protected

Magazine of National Parks Association of Queensland

Back to basics:
Biodiversity and park management

PLUS

Cooloola bioblitz
Jumping spiders

ALSO FEATURED

Eungella National Park and Fire
Conondale National Park

NATIONAL PARKS ASSOCIATION OF QUEENSLAND INC.
connect and protect

Issue 25
Spring 2019

Contents

Editor

Marika Strand.

Contributor guidelines

NPAQ invites contributions to *Protected* articles. Please email admin@npaq.org.au for a schedule of future editions.

Contributors, please include contact details and brief personal summary. Articles can be submitted via email or hard copy. Digital photos should be minimum 300dpi.

Cover image

Newly found spider species Thomisidae Edgar.

Photo: Robert Whyte

About NPAQ

Our Purpose

The National Parks Association of Queensland (NPAQ) promotes the preservation, expansion, good management and presentation of National Parks, and supports nature conservation in Queensland.

Council

President	Graeme Bartrim
Vice Presidents	Yvonne Parsons
	Jacqueline Rose'Meyer
Hon Treasurer	Neil Williams
Hon Secretary	Debra Marwedel
Councillors	David Ball
	Suzanne Cooper
	Julie Hainsworth
	Kalam McTaggart
	Karan Pandey
	Colleen Thornton

Staff

Conservation Principal	Laura Hahn
Operations Manager	Marika Strand

Contact details

Office	Unit 9/36 Finchley St, Milton QLD
Post	PO Box 1040, Milton QLD 4064
Phone	(07) 3367 0878
Web	www.npaq.org.au
Email	admin@npaq.org.au
ABN	60 206 792 095

Want to get involved with NPAQ?

NPAQ welcomes people from all walks of life and offers a variety of ways to be involved:

- Have fun in the bush – come along on a bush walk or other activity
- Get your hands dirty – participate in on-ground conservation efforts
- Join us – become a member
- Step up – become a National Parks Conservation member or a National Parks Protector
- Donate – support our work
- Volunteer on exciting projects
- Subscribe to *Protected* and *Neck of the Woods* via email
- Connect with us – Facebook, Instagram and Twitter
- Stay in touch – read regular updates on our website
- Share a bush adventure with children – download NPAQ's *Kids in National Parks* guide

SUPPORT NPAQ AND HELP MAKE A DIFFERENCE
BECOME A MEMBER, DONATE OR VOLUNTEER

www.npaq.org.au/get-involved

FROM THE PRESIDENT

Graeme Bartrim
President, National Parks Association of Queensland (NPAQ)

Welcome to the Spring edition of Protected.

This edition features a description of the consequence of fire in one national park as well as consideration of where we are at in terms of our biodiversity. Two conclusions out of this are that parks provide habitat for threatened plants and animals and that they require care and maintenance to ensure long term biodiversity viability.

We also look at the Cooloola BioBlitz, jumping spiders, and Conandale National Park, as well as our ranger profile.

Neil Young, nearly 50 years ago, in his song, *After the Gold Rush*, sang "Look at Mother Nature on the run in the 1970s".

As much of the country experiences unprecedented drought and spring fires, and some areas are faced with the reality of trucking in water to supply the townspeople, it is worth considering how we as a community respond to pressing long-term environmental issues.

Our news refers to the impacts of climate change daily; the decline in our state's biodiversity is well defined. Yet, as with a number of long-term issues that require our urgent attention, there appears to be minority community support for genuine expenditure or redress. This is a mystery, as in surveys Queenslanders tend to express their love for national parks and support there being more of them.

It is easy to say our politicians need to show leadership or that they are advocating for sectional interests, but, politicians do spend a fair bit of time trying to work out what a majority of the community prioritises.

Kenneth Hayne AC QC, former Justice of the High Court and royal commissioner, recently gave a speech at the Melbourne Law School and made thoughtful comment around government finding it difficult to address certain issues, instead often turning to royal commissions. He questioned the efficacy of our current system:

> "Does reference of these matters suggest that our governmental structures can deal effectively only with the immediate spot fire and cannot deal with large issues?"

Suggesting that the issue may be our focus on the divide, rather than what brings us together:

> "Policy ideas seem to be framed only for partisan or sectional advantage with little articulation of how or why their implementation would contribute to the greater good."

Along with social trends in information consumption:

> "Too often the information that is available is neither read nor understood. And even if the information has been read and understood, debate proceeds by reference only to slogans coined by partisan participants."

Jonathan Haidt, author of *The Righteous Mind* has added to this discussion suggesting that "We are easily divided into hostile groups, each one certain of its righteousness." He has also suggested that with all the benefits of the internet, social media has made it easier for us to connect with like-minded people and to demonise those with a different point of view.

It seems that we live in an age when information developed through science carries limited weight. As Jonathan Haidt has suggested, the scientific method and peer review has proven to be a reliable (but not perfect) way of getting close to the truth of a matter. The prevailing scientific view is that our biodiversity is in decline and protected areas have value in arresting this. The challenge for our community is to manage this along with a number of other priorities whilst maintaining an eye to the long term. Maybe there is much to bring us together; the average koala supporter probably values the benefits of agriculture and mining. And the average farmer most likely values our unique wildlife.

Above: *Girraween after fire.* Photo: Paul Donatiu. ***Banner:*** *Undara Volcanic National Park.* Photo: Marika Strand.

BACK TO BASICS:

Biodiversity and Park Management

Graeme Bartrim, President, National Parks Association of Queensland (NPAQ)
Julia Bartrim, Member, National Parks Association of Queensland (NPAQ)

The Queensland Parks and Wildlife Service is currently updating Management Plans for the Park estate. This is a large and important task and funding for implementation will likely become an issue.

