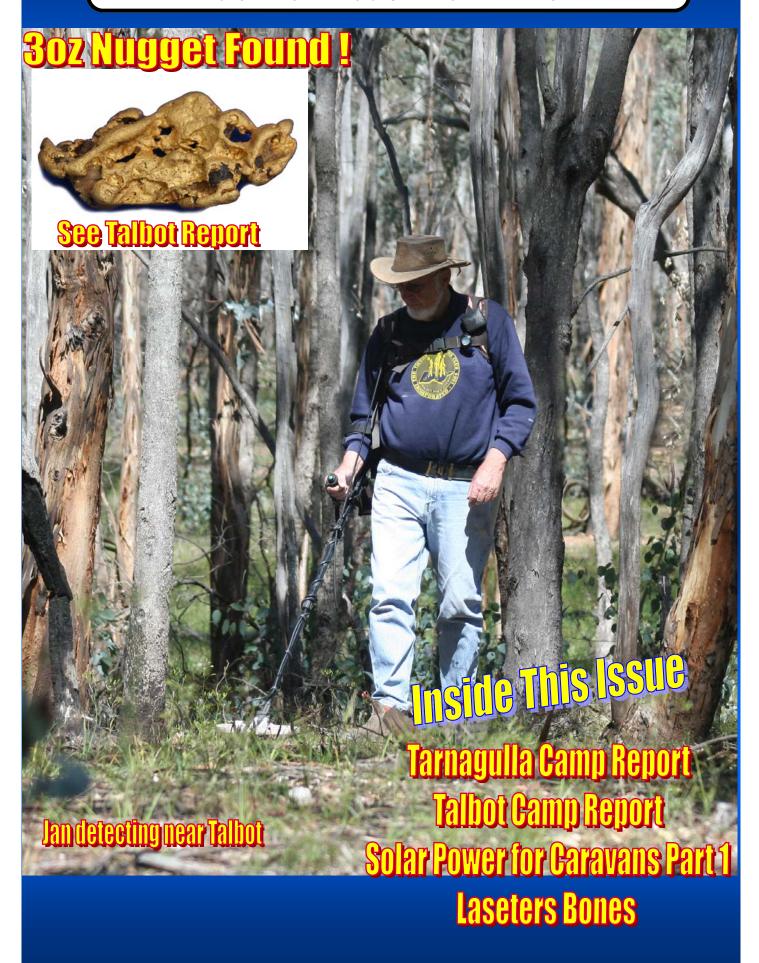
FOSSICKIN' ROUND

THE VICTORIAN SEEKERS CLUB BI-MONTHLY NEWSLETTER





The Victorian Seekers Club Inc.

Is a family oriented organization, the objectives of which are to promote friendship, cooperation and exchange of ideas among people interested in prospecting and metal detecting. To realize these aims, we have meetings, lectures, discussions and practical demonstrations to help members acquire the skills required to make prospecting and metal detecting an enjoyable and rewarding pastime. We arrange outings to the goldfields and other prospecting sites, beaches, camps, ghost towns etc, to search for gold, coins, relics, gemstones and other natural and man made objects of value and / or of interest. In addition, we also have functions to foster social contacts among members. Our conduct is governed by a strict code of ethics including avoiding trespassing on private property or damaging the natural environment, hence our motto:

"Seek, But Do Not Destroy"

Membership is open to adult persons and their minor children without regard to race, creed or political persuasion, who are interested in these pursuits and prepared to abide by our Constitution and Rules of Conduct. VSC has general meetings on the first Wednesday of each month (except January) at the Mulgrave Senior Citizens and Community Centre, 355 Wellington Road Mulgrave, and at a field trip each month and, in addition, we also have some occasional day outing.

Annual Membership Fees
Family Membership: \$40.00
Single Membership: \$35.00

One-off joining fee: \$10.00 single, \$20.00 family.

Subscriptions are due and payable by the 1st of July each year.

Website: http://seekers.metapath.org/

email: xxx@xxx

PO Box 15, Mt Waverley BC, VIC 3149

Committee of Management

PRESIDENT: Eric GRUMMETT

email; xxx@xxx

Club management/ representation, Chairperson of meetings.

