

## GLADSTONE WADER SURVEYS

Gladstone, a town on the south-east coast of Queensland, is the fifth largest multi-commodity port in Australia, and is currently undergoing large-scale development to increase its capacity for export of black coal and natural gas. This process involves the shallow harbour being deepened and some areas of mudflat being reclaimed. Gladstone Ports Corporation, which manages the harbour and its facilities, is required to monitor the health of the environment during the development, to ensure that air quality, water quality and biodiversity are not being negatively affected. An important component of the local biodiversity is the conglomeration of migratory shorebird species that visit the area in between their northern hemisphere breeding seasons.

As part of my work with consultant Wildlife Unlimited, I have been involved in surveying all known roosting and feeding sites of the migratory and resident waders between Mackenzie Island and Rodd's Peninsula. Covering this area takes five days for two pairs of observers, using binoculars and a scope to count the numbers of each species per site, either from a boat or on foot. Roosting habitat may consist of sandy beaches, rocky outcrops, mangrove trees, claypans behind mangroves, ash ponds, saltworks and artificial walls surrounding the reclamation areas. High tide counts, when the birds converge on small elevated sites for roosting, are generally the most efficient for gauging species numbers. However, some species including Red-necked Stints and Greater Sand Plovers do not always display this roosting behaviour and sometimes low tide counts will yield higher numbers.

Accessing the roosting and feeding sites, and counting the birds, presents a variety of challenges. Some narrow creeks through the mangrove thickets can only be accessed when the tide is at its highest, leaving little room for error in timing of the surveys. On several occasions, our boat transport has been forced to retreat back to deeper water after dropping us at a site, requiring us to walk 100 metres or so to reach it upon completion of the survey. This is not an easy

task when the substrate consists of thigh-deep mud or you are being devoured by mosquitoes or sandflies! We generally avoid conducting the surveys in very bad weather, although strong winds during part of the February 2013 surveys caused the scopes to shake, as well as increasing wave action, which made beach landings precarious and the counting of mangrove-roosting species through binoculars very difficult. In addition, the migratory species are all dressed in their dull winter plumage which allows them to blend in well with their surroundings, particularly if they are huddled motionless against the wind and are located a considerable distance from the observer.

It is often difficult to identify specific reasons for declines in populations of migratory species when they occur, because they are influenced by a multitude of factors during their travels, from hunting and predation, to catastrophic weather events and habitat loss. The numbers of birds counted at Gladstone during seven surveys over the past three years (two of which I have been involved in) have shown variation comparable to that seen elsewhere in Australia, and hence provide no conclusive evidence that the development of the port is negatively impacting on the birds. However, we have observed the loss of some tidal mudflat habitat within Gladstone Harbour, and because several species are known to show high site-fidelity, a detailed study will soon commence to examine the diet, distribution and movement of the birds in the Gladstone area, and determine whether individual birds are able to use alternative foraging areas if their former habitat becomes unsuitable. In conjunction with this new study, the monitoring of shorebird numbers will continue for the next six years.

Tamara Leitch

## WILSONS PROMONTORY

“For observing nature, the best pace is a snail's pace.” (*Teale*) and that is the pace we took after we left the car park at the end of Five Mile Road. The purpose of this visit to Wilsons Promontory was to inspect the sites monitored after the fires. Mary Ellis, who led the monitoring team of volunteers, spoke

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the previous night at the Club's meeting and Jackie Tims' comprehensive report on Mary's talk has been published in Issue 562, June 2013, and continued in Issue 563, July 2013, of *The Latrobe Valley Naturalist*. Mary was also our leader for this excursion.

The first tree identified was a Messmate, whose botanical name *Eucalyptus obliqua* is one of the few that gives a clue to its identification to a person who does not understand Latin, as the word *oblique*, which refers to the slant of one side of the base of the leaf, is part of our common language usage. A scattering of bright brown fluff on the ground was thought to be a plant but closer inspection revealed it came from a newly opened cone on a nearby Banksia. The bright red leaves of the Tiny Sundew, *Drosera pygmea*, were a bright contrast against the dried grey dirt but still easy to overlook as they are so small. A cluster of silvery grey at their centres was a puzzle until magnified to reveal 5 or 6 circles of translucent new leaves curling over towards the centre, with a couple of red buds amongst them. I was delighted as I had never seen the sliver before and even up close it was impossible to discern their complexity with the naked eye. Close by were several small Club Moss plants (*Selaginella* sp). Spreading out amongst white sand grains was Swamp Pennywort, *Centella cordifolia*, a little plant with dark green leaves, confirming that this was usually a damp area.