Although to date a small number of Management Plans have been revised, it is anticipated that two themes will emerge as more plans are completed:

1) Parks provide refuge for our unique plants and animals, quite a number of which are in decline - it's reasonable to consider national parks as serving a similar purpose as that of Noah's Ark, and,

2) There are threatening processes at work in each park which require management. See table to the right.

Recently we had the release of the IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) summary report. Some 145 representatives from 50 countries, drawing on 15,000 scientific and government sources have presented global findings that are a sobering reminder to us all. Some 75% of land and 66% of the marine environment has been significantly altered by human activities. Another 1 million species are likely to become extinct within decades (the total number of species globally is estimated to be 8 million). The key threatening processes in descending order are: changes in land and sea use, direct exploitation, climate change, pollution and invasive alien species.

An ABC Four Corners episode, broadcast on June 24, provided an Australian perspective, reinforcing that our biodiversity is in decline and that our legislative framework is not effective in responding to this. The examples of trying to ensure the survival of the eastern quoll and Leadbeater's possum clearly show how prioritisation, funding and long term threat management can determine the fate of a species.

The conflict between commercial development and the ongoing maintenance of a RAMSAR wetland at Toondah Harbour in Moreton Bay brings it home to us in Queensland. Nationally there are presently 1,800 species listed as threatened.

None of this is new, although perhaps more urgent in our own state: Queensland's Nature Conservation Act lists 731 plants and 224 animals as Threatened (Extinct in the Wild, Endangered or Vulnerable).

The word "crisis" is over-used and has to a large degree, lost its meaning, but it does seem appropriate for the state of our biodiversity, yet there is little in the

High Level Aspects of Three Recent Management Plans

National Park	Date of Plan	Example of values	Threats
Capricornia Cays National Park	2014	• Vulnerable Green Turtle • 38 bird species listed in International Agreements • Pisonia forest	• Mainland pollutants • Scale Insect • House Mouse • Sewage/chemical runoff returning dredged sand to Heron Island Cay
Hinchinbrook Island National Park (World Heritage)	2017	• Mangrove flats • Rainforest • Hinchinbrook Is Nursery Frog • Traditional owner connection	• Feral pigs • Parramatta Grass • Cane Toads • Climate change • Visitor overuse
Daintree National Park (World Heritage)	2019	• Cultural values • Montane upland • Endemic species • Rainforest biodiversity hotspot	• Invasive species eg cat, pig toad • Lantana • Inappropriate fire management • Inappropriate visitation

way of proportionate action. Why is this?

We as a community seem to understand the situation yet be unprepared to pay the cost to improve it. A few examples of our interaction with wildlife may help shed some light on this question;

- In a large new housing estate where bushland has been cleared streets are named after native birds, for example; Honeyeater Street or Bellbird Street. It is well established that in such locations it is largely the hardy black and white birds that tend to remain along with the noisy miner and a few introduced species.
- In the cafes below the Sydney Opera House one can enjoy a meal whilst soaking up the view of the harbour and the bridge. At this location an enterprising business is paid to walk a well-trained dog up and down, its sole purpose is to frighten away any adventurous seagull that may land, with an eye to pinching a chip or two. This location has been completely altered from its natural state and one of the few creatures that can withstand this change is controlled.
- On a busy 4 lane freeway surrounded by industrial estate a sign informs drivers of a phone number to call if injured wildlife are observed. People who work with injured wildlife do a wonderful job, and it is well meaning but the overwhelming cost to our wildlife is the initial clearing and vehicles.
- Politicians often defend a development approval, lauding the quality of our legislation and our strict approval processes. This is convenient at the time and certainly adds to the light and heat that is associated with gaining approvals. However, it ignores the reality that limited resources are devoted to confirming agreed approval conditions are being met or that assessments of the conditions are effective. Reliance upon the vexed approach of biodiversity offsets is a good example of this.

Our biodiversity is declining which suggests legislation relevant to species protection is not working. Further it seems that we as a community do not genuinely extend our empathy to our flora and fauna. We have abrogated responsibility.

Longer term thinking, planning and leadership is required to change this. It is heartening that the CSIRO/NAB Australian National Outlook considers choices that are to be made with a focus on industry, urban, energy, land and culture out to 2060. Although it acknowledges that many issues are not addressed in depth, it does raise the need for investing in biodiversity and ecosystem health and linking carbon sequestration planting with conservation goals. We commend the State in establishing a Land Restoration Fund but are concerned about meaningful progress.

References

Australian National Outlook (2019) CSIRO, NAB

Department of National Parks, Recreation, Sport and Racing (2014) Management Plan, Capricornia Cays National Park and adjoining Waters. Queensland Government

Department of National Parks, Sport and Racing (2017) Hinchinbrook Island management Plan. Queensland Government

IPBES (May 2019), Summary for Policy Makers of the Global Assessment Report.

QPWS (1919) Daintree National Park Management Plan. Queensland Government, Jabalbina.

Above: *Threats to parks include fire and invasive species.* Photos: J. Francis and K. Glen via Unsplash. ***Banner:*** *Daintree National Park*.

EUNGELLA NATIONAL PARK AND FIRE

Graeme Bartrim
President, National Parks Association of Queensland

Eungella National Park some 80 km west of Mackay occupies nearly 53,000 ha having been declared National Park in two tranches, one in 1941, the other in 1986. Its name is the Aboriginal term for “land of the cloud”. It is a centre of endemism for Australian rainforest species and the Eungella honeyeater is one of its better known inhabitants. Threats to its biodiversity values include habitat fragmentation, feral species and uncontrolled fire.