VICE PRESIDENT: Barry WESTON

President's deputy, arranging speakers.

SECRETARY: John CLOSE

 $Correspondence, \ rules, \ meetings, \ admin. \ matters \ etc.$

TREASURER: Warren IBBOTTSON

Budget, finance matters (other than subscriptions)

NEWSLETTER EDITOR: Ian SEMMENS

email: xxx@xxx

Typing & setting out Newsletter.

MEMBERSHIP SECRETARY.. Warren IBBOTTSON

Subscriptions, membership records, changes of addresses, etc.

Email: xxx@xxx

RESEARCH OFFICER: Rob SHANNON

Information about outings, field activity and site control.

Events Calendar

November

Fri. 1st - Tues 5th: Cup Weekend Camp Craigie West

Wed 6th: General Meeting.

Sat 9th: Fosterville Gold Mine Open Day Fosterville

December

Wed 4th: General Meeting.

Sun 8th: Xmas Break up Wicks Reserve

Wed 25th Dec. - Wed 1st Jan.: Camp Goldsborough

January

No General Meeting.

Fri. 24 - Mon 27th: Camp Chute

February

Wed 5th: General Meeting. Fri 14th - Mon 17th: Camp TBA

March

Wed 5th: General Meeting.

Fri 7th - Mon 10th: Camp Wedderburn

Editors Report

by Ian Semmens

This has been a good month for finding good sized nuggets for some members which just goes to show that there are some still left out there although it is still lots of hard work and a bit of luck.

I am still in need for of any news, stories photos and articles of detector activity. Please email to me at xxx@xxx

The Victorian Seekers Club Inc.

Website: http://seekers.metapath.org/

General Meetings are held on the first Wednesday of each month (Except January) at the Mulgrave Senior Citizens & Community Centre, 355 Wellington Road, Mulgrave, MELWAYS (80, C1). Meetings start at 8.00 pm sharp, punctual arrival would be very much appreciated.

General meeting dates for 2013: Feb 6, Mar 6, Apr 3, May 1, Jun 5, Jul 3, Aug 7, Sep 4, Oct 2, Nov 6, Dec 4.

Committee meetings for 2013: Feb 5, Mar 26, Apr 30, May 28, June 25, July 30, Aug 27, Sept 24, Oct 29, Nov 24.

President's Report

by Eric Grummett

Time marches along for us, as yet another year passes by, the average age of members is increasing, shown by four in our club becoming octogenarians in the last few weeks. In successive camps we have celebrated the 80thbirthdays of John B, Elizabeth F, Joan B and Don P, who can now be said to be come of age. Surprisingly, if we add up their membership it equals 80 years. Congratulations go to them for reaching that great benchmark in life.

Last month at our AGM we secured the services of John Close as secretary and Barry Weston for vice president, we welcome them aboard the committee. They are very enthusiastic and I'm sure they will do our club well in their roles.

Two committee member have gone under the knife last week, Tina (bunion removal) and Warren (hip), so it won't be long before they are up and running.

We were saddened to learn of the death of Val's partner Barry R from cancer, which was probably triggered by the shock of the terrifying time when their van was wrecked in that tornado with them inside it a few months ago. Our club was well represented at his funeral.

Many members would remember Jim Stewart, the owner of the Laanecoorie Caravan Park during our many visits there. We have just learned of his passing also from cancer. He was very well known and liked by prospectors from all over Australia for his good advice and help in the field, which he freely gave us whenever we visited his park. I remember the great New Year eve parties he put on for us and the informative lectures he gave us on gold. Sympathies from us go to his wife Robyn and family.

The drought has finally broken for Herman with the discovery of a 90 gm. nugget at our Talbot camp. He was so excited he could not get his senses back for the rest of the weekend. Congratulation Herman, it just shows that the big ones are out there, but deep, mostly just out of reach for most of us.

Well Xmas is almost on us once again and so will be the hot weather along with the fire dangers. The serious fires in NSW must remind us of what the dangers of camping in a hot dry forest can bring. We must be vigilant of lighting and maintaining camp fires and be aware of any approaching bushfires in our camp area in case a quick evacuation is necessary.

