservation.

The perched dune lakes of Fraser Island are also spectacularly beautiful. Some are deeply stained by tannins (Lake Boomanjin) and others are almost completely clear (Lake Birrabeen and Lake McKenzie). These systems not only contributed to the island's successful nomination for World Heritage listing but also to the boom in tourism that has followed.

If you are going to swim in a Perched Lake please remember that these ecosystems are incredibly fragile and sensitive to human disturbance, so don't wear sunscreens or oils on your skin.

About Dr Wade Hadwen

Dr Wade Hadwen is an aquatic ecologist with more than 20 years experience working on understanding how humans interact with and alter lake, river and estuarine environments.

<https://www.griffith.edu.au/environment-planning-architecture/australian-rivers-institute>

Images

Lake Boomanjin - John Sinclair AO,

Lake McKenzie - Tracy Brown.

THE NATIONAL PARK EXPERIENCE

why national parks should be valued, told through the lens of personal experience in national parks

Alexsis Wilson, NPAQ Councillor

For me, the moment I have some free time I want to be outside. At the very least in my garden or a local park, but if I can spare a half day or more I'm always drawn to national parks and their beautiful scenery. I love the smell of the eucalypts, the crunch of bark underfoot and I defy anyone to not feel better when they hear kookaburras laughing.

Usually, time limits me to the closest national parks and I frequently visit D'Aguilar. Over the Christmas break we met some friends at Jolly's Lookout for a walk and a picnic lunch and despite seeing it dozens of times, the view was breathtaking. The breeze was the perfect antidote to the summer heat and the currawongs and cicadas provided some lively background music. One of our friends couldn't stop raving about the beauty of the spot and mentioned she'd never been there before. The thought was absolutely foreign to me.

I'd never considered why I'm drawn to national parks or why I find these places so appealing.

There are the obvious differences; the calm, relative solitude of the bush as opposed to the noise and busy-ness of the city, but there's more to it than that. Then, just last week something happened that made it all clear. In what will go down in my household history as one of the great hissy fits of this century, my undoing was a password.

In our urban lives there is no end to our first-world frustrations; traffic; admin' fees for receiving bills by post; the prolific and obnoxious use of blowers; finding a rump steak at the back of the fridge that expired 5 days ago, etc, but I anticipate these stresses. Last week all I wanted to do was buy a pass for a yoga class and what should have been as simple as turn up, pay and participate, became an online interrogation that required me to sign up, provide a birthdate and an address and then, as is so typical now, create a password. A PASSWORD! FOR YOGA! Am I the only one that finds this insane and, as I later explained with vehemence to the instructor, ironic?

And that's when I had my epiphany. National parks appeal to me because of a purity that exists when you're in them. You simply go there and be. You breathe, you move, you sit and rest if you're tired, you may eat if you've brought provisions and you're surrounded by wildlife essentially doing the same. It's all so honest and uncluttered by social madness. I marvel at the beauty of life and self preservation in these wild places. The details here are necessary and exquisite and I find I can further enjoy and celebrate my family, my house, the city and even the ludicrous social details I sometimes have to endure when I know I can escape to the raw wonder of a national park.

Images

Jolly's Lookout, Alexsis Wilson

Kookaburra, John Sinclair AO

Northbrook Creek - Paul Donatui.



SPOTLIGHT RANGER OF THE MONTH

Doug Davidson (QPWS)

Background

Spotlight is a series focusing on QPWS rangers for NPAQs bi-monthly magazine Protected. Questions have been designed to provide an insight into the diverse backgrounds and day-to-day activities of Queensland's park rangers.

Doug Davidson, ranger at Rinyirru (Lakefield) National Park (CYPAL) in southern Cape York Peninsula, wanted to be a Ranger when he was 12 years old. A work experience stint during high school with NSW National Parks and Wildlife Service (NPWS) confirmed his passion and he went on to study Environmental Science.

How long have you worked in national parks?

I have worked in Queensland's national parks since 2008. I have always been interested in wildlife and I thought, 'what better way to make a living than being outdoors, protecting the natural environment and experiencing some amazing places'.

Which parks have you worked in?

In NSW, I was based in Glen Innes as a Discovery Ranger; and I also worked on track building projects in Washpool, Gibraltar Range and Bald Rock national parks. In Queensland's national parks, I've worked in Chillagoe-Mungana Caves and Staaten River national parks, the Palmer Goldfields Resources Reserve and Errk Oykanand National Park (CYPAL). I've also worked out at Undara, 40 Mile Scrub and Bulleringa national parks and currently I am based at Rinyirru (Lakefield) National Park (CYPAL).

What is your most memorable moment?

I think taking part in remote surveys around far north Queensland is very special. We travel in helicopters, landing in unspoiled natural ecosystems and camp for a week or so, documenting wildlife, especially rare and threatened species. We have to be totally self-sufficient, carrying everything we need in a backpack.

Can you describe your favourite national parks experience?

It would have to be exploring the Royal Arch Cave at Chillagoe-Mungana Caves National Park. It is a large limestone cave system that features spectacular formations and huge echoing chambers, that is home to a wide range of fauna. Leading the public through the cave on a ranger-guided cave tour never actually felt like 'work'.