The park was in the news last November [*From rainforest to cinders: National park may take 'hundreds of years' to recover from bushfire disaster* (ABC News December 4, 2018) and *Queensland bushfire crisis escalates at Eungella and Broken River in state's north* (ABC News November 30 2018)].

An unprecedented dry and hot summer had meant that the valley below and the park itself (Land of the Cloud) were very dry and a major fire moved very quickly from the valley into the park.

In May I was fortunate to inspect the park with James Newman (Executive Director - Northern Parks and Forests) Marty McLaughlin (Principal Ranger) and Greg Lennox (Ranger) to gain an understanding of the impact of the fire.

The fire itself travelled very quickly and along the ridgeline that forms part of the boundary of the park. It penetrated to varying degrees into the rainforest.

The consequences were variable with blackened rainforest regenerating successfully in some areas; in other small locations the ground was bare with no regeneration. Rainfall would improve the situation. It was apparent that wind had carried embers, initiating isolated and separate fires. In some locations intervention may be required to support regeneration and in others this will occur naturally.

Headlines are momentary but can successfully establish perceptions.

At a distance some of us were concerned that irreparable damage had been done to the park. The situation does not appear to be that bad, but park management has lessons and actions to consider, as consequences of the fire will remain for years to many decades.

The extreme summer and resultant burning has caused the service to reconsider pre-emptive fire management. It is generally accepted that more heat, less reliable summer rains and more frequent fires are likely to be the norm for land managers.

In responding to the fire, park resources were generally focused on protecting private property on adjoining and down slope lands. This is understood and shows the need to undertake fire mitigation works pre-emptively to ensure the viability of park biodiversity values.

Fires that are too frequent can simplify vegetation, and this is evident on the slopes of the valley below the park. Recovery management can be required for decades. As clearing of vegetation continues to occur throughout the state managing parks successfully becomes more critical.

Park neighbours can contribute to or hinder park management. Some can encourage compatible planting and minimize fire risk, others can allow weed infestation and increase fire hazard. I understand the service devotes much energy to ensuring positive and co-operative relationships with adjacent landholders and plan fire response.

Thank you to James for the invite providing insight into the practicalities and challenges of park management.

Note: The dry conditions that preceded this fire were very widespread. Walking the Larapinta trail in autumn I found large swathes of the country had been burnt. Dry lightning strikes had lit fires after a month of over 40 degree temperatures in the summer.

Photos: Queensland Government.

ECOLOGICAL VALUES OF EUNGELLA NATIONAL PARK

National Parks Association of Queensland

Eungella National Park lies on the boundary of tropical and subtropical rainforest and subsequently boasts a highly diverse range of habitats, flora and fauna.

With a number of its plant and animal species found nowhere else, Eungella National Park is considered one of the most ecologically diverse national parks in Queensland.

Eungella contributes to the mere 0.3 percent of the Australian continent covered by tropical rainforest and is also the oldest and largest stretch of subtropical rainforest in Australia.

Landscape and Vegetation

A testament to its rich biodiversity, Eungella's landscape and vegetation are varied and beautiful.

The park's north is peaked by mountains of the Clarke Range; these cool northern highlands support mist-shrouded subtropical rainforest habitat with a complex tree canopy that includes the endemic Mackay tulip oak.

Lush, tropical rainforest blankets the park's warm southern lowlands where moss-coated rainforest trees such as strangler figs and epiphytic ferns abound. Wet sclerophyll forest acts as an ecotonal community between the two rainforest types.

To the west, drier open eucalypt forest scatters the surface of Dick's Tableland.

Much of the park is rendered largely inaccessible by steepsided gorges carved over time by flowing streams and rivers dotted by deep, clear pools.

It was these deep gorges and cool peaks that, after 30,000 years of continental drift and isolation, together provided the right conditions for the diverse vegetation communities we see today.

Wildlife

Eungella's long isolation from similar habitat has produced a highly diverse and unique animal community, which boasts a number of endemic subspecies of birds, reptiles and amphibians.

Some of these, such as the Eungella honeyeater and Eungella tinkerfrog, are also included on the long list of rare or threatened species which are protected within the park.

An evening of spotlighting may reveal greater gliders, sugar gliders, brushtail possums, longnosed bandicoots, grassland melomys, tawny frogmouths and several species of bats.

During daylight hours, visitors may observe a large array of birdlife, including jewel-bright rainbow lorikeets, blue-eyed honeyeaters, red-brown finches, or the green flash of foraging noisy pittas.

Water-dwellers such as turtles and eels may also be spotted, and in the deep pools of Broken river, there is the chance to witness Eungella's perhaps most popular occupant – the platypus. The park attracts international attention due to its reputation as one of the best sites in Australia to observe the elusive, semiaquatic monotreme.

National Parks Association of Queensland Involvement in Protecting Eungella National Park

In 1931, determined to see the area's diverse ecosystem protected, NPAQ founder and president Romeo Lahey met with the Mackay Mayor to discuss the proposal of a national park at Eungella.

In 1938, botanist and NPAQ councillor Dr. Andrew Herbert of the University of Queensland, advised the Minister for Lands that a scenic reserve was insufficient tenure for the land's protection and that the reserve should be brought under the National Park Act.

Romeo Lahey conducted further surveys in 1939 and proposed 200,000 acres of land be secured as national park. During this time, area destined to become Eungella National Park was regazetted as timber reserve and would likely have remained so without the efforts of NPAQ and the Mackay Tourist group.

Finally, in 1941, 48,195 ha of land was declared as Eungella National Park, making it Queensland's largest national park for 26 years, and it has been increased somewhat over the years.

Above: *Eungella tinker frog (*Taudactylus liemi*);* Photo: Jean-Marc Hero. ***Above right****: Eungella Honeyeater (*Bolemoreus hindwoodi*);* Photo: John Brinnand. ***Banner****: Eungella National Park;* Photo: Stefan Heinrich.