All the best of health to all, ERIC



General Meetings

November

This night we will have a DVD on a prospector's plight in Western Australia when he got lost in the outback. This promises to be both entertaining and a salutary lesson about the dangers of prospecting in the outback.

December

lan Semmens will present a practical demonstration of LED lighting. This presentation is of interest to those who are looking to increase the light output and at the same time reducing the power consumed.

There will be the usual social get together afterwards to end the year on.

Almoner's Report by Virginia Lake

Of note:

Liza F,

John B,

Joan B.

Don P, all celebrated their 80th birthdays.

Warren I had a hip replacement. Tina W had surgery on both of her bunions.

Barry R has passed away. He will be sadly missed. Our sympathy goes to Val and his family.

Lindsey & Margaret T celebrated 50 years of marriage.



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Disclaimer:

Opinions expressed in this newsletter do not necessarily reflect that of the VSC Committee.

Sept. Camp Report

Tarnagulla

by Ken Whittaker

Photos by Geoff L.& Eric G.

As usual a few early arrivals on Monday to Wednesday established the camp site. Unfortunately Graham M was called home early. Hope you are on the mend by now Jo. During the whole camp the threat of rain was a bit overstated with only a couple of hours of drizzle on Friday, although the stay on stalwarts got wet on the Monday night with 40mm of rain, it cleared late Tuesday morning and it was OK after that.

Good to see long standing member John D again chancing his luck on the diggings. Some newcomers and visitors were prevalent with our Vice President Barry introducing some visitors from New Zealand, and prospective members Chas & Sue around the campfire. We also had a couple of other prospective prospectors dropping in to make enquiries. (Please Pardon the Predominance of the "P's")

Peter G used his yabby nets in the dam close by, however, as we didn't see any fishy tails around on the ground beside his chair, he evidently did not do too well.

On the Friday morning while some were discussing the implications of the date "Friday the 13th" around the already operating camp fire, Lady Luck played her part with our new Secretary John, testing his luck against a small intrusive tree stump right where he wanted to park. A severely dented plastic quarter bumper panel later, on his delightful transit van, he finally parked his unit. Not to be outdone John repaired the panel with some cable ties to get him home.



While talking about nice cars, our indubitable President Eric arrived on the Wednesday sporting his new twin cab "Ranger" 4WD. Consequently Eric has introduced a new rule that detecting by the club in future is not to be conducted anywhere on the goldfields on narrow bushy tracks.

Also in regards to our wonderful mobile phone coverage in this first world country, Eric informed all present that some minimal phone signal was achievable if you stood on one leg on top of the large mound just to the left of the Yabby Dam.

This was a well attended camp. I lost count at 20 or so camp sites with 40 odd seated for the raffles on the Saturday evening.

During the camaraderie on Saturday night, the members helped celebrate the 80th birthday of both John & Elizabeth who accepted their OBE in the form of a very tasty cake for each of them, along with sparklers and lots of "Happy Birthday" singing.

On Sunday morning our intrepid leader of gold finding – Peter M, escorted some 20 vehicles to an approved pri-



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vate property to look for the magic metal. Notwithstanding that the club, and probably many others, have swung the coil over this ground before, several small nuggets still came forth, and the biggest I believe, by yours truly at 1.7 grams. The biggest challenge for this adventure was to find the way back to the camp. Thanks to Peter G. I got there OK via the Tarnagulla pub. Only one pot each though - just to leave a little bit of tourist money in the town.

Again a successful outing, with several small nuggets found, and the usual great social aspect of our club which is ever present.

STOP PRESS: See next page for some beaut nuggets found late at this camp.



Around the campfire — Is it going to rain?



John D detecting at the paddock.



80th birthday cakes.



