THE NATURAL NEWS

Central North Field Naturalists Inc.
(CNFN)

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Walks Program (see insert for more details)

December 3rd Reedy Marsh
Neil Hoffmann's property, 450 Larcombe's Road, Reedy Marsh. Meet at 10.00 a.m.

January 7th Plants and ants at Birralee
A walk up the track to Sarah and Ron's place. Meet at the bottom of the track at 10.00 a.m.

January 28th Penguin Shelf tide pools
N.B. The date of a suitable low tide dictates the timing of the annual visit to Penguin Shelf to check out the tide pools.
Walk starts at **1.00 p.m.**
This outing will replace the usual first Sunday walk in February.

March 3rd & 4th Federation Weekend
The CNFN is hosting a weekend of activities. More details in the next bulletin.

Leichhardt's Grasshopper

By Helen Jones

Last Febeuary I spent two weeks travelling in Kakadu National Park in the company of a small "Go Bush" group.

One of the objects of the trip was to find populations of the brightly coloured but elusive grasshopper *Petasida ephippigera* that was observed by Ludwig Leichhardt on his 1844-5 expedition from Moreton Bay to Port Essington. We located the preferred food plant of this grasshopper at various times but no grasshopper. We were mostly looking just before a rain shower and perhaps they hide when it rains.

A late afternoon trip to a swimming hole near the upper edge of the escarpment took us into some quite thick scrub and there they were – Leichhardt's Grasshoppers – just as Leichhardt had described them. They are endemic to the sandstone escarpment as are the Pityrodia shrubs (*Pityrodia jamesii*) on which they were feeding when we found them.

In the dry weather the eggs of Leichhardt's Grasshopper hatch after being dormant during the wet season. The young nymphs climb onto their host plant, the aromatic Pityrodia Bush, and by the time the next wet season arrives they have progressed through their various growth stages then moult into

Special colour centrefold

their adult colours of brick red, blue and black. Then the adults begin mating and the process starts again.

It is thought that these brightly coloured insects, which are so obvious from a distance, are toxic to would be predators as they do not seem to have any enemies. They occur in low numbers and form sporadic colonies throughout the stone country. It is believed fire may be the major factor in limiting their occurrence.

When home I did a bit of research into when and where Leichhardt came across these grasshoppers. I tracked down a copy of "Ludwig Leichhardt Journal of an Overland Expedition in Australia from Moreton Bay to Port Essington 1844-45" on the Internet. I also found a paragraph in "Grasshopper Country" by David Rentz suggesting that a paper by Calaby and Key would give some interesting history of its early discovery, 70 year absence, subsequent rediscovery and identification of its host plant.

I spent ages reading Leichhardt's Journal. Eventually I came across one sentence, dated November 17, 1845 –

"Whilst on this expedition, we observed a great number of grasshoppers of a bright brick colour dotted with blue: the posterior part of the corselet and the wings were blue; it was two inches long, and its antennae three quarters of an inch."

Next I acquired a copy of the paper written by Calaby and Key titled "Rediscovery of the Spectacular Grasshopper *Petasida ephippigera*" in the Journal of the Australian Entomological Society in 1973.

According to this paper, the first specimen was collected by the purser of the H.M.S. Beagle during a 1837 -1843 survey expedition which travelled 260 kms along the Victoria River, Northern Territory.

The second specimen was recorded in 1845 when Leichhardt's expedition was on the escarpment above the South Alligator River N.T. looking for a way down into the forest and grassland. A third was recorded in 1855-6 and another was mentioned in 1904 as being in the Museum d'Histoire Naturelle in Geneva.

Then there was a gap of about 70 years until J.H.Calaby found a single grasshopper in the general vicinity of the South Alligator River N.T.

This discovery was followed by many others and the next puzzle was to find the foodplant which was eventually narrowed down to the shrubs Pityrodia and Dampiera. As noted before Pityrodia is endemic to Arnhem Land, Dampiera is not but is found in Keep River National Park as is Leichhardt's Grasshopper.