PARK IN FOCUS

Conondale National Park

John and Lyn Daly
Sourced from their book *Take a Walk in South-East Queensland*

EVOLUTION

This is the traditional land of the Dallambara people, a clan from the Gubbi Gubbi (or Kabi Kabi) language grouping. The land provided stacks of natural resources and these self-sufficient people were able to live their traditional lifestyle in all seasons for many thousands of years before European settlement.

Nuts from the bunya pines were particularly sought after and featured in many festivities and ceremonies. During the bunya feasts, up to 600 people from all over south-east Queensland would gather in the area now submerged by Baroon Pocket Dam, near Montville. They made pathways through the forest to define their territorial boundaries, and these were often followed to the bunya celebrations. Today, Gubbi Gubbi people strive to maintain their strong cultural links and pass on their knowledge in an effort to help protect this important area.

Severe logging began in the 1950s, after the construction of the Mount Gerald Trail. Conservationists conducted many studies to ascertain the effects of extensive logging on local fauna. Sadly by 1984, two of three species of endangered fauna being studied at the time, had disappeared from the Conondales. The gastric brooding frog and southern day frog were last seen in 1979.

Gold prices rose in 1987 and there were plans to reopen an old mine on Booloumba Creek as an open-cut mine. This was even opposed by the Forestry Department. The mining company planned to expand its operation the next year, making it more financially viable. They intended trucking 100,000 tonnes of unprocessed ore into the Conondales for processing. The state government rejected the plan. The mining company shut down and removed their equipment. They went into receivership in 1990, leaving an area of devastation including holding ponds of extremely noxious sodium cyanide. The government only held a $20,000 rehabilitation bond but eventually allocated $860,000 to repair the damage. The restoration took years and the final stage was completed in April 1997.

CONSERVATION ISSUES ARE NOT NEW TO THE CONONDALES

Since the 1960s, concerned citizens and action groups have lobbied for government action to protect the peaks, ridges, gorges, creeks, forests and endangered animals found in the Conondale Range, known colloquially as 'The Conondales'.

Passionate bushwalker and scout leader, Ross Scott from Kenilworth, spear-headed the campaign. His local scout group set about compiling a complete list of local ferns and documented around 70 species. Armed with this and other evidence, Scott began 'educating' the Kenilworth people about the assets in their backyard and the need to have the forests protected. He worked tirelessly and even door-knocked the locals to gain enough signatures on a petition that he presented to the Queensland premier in 1966 asking for a national park to be gazetted.

Several locals supported the push, and in 1970 the Country Party's Kenilworth branch submitted a national park proposal to the government. The same year, other prominent figures and organisations submitted their own proposals based on an extensive flora study of the Conondales. These were all shelved by the government.

The *Queensland Conservation Movement* took the call in 1973. They became the *Wildlife Research Group* and their extensive fauna surveys helped the cause for a national park.

After the discovery of the unique gastric-brooding frog in 1973, and then the southern day frog in the Booloumba Creek catchments, QPWS officers conducted a fauna survey. They found these two species also inhabited Kilcoy Creek's catchment. The first papers about them were published in 1974, and the country's conservationists were suddenly alerted to this exceptional unspoiled area. The *Wildlife Research Group* was particularly interested and their regular visits revealed the Conondales was home to many animals of scientific interest.

Save the Conondale Range Committee was formed in 1976. They opposed the planting of extensive pine plantations and continued to monitor wildlife in conjunction with the *Wildlife Research Group*. The next year they submitted their first proposal for a 31,000 hectare area to be set aside as a national park. Two separate areas were declared by the government totalling just 2,126 hectares.

The Forestry Department proposed a road be pushed through some sensitive areas in 1981. The *Save the Conondale Range Committee* objected but construction began in the wee dawn hours of November 16 and the road builders worked from dawn to dusk to speed up operations. Major Australian conservation groups and opposition parties supported the committee in their request for a three

year moratorium so a complete fauna study could be conducted.

With a new name (in 1982) to promote a positive message, the *Conondale Range Committee* continued to lobby for protection of the ranges. Their slogan became 'Don't Log the Frog,' a cry to save the gastric-brooding frog. Bjelke-Petersen's government announced a fauna study but this was to be conducted while logging was continuing! Over the next few years small timber mills closed down, but big businesses bought out the larger mills.

After one of the most consistent, hard-fought campaigns in Queensland's history, the extended Conondale National Park was officially announced in July 1992. It was enlarged in 1995 and subsequent additions have also increased the park. Around 23,000 hectares of Forest Reserves has also been set aside as part of the South East Queensland Forestry Agreement.

These protected areas are vital for the survival of threatened plants and animals.

ENVIRONMENT

Conondale National Park harbours one of Queensland's most substantial forested areas and is home to an incredible range of plants and animals.

Mountainous ranges of subtropical rainforest and eucalypt forest forms the wilderness area of Conondale Ranges. The forest is almost impenetrable with dense woody vines intertwined through the trees. The park houses five of the tallest peaks in the Sunshine Coast hinterland; Mounts Langley, Ramsden, Lofty, Cabinet and Constance and takes in the upper catchment of east and west branches of Kilcoy Creek and some sections of Ramsden, Peters, Bundaroo and Booloumba creeks. The last three flow into the Mary River, one of the state's largest river systems that supplies water for a growing population.

The park protects stands of the six major forest types found in the ranges – four types of rainforest; dry sclerophyll (eucalypt) forest, and tall scrubby forest. Bunya pine and cedar are significant. Rainforest surrounding the Mount Gerald Trail section of the Mount Langley walk is representative of forest that covered most of the ranges prior to European settlement. Large areas of diverse forest types have been heavily logged and today hoop pine plantations from state forest days, flank several sides of the park.