Further up the slope two small, pale flowers of the orchid *Eriochilus cucullatus*, or Parsons Bands, were discovered hiding amongst the grass. Also found was a mat-like patch of Creeping Raspwort, *Haloragis micrantha*, with little heart-shaped leaves. The slope up to the first site was a gentle one but it was badly eroded with quite deep ditches as a result of the storm and flood event in March 2011. Mary commented that much more damage can be done to the Australian natural environment and landscape by flood than by fire.

The first monitored quadrat we viewed was fenced so it was easy to see its position and boundaries and to compare it with the areas outside the fence which had possibly been grazed by park wildlife. The gate into it was

locked so it could only be observed from outside the fence. Mary used what we were seeing to illustrate and amplify her talk of the previous evening. Within the quadrat there were several medium height trees and a number of shrubs and smaller plants though mostly mid-story. We did not find the precise position of the other quadrats we intended to inspect because they weren't fenced and the markers have been overgrown by vegetation, but we did visit the areas observed and the type of landscape and vegetation of each.



Mary Ellis, Jackie Tims, Wendy Savage & Ken Harris in typical pose! Photo: Phil Rayment

As we returned to the car park at the end of Five Mile Road, we continued to botanise. Among the plants we found were several *Acacia suaveolens* shrubs, the Sweet Wattle, so called because its creamy-yellow flowers are sweet-scented, and the bright brown male flowers of the rush-like herb *Leptocarpus tenax*. Two lonely plants had survived the long dry period we had been

experiencing: one mauve flower of the bladderwort, Fairies' Aprons, *Utricularia dichotoma*, and the small yellow flower of a Swamp Goodenia, *G. humilis*. Both were only a few millimetres above the ground surface. Hiding on a shrub was a moth with a yellowy-orange outline surrounding and narrow lines across the silvery grey on the wings. Much taller Club Mosses grew here and Jackie commented that the *Selaginellas* are *Lycopods*; their ancestors date back 400 million years to the Early Devonian period of Earth history. Alix's discovery was quite different. Was it a New Holland Mouse, or maybe a Wilsons Mouse, or was it just part of a Banksia cone that looked like a mouse?

The vegetation along the Darby Saddle track was much different, being higher and on the ridge. Despite a search, it was impossible to find the site markers in the thick growth of shrubs, now more than shoulder high. Along the track was the Hairpin Banksia, *Banksia spinulosa*, its black hairpins or styles a strong contrast to the golden colour beneath and, despite the dryness, two fungi: the Horse Dung Fungus, *Psolitus arhizus*, with its smooth mottled surface, and an aging white-gilled *Amanita ananiceps* with only a few ragged bits of annulus still clinging to its cap. After lunch we walked along Biddy's Track beside a stand of tall Coast Tea-tree, *Leptospermum laevigatum*. Very little grows beneath it. In the area which had been burnt the Coast Tea-tree, now almost two metres tall, is so thick it was impossible to penetrate it and reach the site. Here, though, other plants were growing along the track. Amongst them were red Common Heath, *Epacris impressa*, *Correa reflexa* with its red and green bells, a couple of Creeping Woodsorrel plants, *Oxalis corniculata*, with shallow yellow funnel-shaped flowers and bright green leaves, and a shy lizard dived down a hole and watched us warily.

## LYCOPODS

There was little time to talk with Jackie about Lycopods during the excursion but I was intrigued as I knew the Devonian epoch followed the Silurian period when the rocks we had walked on beside Westernport Bay were formed, so I did some research and

discovered some more fascinating information about Australia's fossils.

The Silurian era was when land invasion first began, some 443 mya. It is thought that the very first land plants may have formed by symbiosis between algae, fungi and bacteria. In the Rhynic flora of Scotland (late Silurian) some of the earliest known vascular plants are preserved well enough for them to be known in detail, and they have been found with mycorrhizal fungi growing in their tissues. Rhinia are ancestral ferns, horse-tails and seed plants. Rhynic plants consisted of small erect branches that rose from a network of prostrate branches that carried out the function of roots, gathering water and nutrients that were passed up the erect branches. They were probably aided by mycorrhizal fungi.