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Ludwig Leichhardt Journal of an Overland Expedition in Australia from Moreton Bay to Port Essington 1844 – 45

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Calaby and Key 1973 "Rediscovery of the Spectacular Grasshopper *Petasida ephippigera* WHITE". Journal of the Australian Entomological Society 12. 161-164.

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See Centrefold for Helen's beautiful photograph of the brightly coloured Leichhardt's Grasshopper.

Hard Rock

By Ron Nagorcka

Not long after Sarah and I moved to Black Sugarloaf, we came across a specially designed rock-splitting sledge-hammer in a hardware store. While my immediate vision was of all those images of hard labour in photos of prison camps in America, I also surmised that this object might be the very thing to assist in the creation of a smoother track to our new property. Those who have visited us will no doubt be grinning broadly - this was obviously not my most successful enterprise. Indeed, I made only one attempt to split the rock on our track. Either the hammer simply bounced off violently jarring my hands, or chips of rock flew dangerously hither and thither and the resultant sharp edges on the rock looked considerably more hazardous to car tyres than before. I decided that this rock-splitting business was not for me! The sledge-hammer has been useful, but it has split no rock since!

This was not our only unsuccessful purchase however. Equally useless to our situation was the nice compass we picked up at Allgoods in order to stop getting lost in the considerable areas of bush that surrounded us, and that we were determined to explore. It turns out that our little mountain had very strange magnetic properties (see below) - we had to use other means to find our way home.

We had encountered Dolerite, the rock that has been known as "curse of Tasmania". Since then Sarah and I have done many things with this rock - the house has dolerite walls, the garden beds are edged with it, there are steps of dolerite, floors of dolerite, immovable large bits of it remain in the centre of Sarah's studio and the bathroom. It holds down bits of roof and stops the trailer rolling away. Recently I have even made music with it - its hardness and qualities of fracture are such that thin pieces of it ring loudly when hit. So I have recorded it and turned those ringing sounds into an electronic instrument.

"The Rock which makes Tasmania"

This article is a combination of my own observations of dolerite and information from the most authoritative book on the subject with the above title by Tasmanian geologist David Leaman, who has spent a lifetime exploring the nature of this rock for which he has a passionate affection. It is a personal, somewhat idiosyncratic book - a strange mixture of personal accounts, science, and the demolition of previous misconceptions. It could have been a great deal more readable with better editing and the employment of a good illustrator. However I'd recommend it highly to anyone interested in learning about dolerite - it is full of fascinating information and the index is very comprehensive and helpful.

(There is also a fascinating chapter ("Up from below" page 105) which discusses Prof. S.W. Carey's theory that the earth has expanded markedly since the Jurassic and that the oceans have only appeared in that time. This is not as crazy as you might think. For instance "no part of any ocean is older than Jurassic", and it does provide a credible theory as to how the continents drifted apart. But I digress ...)

What is dolerite?

"Dolerite is an igneous rock (meaning it has cooled and crystallized from high temperature magma) which is wholly crystalline and whose mineral crystals are less than 1 - 2 mm across or long.... The rock may look like a dark lava (basalt) but it has an unusual texture (ophitic) in which well-formed feldspar crystals are surrounded by a later formed crystal mush of pyroxene and trace minerals. The rock crystallized at a moderate depth below the surface (500 to 3000 metres, hence "hypabyssal") in masses of limited size which were injected (intruded) into pre-existing rocks." (Leaman, page 13)

When it was first described in Europe, it was difficult to describe its constituents and the greek and latin roots of the name mean "deceptive" or "deceitful".

Dolerite appears on the earth's surface only well after the intrusive event, due to further uplifting activity and as the layers above it are weathered away.

Where does it occur?