The region has many unique fauna species, some found only in the Conondales. More than 180 species of birds, including 22 rare and endangered species, have been recorded. The plumed frogmouth is considered one of the rarest birds in Australia and has been documented at only a few other sites.

Other birds include powerful and sooty owls, tawny frogmouths, Coxen's fig parrots, rainbow lorikeets and king parrots, wompoo fruit doves, peaceful doves, top–knot and wonga pigeons, yellow-eyed cuckoo shrikes, satin and regent bowerbirds, paradise and Victoria's riflebirds, catbirds, eastern whipbirds, noisy pittas, black-breasted button-quails, red-backed and variegated fairy wrens, bellbirds and noisy miners, red-browed firetail finches, sacred and forest kingfishers, purple swamphens, red and grey goshawks and Peregrine falcons.

Pouched or hip-pocket frogs are found in the park. They were named because their young tadpoles develop in bilateral skin pouches in the adult male's hips. They belong to the most primitive groups of Australian frogs.

Other rare and vulnerable species recorded include the giant spiny lobster, Queensland lungfish, Stephen's banded snake and the yellow-bellied glider.

Above: *The extinct Gastric Brooding Frog.* Photo: Mike Tyler. ***Banner:*** *Booloumba Creek, Conondale NP.* Photo: Darren McMillan.

GASTRIC BROODING FROGS – Extinct

These tiny frogs, about the size of a man's thumb, were found only in the Conondale and Blackall Ranges. The small area of rainforest, wet sclerophyll and riverine gallery open forests that they inhabited were less than 1400 square kms. They were Australia's only truly aquatic frog, and the most primitive amphibian, and never strayed far from water.

Also referred to as 'platypus frogs' because of their largely aquatic nature, they were the only vertebrates in the world to incubate their young entirely in the female's gastric system. After external fertilisation the female would swallow the eggs. She had an uncanny method of 'turning off' the production of hydrochloric acid, and then not eating when brooding her froglets. Her lungs would deflate and breathing was by gas exchange through the skin as her stomach swelled and largely filled her body cavity. After six weeks, when the tadpoles had developed to froglets, they were regurgitated. This was unique, not only for the frog, but for the whole animal kingdom.

Gastric brooding frogs were last seen in the wild in the Conondales in 1979, and the Blackall Ranges in 1981. The last captive frog died in 1983.

There are several thoughts as to why they became extinct. Habitat loss, degradation and pollution are suspected, but pathogens, parasites, the amphibian chytrid fungus, and over-collecting may have also contributed.

COOLOOLA BIOBLITZ

Great Sandy National Park

Robert Whyte
Arachnologist

In August 2018 arachnologist Robert Whyte participated in the inaugural Cooloola Coast BioBlitz, leading a team of naturalists to explore sites on Carlo Road, Searys Creek and Inskip Point, not imagining in his wildest dreams the number of new spider species they would find — and the scale of the world's reaction to them.

It was August, not usually known as a month buzzing with invertebrate action. Added to that, there hadn't been any rain over the past five weeks. The terrain was salt-streaked and dusty. On Friday evening, the legendary saviour of K'gari (Fraser Island), John Sinclair met us at the Community Hall, the HQ for the event. He was looking forward to my spider talk after dinner, he said. It was good to see him again, I hadn't seen him since the 1970s, and I had heard he was ill. If so, he didn't show it; he was in fine form.

The Fraser Island Defenders Organisation and Cooloola Coastcare had successfully planned the Cooloola BioBlitz to run from Friday 24 to Sunday 26 August 2018. Ninety-seven people had signed on to identify and track down as many living plants, animals and natural resources as possible across seven target areas, representing distinctive habitat types easily accessible from Rainbow Beach, the centre of operations.

The sites included mangrove forests at Bullock Point, Lake Poona perched in the high dunes, the littoral forests of Inskip Point Peninsula, rainforest at Bymien, wallum heathlands and eucalypt forests adjacent to Carlo Sandblow and a fast-running Searys Creek.

I knew whatever we found over the following two nights and two days would be scientifically valuable. Spiders represent an important component in terrestrial food webs; they are an indicator of insect diversity and abundance and they themselves become prey to each other, frogs, reptiles, birds and small mammals. Many lineages of spiders have evolved to utilise the terrestrial habitat niches where their food is found, some in quite specialist ways.

We intended to use only a few of many possible sampling methods over the search period, including:

- careful visual study of bush, leaves, bark and ground, to see movement, spiders suspended on silk, or spiders on any surface
- shaking foliage, causing spiders to fall onto a white tray or cloth
- turning logs and rocks (returning them to their initial position post inspection)
- transferring leaf litter into bags, then sifting through a handful at a time

The first new species was spotted on Friday night when Ben Revell trekked out to Lake Poona, where he found a new species of *Ornodolomedes*. He is so adept at finding these spiders, one of them, *Ornodolomedes benrevelli* was named in his honour.

Our initial findings at Carlo Point on Saturday morning suggested we were encountering far greater diversity than I had expected. I had imagined the combination of 500,000 year-old soils with low nutrient levels and the preceding dry weather would mean low diversity. The opposite was true, suggesting that the relative stability of the landscape over long periods of time has resulted in adaptations to suit a huge variety of micro-niches.

In total we collected over 700 spider specimens over the weekend. After releasing on-site the well-known duplicates and juveniles we had about 165 adults remaining to be investigated. Of these, 37 species were new.