Group huddle prior to detecting on private property (Peter M's friend)

Special Outing Report

National Sports Museum



A great day was had on 19th Oct by 17 members on a visit to the MCG to inspect the grounds, players facilities, MCC rooms and the Long Room. Our guide warned us not to souvenir more than one blade of grass from the sacred ground as he knew how many there were and would have us evicted if he caught us. Val's rendition of the Demon club song had us in fits during a pretend winning huddle in the club rooms. The tour was followed by an inspection of the sports museum which was an eye opener with the variety of sports covered. Not only cricket and AFL, but displays of Olympic Games, horse racing (including a skeleton of the famous horse Carbine) cycling, tennis and rugby. For me, the best display was a hologram of Shane Warne talking of is cricket life, you could swear he was there in person, the special 3D effects were so good. We completed an enjoyable day with a picnic in the park.

Gold Price Report

By Ian Semmens

60 Day Gold Price in AUD/g



Price as at 21/10/2013

Tarnagulla Nuggets



These 37gram, 32 gram and other smaller nuggets were found by a member at the Tarnagulla camp.





October Camp Report

Talbot

by Ken Whittaker

Photos by Ian S.

On the Wednesday night there were only 4 people in attendance but by the Friday evening there was a full camp, "American Indian" style in a great circle. Herman, early on, set up a coil test point hole with a 7.4g gold nugget on the end of a stick, which probably destroyed the confidence of some detectorists as their normal coils would not locate the target at 40cm. Herman obviously gained some experience, as later, on the Monday, he pinged a lovely largish nugget using a coil that he had trialled. Cunning stunt Herman, it was good research.

The weather was generally good, but there was an annoying shower from time to time, forcing the odd dash back to the car, getting seated – only to find the sun was out again.

The Saturday night raffles were supported well by the 40+ people around the fire producing a gross income of approx \$180. Thank you to those who donate the odd prize or two.



We also celebrated the 80th birthday of both Joan B & Don P. Happy Birthday songs were supported by the sharing of some cakes along with sparklers. Good fun.

Young Anthony, a prospective new member, managed to pan some colour where there was some water close by, with some help from our President Eric I suspect. Well done Anthony and it is good to see a new face using the old methods.

On Saturday evening a noisy disturbance was generated at the Club Editors camp. Some screams and shouts were heard as evidently, while Ian was cooking on his new "You beaut" BBQ cooker, some visiting lady members entered his van to inspect the lighting technology, causing a serious imbalance to the front end jockey wheel. Ian said that it was only the 5th person that caused the dramatic forward tilt, and as they did not have tickets,

any compensation claims will be vigorously defended. You've got to be prepared to laugh on these Seekers trips.

Quite a few bits of gold were found in every shape and form, from small colour in the pan to largish nuggets. All in all one of the best Club adventures that I have attended, and I look forward to many more.



Herman bagged this lovely shaped 90 gram (3 ounce) nugget in virgin ground near some diggings at a depth of 400mm with a 14" Nugget Finder coil on a GPX 4500.



More Talbot nuggets. The biggest is 9.5 grams.





Ken W. receiving the "Find of the Year" trophy

More Talbot Photos



Robert S. & Kaye working a two tier sluice at one of the nearby dams as James looks on.



Kangaroo with joey near the camp.



Peter S. detecting on the side of a hill.



James using his BIG coil in a gully.



Anthony panning at a dam.

Help!

We are seeking donations of items, mainly food and drink, for the Xmas hamper to be drawn at the Xmas break up on the 8th December. If you have any donations please contact Val 9879 1470 or Tina 9878 9886.



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Unhappy campers asked pay to stay at more than 100 Victorian campgrounds

• by: MATTHEW JOHNSTON State Politics Reporter From: Herald Sun

October 23, 2013 12:01AM

FAMILIES will have to pay to stay at more than 100 of Victoria's national park campgrounds for the first time, under a Napthine Government plan.

And the cost of camping at premium sites where fees already apply will be hiked from an average \$37 a night to about \$59 a night.

The Government is proposing the user-pays model-likely to be phased in from March - which it says as fairer for taxpayers and more sustainable.

The first stage would see 11 of Victoria's free park campgrounds introduce fees of about \$19 a night on average, while 24 parks that already have fees

The other 98 parks or reserves in Victoria would have camping fees by 2015 under the plan, which is expected to raise at least \$13.5 million a year.