Most intrusions of dolerite around the world are small. There are large ones in Antarctica and South Africa, but Tasmania has the honour of containing the largest areas of exposed, accessible dolerite in the world. It does not occur on mainland Australia. While there are outcrops of Precambrian (750million years BP) dolerite in northwest Tasmania, and some Devonian (350million years BP) in the northeast, the vast bulk of it - from Black Sugarloaf to Ben Lomond, Quamby Bluff and the Great Western Tiers, Cradle Mountain, Mt Wellington and many other wonderful places - is Jurassic (175 million years BP). It gives the island a special link to this era of great drama in the great southern continent of Gondwana. At this time Tasmania was at the centre of important global goings-on as Gondwana began to split apart. The crust of the earth thinned and magma swelled up from below.

Hydrology

One of the main attractions of the block of land we bought was the presence of a permanent spring - and this despite the fact that we were only 100 metres from the top of a small mountain. It was maybe just as well that we did not know that historically dolerite has been known as a dry rock as it is hard and virtually impervious to water. However it turns out that dolerite can store water quite well in its many joints and fractures. (See Leaman chapter 18 - page 135) On the slopes of Black Sugarloaf there are a few springs and many soak areas with a rich growth of swamp and scented paperbark (*Melaleuca ericifolia* & *M. squarrosa*) and Swamp Gum (*Eucalyptus ovata*). The water table in these areas is high enough to provide habitat for populations of 2 burrowing crayfish *Engaeus disjunctus* and *E. sulkaporus*. Even in our recent dry summers, our spring has not stopped trickling. (But with global warming upon us who knows if this will continue?)

Magnetic properties

Botanist Robert Brown found dolerite to be magnetic in 1804, and Charles Darwin commented on it during his visit to Tasmania in 1836. A compass needle will often fluctuate wildly in its presence as we found to our dismay. Leaman explains (page 101) how through a complicated process in the cooling of the rock from magma, sections of dolerite become a permanent magnet, and retain a magnetic memory. The explanation of these complex processes in Leaman's book are well worth the read. One thing the magnetic properties of dolerite makes really clear is that at the time of intrusion Tasmania was very close the south pole.

Dolerite as habitat.

Leaman makes mention (p 134) that Jack-jumper ants & scorpions particularly like dolerite. They certainly aren't the only beneficiaries of such a landscape! Our dolerite provides perfect habitat for many reptiles (all 3 Tasmanian snakes, skinks, blotched bluetongues and mountain dragons), frogs, ants, millipedes, snails, and of course beetles etc. Dolerite dug from the garden or cleared from tracks is piled around the place ready for various building projects. Such piles of rock are shaded and retain quite a lot of moisture through the summer, so it is often difficult to bring oneself to use it because of the resulting habitat destruction!

Bulldog ant (*Myrmecia* sp.), endemic land snail *Victaphanta lampra* and Mountain Dragon (below) on dolerite at Black Sugarloaf.

A curse?

Dolerite is hard, inscrutable, and unpredictable in its structure. You never know where it might turn up – especially if you are mining coal. It is difficult to drill, shape or quarry. To quote a government report from 1937:

"... in the central plateau and the higher portions of the State all the overlying sedimentaries have been denuded away and the diabase [i.e. dolerite] forms the surface. It destroyed the coal measures and itself is barren of all mineral wealth and use, except as road metal. It is so dense and hard that the soil washes away as rapidly as the rock decays. It is Tasmania's curse."

Well, I can confirm that it is a good building material and easy to form walls from without being cut or split. And the soil in our garden has produced a great deal of food - especially brassicas. It may have been hated by miners and bureaucrats, but broccoli seems to like it! Potter Neil Hoffmann (a CNFN member) has melted it into his recent work. It has its good points.

In short, dolerite is a fascinating aspect of Tasmania which is a place of generally complex geology and has produced some highly regarded geological scholars. This article has merely scratched it's surface - and as Leaman points out there is a great deal more to know about this enigmatic part of our landscape.

Ref: Leaman, D. (2002) The rock which makes Tasmania. Leaman Geophysics, Hobart.