What is the best part about working in a National Park?

I get to see rare animals in their natural habitats. These sightings are exciting but also justify the effort we put into pest management and give a sense of satisfaction that we are protecting wildlife for future generations. I am also lucky because I not only work but also live in a national park—even on my days off I see amazing things!

What is your top tip for visitors to parks for bushwalking?

Take your time. Most people rush to get to the end or the highlight of the walk and miss so much along the way. Walk slowly and quietly and you will appreciate so much more.

What is your top tip for campers?

Be prepared. A little bit of research into where you are going can make a big difference to how much you enjoy the experience (or not!). Know the conditions of the roads you will be driving on and check that you have a suitable vehicle and equipment. When travelling remotely, take that extra bit of food and water 'just in case' and make sure your camping permits are booked in advance.

NPAQ would like to thank Doug for his time and effort in answering our questions.

Thank you also to QPWS for their ongoing support and assistance.

We hope you enjoyed finding out more about one of Queensland's park rangers.



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WHAT'S 25N

NPAQ Activities

Vegetation Management Group

Saturday 18 February 2017

Location: Meet at Jolly's Lookout carpark, D'Aguilar National Park

Grading: various

Leader: Angus McElnea (0429 854 446, or gus_mcelnea@hotmail.com)

Come and spend a couple of hours to help with lantana control and revegetation work in the Boombana and Jollys Lookout sections of D'Aguilar National Park, west of Brisbane.

Bird Watching - Mogill Conversation Park

Sunday 19 February 2016

Grading: Easy

Leader: Ian Peacock (3359 0318, ianpeacock@hotmail.com)

Fee: \$5.00 per person

Meet: 7.30am at Mill Road, Anstead, UBD 175 N 11

This is a quiet area with varying vegetation that should offer good birding sites. There are graded bush tracks, some a little hilly but not difficult. There are NO TOILETS at this location.

Directions: From Grandview Road turn left into Mill Road. Travel for approximately 800 m. At the bottom of a long hill with kerbing there is a locked gate on the left. Parking here is limited so continue for another 120 m around a left-hand bend to a flat area and park

What to bring: Hat, binoculars, closed in shoes, insect repellent, sunscreen, water, chair, morning tea and lunch.

Social Walk - Daisy Hill

Wednesday 22 February 2016

Location: Daisy Hill Regional Park

Grading: Easy

Leaders: Len & Laurelle Lowry (0428 335 572, onthewallaby@live.com.au)

Fee: \$5.00 per person

Meet at 10:00am at the first parking area inside the gate of Daisy Hill Road, Daisy Hill

We will cater for all fitness levels with a 4 and a 6 km walk and see if we can spot a koala along the way. We are guaranteed to see a koala after lunch when we have a look over the information centre.

For more information, or to register for an activity, please go to our website:

www.npaq.org.au/events

Social Walk - King Island, Wellington Point

Wednesday 22 March 2016

Location: Wellington Point Reserve

Grading: Easy

Leaders: Len & Laurelle Lowry (0428 335 572, onthewallaby@live.com.au)

Fee: \$5.00 per person

Meet at 10:00am at the parking area at Wellington Point Reserve, Reserve Esplanade, Wellington Point.

King Island is part of the Moreton Bay Marine Park and is actually a shrinking island due to the loss of the mangrove vegetation. Meet up for a chat and morning tea before setting off across a sand bar at low tide to King Island. The 3 kilometre walk is interesting with the sea life scurrying at your feet. We will have lunch before we find our way home before the school pick-up rush.

What to bring
Morning tea, lunch, drinking water, sun-screen, folding chair and Sun Smart clothes



The property provides opportunities for walkers, photographers and bird watchers alike, with several waterfalls on the property, interesting flora and fauna, and a bird list of 160 species, not to mention the features of the nearby Conondale National Park.

Cost: \$100.50 per Adult

This is \$92.50 for the camp fee and \$8.00 (itinerary Fri to Mon only) NPAQ Weekend Activities fee.

Kids Under 14 Years are Free.

For More Information or to Register Visit:
<https://npa queensland.worldsecure-systems.com/BookingRetrieve.aspx-?ID=203314>

Vale

Our sincere condolences to the families and friends of Hazel Noakes, and John de Horne.

National Parks
Association
of Queensland



PROUDLY PRESENTS



2017
ROMEO
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Guest Speaker

PETER COCHRANE

**Making Conservation Relevant
in a Crowded World**

Peter Cochrane represents Oceania on the IUCN Governing Council, sits on the Steering Group of the Protected Area Learning and Research Collaboration and was Director of National Parks and Head of Parks Australia for over a decade.

**Wednesday 15th March
7.00pm for 7.30pm**

**Griffith University EcoCentre
170 Kessels Road Nathan 4111**

Cost \$10.00 at the door

Parking is Free after 7pm

For More Information Visit:
<https://www.facebook.com/events/1825492371056869/>

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Hazel passed away at the age of 102. She was a life member of NPAQ, and was a member for just over 50 years.

John was an avid bushwalker, and lead many walks for NPAQ. John also served as NPAQ President from 1996 to 2001.

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