Discovered near Yea, Victoria, in 1875 were fossils of a primitive lycopod, *Baragwanathia longifolia*, though their significance was not realized until they were studied in the 1930s when the plant was named after the then director of the Victorian Geological Survey. The plants grew up to 3 metres in height. It is similar to living lycopods in both structure and organization, in particular *Lycopodium squarrosum*. Dated as late Silurian, they are some of the world's earliest vascular plants (plants with woody tissue) and large vascular land plants like these have not been found elsewhere in rocks of Silurian age. Rhynophytes were also present amongst them.

As well, a fossil of a frond of a Club Moss has been found near the Genoa River, Vic, and been dated to 415 mya (approx). The impression it made on the silt of the river bed is that of the oldest known Club Moss and it is also the earliest known fossil of a modern plant.

Finally, a recent report in a West Australian newspaper stated that the fossil of the earliest known footprints on land has been found near Kalbarri. The creature which made them probably crawled up out of the sea and would have been about the size of a large scorpion.

Estelle Adams

*The following two articles are from a Gippsland High Country Tours Newsletter (I don't have a date or issue number)*

## **“If you don't fight for what you love, don't cry for what you lose”**

It's been said before, but applies even more now as our precious environment is under assault as never before. There are the well known and long standing environmental issues of climate change, land clearance, lack of funding for public land management and important things like threatened species protection and research.

The value of the natural environment is being eroded at an increasing rate with even areas we thought were protected in National Parks under threat as environmental protection is being watered down across Australia.

There are currently moves across the various states to allow logging, prospecting and mining in some National Parks, sell off portions to investors for commercial development and even suggestions of rescinding some National Parks completely. In NSW park users are concerned about public safety as widespread hunting of feral animals will be permitted in many National Parks, while invasive animal experts say that this non-scientific approach may actually hinder systematic feral animal control works.

For more information go to;

VNPA [www.vnpa.org.au](http://www.vnpa.org.au)

NPA (NSW) [www.npansw.org.au](http://www.npansw.org.au)

Environment East Gippsland  
[www.eastgippsland.net.au](http://www.eastgippsland.net.au)

## **A MANAGEMENT PLAN FOR FERAL HORSES**

**(also known as Wild Horses or Brumbies)**

Parks Victoria is developing a Victorian Alps Wild Horse Management Plan to guide the management of wild horses and their impacts on public land in the Victorian Alps. Community input and expert advice are essential to ensure the plan considers the range of views on wild horses and that management controls are effective and practical.

Wild horses have been present in the Victorian Alps for more than 150 years, since being introduced by early European settlers. While valued by some in the community for their cultural association with the Alps, populations have grown rapidly in the past decade and the latest estimates suggest that there are now 8200-10,900 wild horses in the Victorian Alps. Wild horses pose a significant threat to the important environmental values of the Alps, including to a number of threatened species and ecological communities. The “degradation and loss of habitat caused by feral horses” is listed as a potentially threatening process under Victoria's Flora and Fauna Guarantee Act (1988).

A series of Information Sheets and Background Papers including Frequently Asked Question, have been prepared to assist the community with information on wild horses in the Victorian Alps and are available from the website [www.parks.vic.gov.au/alpshorseplan](http://www.parks.vic.gov.au/alpshorseplan).

The website includes a survey and an opportunity to voice an opinion and contribute to the planning process, but best of all, the information sheets give you a chance to learn the facts and actively participate in discussions with others on this often emotional topic.

## **ADULT EDUCATION PROGRAM**

Bunurong Coast Education in conjunction with South Gippsland Conservation Society

### **Schedule for the rest of the year**

**1 September** 2pm Weed Identification

**TBC September** Permaculture, 2-week accredited course

**17 & 24 October** Australian Plants: 2 sessions with Terri Allen & Mary Ellis

**24 November** 10am Reefwatch; Marine Monitoring program with Rod Webster

**15 December** 2pm Dinosaurs: Annual update of recent discoveries including new finds at the Koonwarra dig site with Mike Cleeland and Lesley Kool

**Cost:** \$10 payable on the day and includes afternoon tea



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**Place:** All programs conducted at Bunurong Environment Centre, Inverloch ☎ 56743738

**Format:** All programs will involve a presentation followed by a field trip

**Bookings:** Contact Education Officer Mike Cleeland on ☎ 0447352619 or email on [Mikeosaurus@yahoo.com.au](mailto:Mikeosaurus@yahoo.com.au)

**Requirements:** Writing materials and footwear suitable for the specific activity and weather.

## REPORT ON BUSINESS MEETING HELD 22.7.2013

### General Meetings & Excursions

**Friday 23 August:** Birds, Dams & Conservation in China – Wendy Wright & Steb Fisher (note change from original program)

**Saturday 24 August:** Morwell NP – Billys Creek. Meet 10am Junction Rd carpark.

**Friday 27 September:** Marine Life off the East Gippsland Coast – Don Love

**Saturday 28 September:** Mullundung. Meet **9.30am** Gormandale Hall, or carpool (if needed) at Traralgon Mexican Restaurant **9am SHARP**.