Left: Leichhardt's grasshopper was described by Ludwig Leichhardt:

"Whilst on this expedition, we observed a great number of grasshoppers of a bright brick colour dotted with blue: the posterior part of the corselet and the wings were blue; it was two inches long, and its antennae three quarters of an inch."

(Photo by Helen Jones)

Right: This moth appeared on the roof of the house during a windy day at Black Sugarloaf recently. The patterning and colour of the moth matched almost perfectly the lichen-encrusted grey painted roof. (S. Lloyd)

Left: Psyllids (family Hemiptera) are sap-sucking insects that are abundant on a number of plant species, especially eucalypts. The insects exude a sweet sugary substance that hardens to provide them a protective covering known as lerp. Because lerp are rich in carbohydrate they provide high energy food for a range of forest birds, particularly pardalotes, but also thornbills and honeyeaters. (S. Lloyd)

Below left: At Black Sugarloaf an ant *Polyrhachis hexacantha* adopts a curious defensive posture while a nest mate (below right) laps up spilt marmalade (not on dolerite). (S. Lloyd)

Notes from a roadside naturalist

By Paul Hydes

A 13000km family holiday tarmac route from Port Augusta to Broome and Kalgoorlie with various side trips over a 3-month period resulted in a catalogue of sightings of fauna and flora. Rather than regurgitate a list of species/locations/dates the notes below focus on what can be seen from a vehicle and a selection of some of the more unusual observations, particularly at overnight stops.

The dry winter throughout South Australia/ Western Australia and parts of the Northern Territory highlighted the importance of water for birds and although we managed to find 290 species, they were generally few and far between. Post cyclone Monica, which hit Arnhem land in April 2006, many waterbirds were apparently concentrated south of the Gulf region, denuding Kakadu wetlands, while the cyclones in the north west of WA resulted in flooding of the Ord River wetlands south of Lake Argyle, forcing many of those birds to Parrys Lagoon near Wyndham. Apart from the latter, the only other good waterbird sites en route were two dams south east of Darwin. A localised 'shower' of 10cm of rain in late April around Gem Tree NE of Alice had flooded the local creek and stimulated flowers and shrubs which attracted birds. This was the only spot where we found groves of the pastel blue emu bush *Eremophila christophori* in addition to Pied Honeyeaters and Crimson Chats.

In arid areas, seasonal or otherwise, the edict of birdwatching at dawn and dusk paid dividends. Areas which appeared sterile during the day were remarkably productive at these times, illustrated by the saltbush paddocks around overnight stops at Spear Creek, 25km east, and Nuthush Station, 40km west of Port Augusta respectively. An early morning stroll at Spear Creek netted Red-capped Robin, Southern Whiteface and White-browed Babbler plus the only sightings on the whole trip of Redthroats. This uncommon scrubwren fits the Pizzey Field Guide description to a "T", "shy, disappears hopping mouse like into cover" and is most noticeable in flight for the fanned white tipped tail as it nips behind yet another bush. Similarly at Nutbush searching the treeless roadside before dusk revealed 20 species including one of the few Banded Lapwings for the trip and a duetting pair of Chirruping Wedgebills. The dawn/dusk principle held throughout the trip but during the heat of the day there was a notable exception at the Douglas Daly Caravan Park west of Pine Creek. Here, a mixture of pasture, burnt grassy woodland and the riparian zone along the Daly River resulted in 50 species of birds being found in a few hours. One field of view from binoculars first revealed a Rainbow Pitta followed by Azure Kingfisher and then a Black Bittern as the focus was adjusted deeper into the reed fringed waterside timber.

While Broome is acknowledged as the wader capital of the country, it is quiet during the early winter months before the influx of spring migrants from the northern hemisphere. Certainly the overwintering flocks of waders represent only about 1% of the summer peak number and the range of species is reduced. However, excellent views were had in late June of over 20 species in nicely concentrated flocks close to the observatory, including good numbers of Terek Sandpipers and a few Asian Dowitchers – the latter impossible for me to distinguish in a sea of godwits. The area is also 'home' to some classic mangrove species such as Red-headed Honeyeater, Broad-billed Flycatcher, Dusky Gerygone and White breasted Whistler.