For the full story go to:

would see increases.

http://www.heraldsun.com.au/news/victoria/ unhappy-campers-asked-pay-to-stay-at-more-than-100-victorian-campgrounds/story-fni0fit3-1226744817948

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<u>Seekers' Christmas</u> <u>Party</u>

Sunday 8th December, from 11am

Wicks Reserve - The Basin (Mel 65 D8)

Turn left at the roundabout on Mountain Highway, then 400m down The Basin -Olinda road turn right into the Reserve.
(Electric BBQs and water in the premises)

- * Detecting contests for everyone with a coin machine (PI gold detectors are not to be used.)
- * Drawing of the **Christmas Raffle**. One huge hamper plus two more hampers.
- * Door prizes
- Bring along your spouse, kids, friends, food, drinks, coin detector. Digging tools (no picks) and have fun ...

Adults should collect their door prize ticket from Mieke on arrival. Electric BBQ available, BYO table, chairs, food and drink, don't forget the AEROGARD. and sun cream!

Please make an effort to come to this break up party and support the club and also have a great time !!!



Gilding the gum tree – scientists strike gold in leaves

From the CSIRO website
22 October 2013 | Updated 23 October 2013

Eucalyptus trees in the Kalgoorlie region of Western Australia are drawing up gold particles from the earth via their root system and depositing it their leaves and branches.

Scientists from CSIRO made the discovery and have published their findings in the journal *Nature Communications*.

"The eucalypt acts as a hydraulic pump – its roots extend tens of metres into the ground and draw up water containing the gold. As the gold is likely to be toxic to the plant, it's moved to the leaves and branches where it can be released or shed to the ground," CSIRO geochemist Dr Mel Lintern said. "The leaves could be used in combination with other tools as a more cost effective and environmentally friendly exploration technique."

Dr Mel Lintern, CSIRO geochemist

The discovery is unlikely to start an old-time gold rush – the "nuggets" are about one-fifth the diameter of a human hair. However, it could provide a golden opportunity for mineral exploration, as the leaves or soil underneath the trees could indicate gold ore deposits buried up to tens of metres underground and under sediments that are up to 60 million years old. "The leaves could be used in combination with other tools as a more cost effective and environmentally friendly exploration technique," DrLintern said. "By sampling and analysing vegetation for traces of minerals, we may get an idea of what's happening below the surface without the need to drill. It's a more targeted way of searching for minerals that reduces costs and impact on the environment.

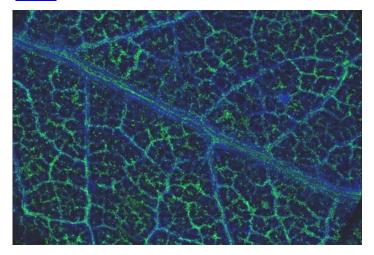
"Eucalyptus trees are so common that this technique could be widely applied across Australia. It could also be used to find other metals such as zinc and copper."

Using CSIRO's Maia detector for x-ray elemental imaging at the Australian Synchrotron, the research team was able to locate and see the gold in the leaves. The Synchrotron produced images depicting the gold, which would otherwise have been untraceable.

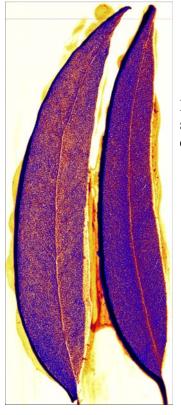
"Our advanced x-ray imaging enabled the researchers to examine the leaves and produce clear images of the traces of gold and other metals, nestled within their structure," principal scientist at the Australian Synchrotron Dr David Paterson said.

"Before enthusiasts rush to prospect this gold from the trees or even the leaf litter, you need to know that these are tiny nuggets, which are about one-fifth the diameter of a human hair and generally invisible by other techniques and equipment."

CSIRO research using natural materials, such as calcrete and laterite in soils, for mineral exploration has led to many successful ore deposit discoveries in regional Australia. The outcomes of the research provide a direct boost to the national economy. Access the full paper at Nature Communications Lexternal link] or read more media releases in our Media section.



Eucalyptus leaf showing traces of gold.



Eucalyptus leaves showing traces of different minerals.