**Botany Group:** Saturday 31 August. Traralgon South. For details please contact: Wendy Savage ☎ 5634 2246 or email – [wsavage@dcsi.net.au](mailto:wsavage@dcsi.net.au)

**Bird Group:** Tuesday 3 September – Uralla Reserve & Trafalgar Ponds. Meet by 9.30 at Uralla. Contact: Alix Williams ☎ 5127 3393, [alixw@spin.net.au](mailto:alixw@spin.net.au)

**Finance** – Balances: Cash Mgt Trading A/c \$2061.37. Term Deposit \$13,629.02.

### Business Arising, Correspondence & General Business

Motion-sensitive camera – Postpone discussion to next month.

Changes to Incorporation and rules for club – see notice of motion below.

Bird identification guide for Latrobe Valley request from Kevin Roberts – will discuss at a later meeting.

SEANA camp possible joint venture with Sale FNC – Phil has emailed Sale Club; awaiting feedback.

Edward Hunter HB Reserve – bird lists completed; Owl Survey; Consultancy Workshop – a day in September for Botany people? Latrobe City \$10,000 for weed control.

Rob Gully unable to lead Bird Group at Neerim South on Oct 1 so now on Oct 15.

Possible to leave screen in Church. Follow up on possible cupboard space - check out what's available in Op Shops etc.

Follow up on suggestion that the Traralgon South Flora Reserve be named after Bon and Ollie Thompson.

Discuss later purchase of a microscope for the Botany group.

### Conservation Matters

Nothing to report.

## GUEST SPEAKER FOR SEPTEMBER

**Don Love** is a retired teacher and has been diving for over 50 years. This developed into diving on shipwrecks and he has written a shipwreck book which involved 30 years of research. For the past 5 years Don has been involved with Reeflife Survey, run by Parks Victoria and the University of Tasmania. Volunteers are trained to do invertebrate surveys in marine parks, and he has captured these with underwater photographs and videos.

## FOR THE DIARY

**2013-14 Subscriptions are now overdue – see inside back cover for full details**

**Club Spring Camp** Friday 13-Monday 16 September at Lady Northcote Camp, Rowsley (18km from Bacchus Marsh). Angliss lodge has 12 bedrooms with 2 bunks to sleep up to 4 people. BYO bedding and pillows. There are 2 bathrooms, kitchen and eating/sitting area, and we can use the nearby hall. Camping is possible. Evening meals will be arranged for Saturday and Sunday nights at \$12 per head. List at GM. **Full payment of \$160 per person (includes meal cost) required by August meeting.**

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**SEANA Spring Camp** at Numurkah, hosted by the Broken Creek FNC Inc.

“Riverine Flood Plains, Red Gum Forests, the Mighty Murray River”

Friday 11-Monday 14 October, based in Numurkah, in the Goulburn Valley.

## **NOTICE OF MOTION AT SPECIAL GENERAL MEETING 23.8.2013**

The August GM will be suspended briefly in order to put the following motion at a special general meeting:

That the club resolves to operate under the new model rules as contained in the Associations Incorporation Act 2012.

That the committee will consist of the four specified positions – a President, a Vice-President, a Secretary, and a Treasurer – and five ordinary members elected annually.

Our financial year will be from the first day of March to the last day of February.

Our statement of purposes shall remain the same as that originally adopted.

Statement of Purposes:

1. To study, enjoy and conserve nature.
2. To encourage an interest in the various aspects of natural history.
3. To hold regular meetings and arrange for suitable speakers.
4. To organize excursions or field days at times to be determined by the Executive Committee.

## **NOTE FOR BIRDOS**

The bird group outing for October at Neerim South will be on **October 15** instead of the usual first Tuesday of the month. Meeting place will appear in next month's Naturalist, or contact Alix Williams.

## **EDITOR'S APOLOGY**

Lack of content and time constraints due to matters beyond my control are the reasons for the empty space and the possibly deficient Business Meeting Report this month.

**A NEWSLETTER DOES NOT  
HAPPEN WITHOUT INPUT  
FROM MEMBERS**