We also achieved the world's first

Above (R to L): *Theridiidae Steatoda whiteslash; Araneidae araneinae Araneus praesignis Alien Butt Spider; Salticidae Plurabella exclaimation point.*
Banner: *Thomisidae Tharrhalea*. Photos: Robert Whyte.

image of a live specimen of *Cetratus circumlitus* (L. Koch, 1876); a range extension for a species previously known only from NSW.

Carlo Point was a haven for some known but undescribed small Jumping Spiders, which we nicknamed Mr Stripey and Exclamation Point! The question everyone was asking was: "Are Mr Stripey and Exclamation Point different species?" The answer was yes, something we were able to document from this expedition.

We also found a stunning new species of *Desognaphosa* in family Trochanteriidae, better known for its extremely flat spiders which live in rock crevices and other narrow places.

Searys Creek, a beautiful spring-fed stream with a sandy bottom and clear water, harboured a new *Opisthoncus* - related to *Opisthoncus sexmaculatus* and many new cobweb spiders in the family Theridiidae.

Inskip Point, with significant areas of rich wet sclerophyll littoral forest, did not disappoint. The Inskip Peninsula represents an area of great potential significance as far as spiders are concerned and is well worth continuing to investigate with close scrutiny.

Some of the most interesting material gathered in a BioBlitz, or any biodiversity survey, comes from participants whose interests and collecting methods, often at night, leads them into peculiar places.

People who from outside the spider team brought us specimens included botanists, entomologists and fungi specialists. Even Rainbow Beach residents got into the spirit of things, bringing specimens from their backyards. It all counts in a fauna, flora and fungi stock-take of an area.

Some of the new species not mentioned above included an *Eilica* sp (Ant Hunter), two Money Spiders, four Fishing Spiders, seven Jumping Spiders, 14 Cobweb Spiders (Theridiidae), two Crab spiders, a Trachelid and a Trochanteriid. Perhaps the most exciting of all, we found and photographed both a male and a female of a *Baalzebub* sp. in Theridiosomatidae, an incredibly rare spider.

All together we found 37 new species in about 5-8 hours of collecting. This was amazing. The story was first broken by the ABC Wide Bay journalist Johanna Marie, but it soon went viral across the ABC nation-wide and then to commercial radio, newspapers and magazines across Australia, the UK and America. My phone just about rang its way through my pocket. John Sinclair was interviewed and made a persuasive case for the upgrading of Cooloola Coast to the same environmental Status as K'gari (Fraser Island).

Had the spider team already discovered all the new species on the Cooloola Coast? Hardly! The return visit in May 2019 Cooloola BioBlitz, resulted in 41 more new spider species.

I hardly imagined we could gather more new spider species over a weekend, when we had already spent a previous weekend with such success. Our choice of sampling sites, Bymien's subtropical littoral rainforest and The Fens, a freshwater lake surrounded by sandy wallum, played a big part in the incredibly small overlap of new species. These ecosystems were so special they supported completely different spider fauna. This once again demonstrated the importance of the region. Our survey of both sites was by no means exhaustive, and many more new species are surely yet to be discovered there. One is saddened by the fact that funding for taxonomy is so meagre in Australia, it may take years for these new species to be described, if ever.

Some of the new species found were unsurprising, since they have been appearing in recent surveys in the encompassing area of south east Queensland, but many were a suprise. Of these exciting of these new species was a *Dolichgnatha* sp., the first Australian photo of a live specimen of the "true" Dolichognatha with four humps. The *Steatoda* Whiteslash was known to us, depicted in *A Field Guide to Spiders of Australia* (Whyte & Anderson 2017), but was notable for the large number of specimens observed at the Fens, one in almost every grass clump. Similarly the *Mysmenid* and the *Orchestina* sp. have been reported before but not yet described. *Barraina* and *Tara* Jumpers were easy to spot as papers describing these are being prepared by us, similarly with the *Hadrotarsine* and the two *Tharrhalea*. The missing female for the already described *Helpis foelixi* was a great find.

John Sinclair died after the first Cooloola BioBlitz and before the second one. He was deeply missed for his enthusiasm and knowledge. He left behind many fond, enlightening, and often life-changing memories for all of us who knew him.

WILDLIFE FEATURE

Jumping Spiders

Dr Barbara Baehr
Queensland Museum

Dr Barbara Baehr is an arachnologist based at the Queensland Museum. She has described over 600 species of spiders to date. Dr Baehr made headlines in July when she and colleagues described five new species of Australian jumping spider.

What is it about spiders that fascinate you?

It is the great diversity of these creatures. They conquer three dimensional spaces with their webs. They have many different hunting approaches, and occupy all spaces from burrows in the ground to giant webs in trees. They also have niches in time; some of them are night hunters and some hunt in the daytime.

When you identify a new spider species, who gets to choose the name? How is it decided?

The author of the new species gets to choose the name. The choice of name depends on if the new species has an obvious feature, then it can get named for that. If there are no obvious features then it can be named after the locality where it was found.

Or it can be named to honour somebody who has made a huge contribution to nature conservation. For example, we named a swift spider *Leichhardteus terriirwinae* (Baehr & Raven, 2013) after Terri Irwin who is one of the most courageous women supporting Australia's wildlife. With the genus name we honoured scientific explorer Ludwig Leichhardt.

Above: *Dr Baehr (centre) with Terri Irwin and an image of* Leichhardteus terriirwinae. ***Banner:*** Desis bobmarleyi. ***Top right:*** Jotus fortiniae. Photos: Barbara Baehr.

The five new jumping spider species you and colleagues recently described are the size of a grain of rice, how were they even found?

They live mostly in lower vegetation and you need a lot of patience to watch them in the grass. We get them normally with net sweeping or pitfall traps. I recognise them only under the microscope as the features are so tiny.