Many bird species had obviously adapted to man-made structures/facilities, using them as convenient perches, nest sites or relatively

'safe' areas with a good food supply. Woodswallows and raptors were using fence posts, wires and power lines for perches along the Stuart Highway, the species of Woodswallow changing from Dusky in the south to White-breasted in the north with the Black-faced generally evident north of Cooper Pedy.

Caravan Parks provided bower sites for several Great Bowerbirds, notably one near our tent at Fitzroy Crossing. They are a pest at bars at Daly Waters and Mataranka Hot Springs, taking anything white to adorn their bower in contrast to the blue preferred by their East Coast Satin relative. Several caravan parks also had resident Stone Curlews – notably at Jabiru where they competed with Black Flying Foxes (*Pteropus alecto*) for wake up calls at 2am. Zebra Finches and Fairy Martins used picnic shelters as nest sites and the Martins were often the most frequently seen species in the arid north west. Every couple of kilometres a group of 6-10 could be seen flying low on each side of the road, invariably near a culvert. Closer inspection confirmed that even shallow culverts with roof sections 50cm high were lined with nests described as 'upside down mud ball igloos' where the birds seem to be vulnerable to predation by snakes and goannas. In three and a half months we found only two natural nest locations – rock overhangs in gorges – suggesting this species was non-resident in arid areas before the roads were hardened.

However, when it comes to adaptation, the use of old technology sewage farms as food sources and roost sites takes some beating. Several municipalities make life difficult for bird watchers but Alice Springs has a refreshingly positive approach. A key allowing access to the Poo Ponds (their name, not mine) can be obtained for a refundable deposit for the duration of your stay. A bracing early morning walk around the ponds gives distant views of up to 30 wader species in spring/summer, although in early June, only Red necked Avocets were present in significant numbers.

Another example of a safe haven concerned White-browed Robins at Kununurra. I had walked through a small patch of rainforest at Ivanhoe Crossing as the robins were reportedly found there. No luck at the time but in mid-afternoon after a spot of fishing I struck lucky (with the robin, not the fish) and watched a beautifully marked bird for 10 minutes or so. Feeling chuffed, I returned to base and suggested we hit a local tourist trap, Barra Barra, to celebrate. Subsequently, sitting beside a pond, mango smoothie in hand, to my chagrin a pair of these robins hopped around my chair legs – they regularly breed in this small commercial orchard apparently foregoing the delights and attendant risks of the nearby rainforest.

To be continued…

The CNFN AGM was held on November 5th at Weegena. It followed a leisurely walk through beautiful bush where we saw, amongst other things, several flowering orchids*, a leaf covered in psyllid insects and lerp (see centrefold) and a pellet full of bright blue feather bits indicating that a Superb Fairy-Wren had fallen prey to a bird, possibly a Grey Currawong.

Office holders remain mostly the same although Jim Nelson, who has done a great job as secretary since the group's inauguration, is now president and Ron Nagorcka is now secretary.

Many thanks to Lynn and John for their hospitality.

*STOP PRESS: a flying duck orchid (*Caleana major*) in bud was identified by Wade and Lisa Clarkson who have only ever seen the species on the coast and in full flower.

A great find!

Winter at Moulting Lagoon

By Sarah Lloyd

Conditions at Moulting Lagoon were exceptional this winter, very different to those I'd experienced previously. This time there was no mirror-shiny sheet of water covering 3,000 acres, the extent of the lagoon. Instead the water was the lowest it's been in the 20 years since monitoring began. Water plants that are usually submerged were colouring the surface with flecks of green and vast areas of sandbanks that had hitherto been hidden were exposed, becoming more so as the tide receded during the morning.