How many arachnid species are known to science in Australia and how many do you estimate still need to be discovered and described?

The checklist of Australian Spiders from Volker Framenau (27 July 2018) tells us that 3,839 species from 82 families are described. We think that the collections of the Australian Museums contain around 10,000 species or more.

QLD Museum CEO Jim Thompson has previously stated that the QLD State Collection is a "treasure trove of new species…waiting to be officially described."

Indeed, he is right. Around 60 per cent of species in the Museum's collections are not described, hence not known to science.

Is there a shortage of arachnologists in Australia working on describing and discovering new species?

Yes, there is. The Europeans and Chinese have a lot more arachnologists and much better equipment to study and describe

spider species.

What do you think needs to be done to change this?

Slowly people are becoming aware of our environment and that spiders are a big part of it. We have extremely old and unique fauna which needs to be preserved for future generations. Australian museums need much more financial and scientific support to do their work.

How would you suggest promoting spiders so people take more interest in their welfare?

Australia's spiders have a bad image of being dangerous, hairy and ugly; this is not the case for most spiders. The courtship dances of the Peacock spiders and other jumping spiders show how cute and caring they are.

Scientists and invertebrate naturalists, like Mark Newton and Joseph Schubert, provide live spider images to the public that document the amazing wildlife of the Australian outback. This helps to raise awareness about our spiders and how they are part of Australia's biodiversity.

Do you see a role for National Parks in preserving spider species?

Yes, of course. National Parks provide natural habitats where fauna, including spiders, are safe. We need more National Parks.

THE NATIONAL PARK EXPERIENCE

Personal reflection on why our parks must be valued

Susanne Cooper
Councillor, National Parks Association of Queensland (NPAQ)

In 1985, we returned to Queensland with two small children after many living years overseas. Where to go for family holidays? With so many national parks within a few hours' drive, the answer was easy.

Typically we would head for somewhere with water – either rocky gorges with great swimming holes in clear rivers and creeks, or the coast. Kids are always attracted to water, and it's a great basis for a fun, rewarding holiday. From our campsite, we would often take a small backpack with lunch and a book, and walk along a track to a great swimming spot, taking time on the way to stop and observe things of interest. After a great day at the swimming hole, we'd come back to light the campfire and sort out dinner. No need for a wash – the river made us clean enough.

We spent many years sailing out in our tiny yacht to the Keppel Bay Islands National Park, and camping on a small, uninhabited island. As we booked the whole island on the national park website (it only takes 6 people!) we had the memorable experience of having it to ourselves. Magic!

Above: *Camping in glorious solitude on Conical Island (in the Great Keppell group).*

Above: *Our tiny yacht – the only way to access the off-shore island national parks.* ***Banner:*** *On top of Mt Greville.* All photos: Susanne Cooper.

The thrill of exploring coral reefs, seeing stingrays, dugongs, and diverse shorebirds in glorious solitude has always stayed with us. Importantly, our kids actually enjoyed rationing water and other supplies while camping there; it was all part of the adventure and fun. And enjoying the total freedom and simplicity that being away from crowds and other visitors brings.

We'll never forget watching the night sky while snuggled in a sleeping bag on the beach, chatting round a campfire while some curious beach stone-curlews came in for a closer look, or looking up at sunset and seeing a mother dugong and her baby frolicking just off the beach.

We also explored many places close to home, often taking visiting friends from the UK, USA and NZ. I'll never forget one day climbing Mt Greville in the Moogerah Peaks National Park just outside Brisbane with two friends who had just arrived from UK, when we spotted on our walk a python, goanna, kangaroos, plus many magnificent birds. Their excitement of seeing in their natural habitat animals that had previously only belonged in the realm of TV and books was such a thrill and an enduring memory of Australia's unique fauna.

I find that these all these experiences are permanently etched in our kids – now adults with children of their own.

More recently, I have explored many wilderness and remote areas in more distant national parks, including the Kimberley and Kakadu. The combination of ancient landscapes, memorable rock art, stunning biodiversity and a true sense of being immersed in wilderness makes me want to explore these areas even more. I don't feel a strong urge to visit many iconic (and busy!) parks overseas; there is so much to experience here.

RANGER OF THE MONTH

Insights into the diverse backgrounds and day-to-day activities of Queensland's park rangers

Carly Smith
Queensland Parks & Wildlife Service (QPWS)

Carly Smith is a Ranger at Boodjamulla (Lawn Hill) National Park in the Central West region of Queensland Parks and Wildlife Service (QPWS). She was a full-time (Army) reservist when she was advised to 'get serious and find a long-term career'. This was around the time that Cyclone Larry had hit the north Queensland coast and QPWS was offering traineeships at Cardwell and Cape York Peninsula. She applied for both, and was selected for the Cardwell position.

How long have you worked in national parks?

A lucky 13 years! I started in 2006.

Which parks have you worked in?

I've worked in a few…

I started in QPWS Cardwell office and worked in all the nearby parks and state forests including Cardwell State Forest, Tully Gorge NP, Murray Falls and Edmund Kennedy sections of Girramay NP and Blencoe Falls, Girringun NP. I also jumped on the boat and worked with the marine park rangers on Hinchinbrook Island NP and Dunk Island, in the Family Islands NP.

Then it was off to 'The Cape', where I worked at Mungkan Kandju NP, as it was known when I was there; it later changed to Oyala Thumotang NP (CYPAL). I also worked at Rinyirru (Lakefield) NP (CYPAL) and in other nearby parks including Cape Melville NP and Jack River NP.

I've taken the opportunity to work in relieving positions in Kutini-Payamu (Iron Range) NP, and at the Princess Hills office which included Princess

Above: QPWS Ranger Carly Smith. Top: Lawn Hill Gorge section, Boodjamulla (Lawn Hill) National Park. Photos: Queensland Government.

Hills NP, Blencoe Falls and the recently-purchased Wairuna station, before it became Girringun NP. I've also worked out of the Clermont office on Nairana and Cudmore NPs and Epping Forest NP (Scientific).

I am currently based out at Boodjamulla (Lawn Hill) NP…and do the odd job or project down at our other park, Camooweal Caves NP.

What is your most memorable moment?

I have been lucky enough to have quite a few, so it is hard to choose, but I suppose you can never beat enjoying a wet season thunder storm while sitting back watching it roll in and then…CRACK!!

Can you describe your favourite national parks experience?

A ranger who was working at Boodjamulla (Lawn Hill) NP (before me) put me on to this: sitting on top of a range on the Constance Range walking track and watching the sun go down on one side of the range and then turning around and watching the moon rise up on the other side of the range. Beautiful!

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

For me the best part is the lifestyle that I get to lead and the rangers I get to work with and live with in remote areas. I have had a great opportunity to work and live in some of the most spectacular and remote parts of Queensland; and work and live with some great rangers…and those experiences will stay with me forever.

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

Sometimes to really appreciate and experience things you just need to stop and watch. The river system here at Boodjamulla is so important to both plant and animal life, and if you stop and watch for a while, you will be amazed by what you'll see.

What is your top tip for campers?

Don't be in a rush to get somewhere! Some of the best spots, like Boodjamulla (Lawn Hill) NP, can be found a bit out of your way and off the main road. But they are so worth it!

NPAQ thanks Carly for taking time to answer our questions. We appreciate the work all QPWS rangers undertake in protecting Queensland's national parks.

WHAT'S ON

For more information on activities & events, visit our website:
www.npaq.org.au/events

Ecotourism Seminar

NATIONAL PARKS ASSOCIATION OF QLD PRESENTS

MONEY ON TREES

THE PROS & CONS OF ECOTOURISM IN QUEENSLAND'S NATIONAL PARKS

SPEAKERS | PANEL DISCUSSION | Q&A

Join us as we delve into the world of ecotourism in Queensland's National Parks.

Money on Trees will hear from four industry leaders on both sides of the fence in an open-minded seminar exploring the threats, benefits and strategies of ecotourism operations in Queensland's National Parks.

THURSDAY 24TH OCTOBER 2019
WELCOME DRINKS & NIBBLES | 6PM- 6:30PM
SEMINAR | 6:30PM - 8:00PM

THE PRECINCT | LEVEL 2, 315 BRUNSWICK STREET, FORTITUDE VALLEY

$25 GENERAL ADMISSION
$10 STUDENT ADMISSION

VISIT NPAQ.ORG.AU FOR MORE INFORMATION

NPAQ activities

Albert River Circuit
Date: Sunday 22 September 2019
Meet: 8:00 am, O'Reilly's carpark, Lamington National Park
Grade: Moderate
Cost: $5
Leader: Frank Freeman (0427 655 514 or frank_fr@bigpond.net.au)

Vegetation Management Group
Date: Saturday 19 October 2019
Meet: 9:00 am, Jolly's Lookout at D'Aguilar National Park
Leader: Angus McElnea (0429 854 446 or gus_mcelnea@hotmail.com)

Vegetation Management Group
Date: Saturday 23 November 2019
Meet: 9:00 am, Jolly's Lookout at D'Aguilar National Park
Leader: Angus McElnea (0429 854 446 or gus_mcelnea@hotmail.com)

NPAQ events

NPAQ Ecotourism Seminar
Date: Thursday 24 October 2019
Time: 6-8 pm
Cost: $25 adults / $10 students
Venue: The Precinct, Level 2, 315 Brunswick Street, Fortitude Valley

NPAQ November Member's Meeting
Date: Wednesday 20 November 2019
Time: 7:15pm for 7:30pm start
Venue: To be confirmed

Vale

The National Parks Association of Queensland mourns the passing of Rob Hitchcock, former president of the Association.

Rob joined NPAQ in 1961. He served as Treasurer from 1994-2001 and President from 2001-2005. He was also a Councillor for a number of years. Rob was made an Honorary Life Member in 2007.

His contributions to NPAQ were many and we will miss his presence in the Association.

NPAQ was also saddened by the passing of life member Mavis Lucas. Mavis became a member in 1965 and enjoyed many NPAQ outings with her husband Bruce.

NPAQ also grieves the passing of life member Marjorie Taylor. Marjorie and her husband Ray joined NPAQ in 1954 and became life members in 1959.

Our sincere condolences to their friends and families.

NATIONAL PARKS ASSOCIATION OF QLD PRESENTS

MONEY ON TREES

THE PROS & CONS OF ECOTOURISM IN QUEENSLAND'S NATIONAL PARKS

SPEAKERS | PANEL DISCUSSION | Q&A

Join us as we delve into the world of ecotourism in Queensland's National Parks.

Money on Trees will hear from four industry leaders on both sides of the fence in an open-minded seminar exploring the threats, benefits and strategies of ecotourism operations in Queensland's National Parks.

THURSDAY 24TH OCTOBER 2019
WELCOME DRINKS & NIBBLES | 6PM- 6:30PM
SEMINAR | 6:30PM - 8:00PM

THE PRECINCT | LEVEL 2, 315 BRUNSWICK STREET, FORTITUDE VALLEY

$25 GENERAL ADMISSION
$10 STUDENT ADMISSION

VISIT NPAQ.ORG.AU FOR MORE INFORMATION

NATIONAL PARKS ASSOCIATION OF QUEENSLAND INC.
WWW.NPAQ.ORG.AU