Twice yearly assessments of the waterfowl and other birds are undertaken at Moulting Lagoon. The late summer count occurs just prior to the duck-shooting season and the winter survey is timed to evaluate the impact of the hunt. The ongoing monitoring is a requirement under the Ramsar convention to which the government is a signatory. Despite this, funding is decreasing annually and the assistance of volunteers is becoming ever more crucial.

Though summer counts are usually well attended and have, in recent years, attracted participants from New South Wales eager to spend a few days in this spectacular part of the island, the winter surveys are a different matter. Many birdwatchers leave Tasmania during the coldest months and this year some of the regular and most experienced counters were absent. Last year's novices were prematurely promoted to team leader status (a team consisted, in this case, of one volunteer (usually the "expert") and one member of the staff from the local National Park office (who often knows just as much as the expert)). After the briefing session following the traditional Monday night pub meal, all field guides were out for a last minute check of the diagnostic features of some of the birds likely to be seen. But although we encounter thousands of birds (the lagoon supports up to 10, 000 black swans) the variety of species, especially where the novices are sent, is not that great.

I love the biannual visits to the East Coast, especially when the weather's fine. This was the first winter count where I didn't have to chip ice off the windscreen before driving to the early morning rendezvous point. Instead, low cloud persisted for most of the morning and the Hazards, the granite mountains that provide a spectacular scenic backdrop to the lagoon, were shrouded in clouds. And there was not a breath of wind! It was quiet and serene and the birds seemed unusually settled, not spooked by our presence as they sometimes can be.

I was sent to the southern part of the lagoon, an area I've not seen before. Because of its proximity to the sea and its more marine environment it supports higher invertebrate loads and has a corresponding greater number of bird species, including some migratory waders that overwinter here. While the people at the northern part of the lagoon were counting the thousands of Black Swans that feed on the various water plants that grow in its shallow waters, I was walking the edge of Pelican Bay and Point Meredith, starting at Pelican Rocks and finishing at Swanick, where the lagoon drains into Great Oyster Bay.

In the section I was assigned to survey the opposite shore is well within sight and systematic counting is easy. In contrast, in the northern sections, where the distant shores are hardly visible, only imaginary lines across the water divide one search area from the next. We listened in to the usual two-way radio discussions about who should be counting all those swans that had just moved from bay to shore. (The buoys that had been positioned the previous year to facilitate the count had not survived the plundering of summer visitors.)

With spotting scope mounted on sturdy tripod, I counted methodically: Pied

Cormorants, Silver Gulls, Pelicans, Pacific Gulls, Great Egrets, White-faced Herons, and GODWITS! I counted the single file of 37 Godwits many times, an excuse to watch these wonderful birds as they foraged in the shallow water adjacent to a sand spit. There were also Red-Necked Stints and Double-banded Plovers, a small flotilla of Hoary Headed Grebes and one Great Crested Grebe. I caught a glimpse, then it dived and disappeared as grebes are wont to do.

Moulting Lagoon is one of ten sites in Tasmania listed under the Ramsar agreement as a wetland of international significance. It is the most important breeding and foraging habitat for Black Swans in Tasmania with numbers reaching over 14,000 in dry years. Many species of waterfowl, including Australasian Shelducks and Chestnut Teal, congregate in late summer; flocks of migratory waders, including Greenshank and Sharp-tailed Sandpiper visit the lagoon; it also has several rare and threatened plant species and unusual geological formations.

Seeing large numbers of birds in such a beautiful location is an amazing experience. For me, it's an opportunity to observe species, particularly grebes, I seldom encounter but for which I have a particular fondness.

Grebes are ancient birds that superficially resemble loons. This similarity is believed to be the result of evolutionary convergence for grebes are neither related to loons nor to any other group of birds.

Grebes are superbly adapted for an aquatic life. Their legs are situated well back on their body and their partially webbed feet and lobed toes propel them during their underwater pursuits of prey. But attributes for an aquatic existence are unsuitable for terrestrial activities; they are ungainly on land and some are unable to walk. Consequently their nests, floating platforms of plant material, are usually hidden in reed beds at the water's edge. When they perceive danger they tend to dive rather than fly and when then do resort to flying they first skitter across the water, their toes acting like mini hydrofoils, before their fast flapping wings lift their bodies just above the surface.

Though reluctant to fly most don't lack the necessary skills or equipment to do so. In fact some grebes are migratory and fly long distances, usually at night. In Australia with its unpredictable climate and ephemeral wetlands grebes and other waterfowl must travel far and wide in search of suitable water bodies. In contrast, some species that live on remote lakes have lost the ability to fly and several species have either become or are already extinct.

The Atitlán Grebe, now extinct, was a flightless bird that as recently as 1990 inhabited just one (130 square kilometre) lake, the mile high remote Lake Atitlán in Guatemala. Its path to extinction is a sorry tale of destruction of its breeding habitat, inappropriate development, introduced species and genetic dilution. Sadly, it's a tale that's being repeated throughout the world, though on a different scale and with almost imperceptible rather than immediately disastrous consequences.

In 1965 a survey of the Atitlán Grebes found that their numbers had plummeted from a stable population of 200-300 to just 80 birds. The decline was attributed to the partial destruction of their breeding habitat; the reed beds that fringed the lake provided the perfect raw material for mat making.

Then the lake was developed as a tourist fishing resort. But there were no suitable fish! Large-mouth bass that liked the food that grebes liked and snacked on fluffy grebelets were brought to the lake to provide sport for the wealthy.

The threats continued: people from nearby cities wanting a holiday experience like no other ripped out the lakeside vegetation to create their own small beaches.

A natural disaster followed in 1976 when an earthquake caused the water level in the volcanic lake to fall by 6 metres, drying out the reed beds. Then in 1982, a national park game warden, one of a small team of people passionate about saving the bird, was shot by unknown assassins. In the politically volatile climate of Guatemala, no one was eager to replace him.

With its population already critically low a series of incidents ultimately sealed the birds' fate. Some were drowned in gill nets, others were disturbed by increasing boat traffic and then its cousin, the Pied-billed Grebe, an able flyer, arrived on the lake. Though just half the weight of the Atitlán Grebe, the more vigorous Pied-billed Grebe (some believe the Atitlán Grebe to be a subspecies of the Pied-billed) was able to compete for food. It also hybridised with the larger flightless bird, diluting the gene pool out of existence.

My recent visit to the south-eastern edge of Moulting Lagoon gave me cause for great concern. At the edge of the lagoon land is being subdivided and "developed" and clearing of native vegetation continues, often illegally. Weeds are already a serious problem in some areas and are gaining a foothold in others. Whereas twenty years ago the hard-bottomed sand at the northern end of the lagoon supported flounder and shrimp, now the area is covered in 10 cm of boggy sand and these species have all but gone. The high levels of sedimentation mostly result from activities not necessarily in the immediate vicinity of the water. One wonders about the impact of the recent extensive plantings of grapevines near the northern shore, believed to be one of the largest vineyards in the southern hemisphere.

Moulting Lagoon will never again be the pristine productive waterway it was before white settlement when mammals, birds and particularly swans' eggs were an important food for the aboriginal people of the Oyster Bay Tribe. But neither should it have to deteriorate further. Only a strong commitment from the government and the community will ensure that Moulting Lagoon and its wildlife survive.

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Left: Great Blue Herons are common throughout the United States. They are usually solitary and nocturnal and hunt for fish while wading in shallow waters.

Theories abound as to why this bird decided to spend the morning on the roof of CNFN member Larry Polansky's car. The most practical is that the bird was disturbed by bridge reconstruction and preferred this quiet spot, thus causing much excitement in the otherwise peaceful neighbourhood in Hanover, New Hampshire.

(Photo by Jody Diamond)

Right: Pied Oystercatchers forage in the shallow waters near the southern end of Moulting Lagoon.

Below: The Hazards at the Freycinet National Park form a spectacular backdrop to Moulting Lagoon especially on a clear summer's morning. (S. Lloyd)