Big Specimen Found

A member has recently found a large specimen weighing around 24 ounces with an estimated SG test of 9 ounces of gold.

It is now in hydrofluoric acid and may be revealed to members soon in all of its golden glory.

Here are the photos before it went into the acid.





News

Lasseter's Bones COMING SOON

Like so many others over the years, director Luke Walker became fascinated by the story of Harold Lasseter, whose body was found after perishing in Central Australia's deserts in 1930. Lasseter's diary revealed he'd discovered a seven mile seam of gold, worth millions, but that he'd "give it all for a loaf of bread". Despite hundreds of expeditions since, the gold has never been found. In making Lasseter's Bones Walker discovered Lasseter's 85-year-old son Bob still wandering the desert after 50 years, on a quixotic mission to discover the gold that killed his father and destroyed his childhood. Walker found himself teaming up with Bob Lasseter on a quest to solve the many riddles his father left behind. Walker's journey took three years, leading him across six states and deep into the heart of Australia, and finally revealing "all the evidence you need to understand what truly happened to Lasseter and his gold. A Best Documentary nominee at the Film Critics Circle of Australia Awards 2013, Lasseter's Bones was also voted one of the Top 5 Most Popular Documentaries at the 2012 Melbourne International Film Festival.

Link for movie trailer:

http://www.youtube.com/watch?v=BC1vBos_kHo



Release Date: Oct 31, 2013 Running time: 101 mins

Social Outing

By Val & Tina

Theatre Night



"Are You Being Served"

8:00pm on November 8th at the Athenaeum Theatre, Lillydale. Meet before at 6:00 pm for a meal at the Crown Hotel, Lillydale for a meal for those who wish to do so. If you wish to go contact Val 9999 9999 or Tina 9999 9999.

Special Event

West Craigie Camp Melbourne Cup W/E Hot Chicken Dinner



Free Hot Chicken Dinner.
Saturday 3rd Nov. Evening Dinner.
Bring yourself, salad and/or desert.

Plus:

- Special Cup W/E Raffle
- Cup Sweepstakes
- "Fashions on the Field"

 Dress up for judging of this fun
 event. We have had some great
 appearances in the past events.

Fosterville Colt Mine Open Day



Fosterville Gold Mine

ANNUAL MINE OPEN DAY SAT 9th NOVEMBER 2013 10AM – 1PM

Tour our mining operations including underground portal, processing plant. SITE TOURS, DISPLAYS, GOLD PANNING, FREE BBQ LUNCH & PLENTY OF ACTIVITIES FOR THE CHILDREN.

McCormicks Road Fosterville Victoria 5439 9000/ info@crocgold.com.au

We may be able to organise a Seekers outing to this event. If interested please contact Ian S. on 9999 9999.

Notes on Battery Dam, Craigie

Extract From DSE "Forrest Notes"
Battery Dam and Craigie State Forrest
By Paul Bates ,2004

HISTORY

The area's first inhabitants were the Jajowurrong people. Evidence of how these people survived in these dry forests can be found at Bull Gully Rock Wells. These wells provided a valuable source of drinking water by collecting rain in trenches dug from outcropping sandstone. The wells are the best-known example of their type in Victoria. The lives of the Jajowurrong were changed forever by the discovery of gold. In 1854 a 15.25 kg (537 ounce) nugget was found about one km north of Battery Dam. With this find the rush was on, thousands of hopefuls flocked to the district

The quest for gold has left its mark in the forests around Battery Dam. Hundreds of 'diggers' holes dating back to the 1850's can still be observed in gullies throughout the forest. Deep lead mining commenced in the late 1850's with numerous shafts sunk to mine the rich, gold bearing quartz veins. Chemical extraction of gold using cyanide commenced in the 1870's and again in the 1930's. Evidence of all these activities can be found at Battery Dam today. In 1917, eucalyptus distilling commenced at Battery Dam and continued until the 1950's.

The regrowth forest seen today around Battery Dam has resulted from harvesting carried out to supply timber to the mining industry in the 1800's. Sustainable harvesting of firewood, fencing timbers and sawlogs continues today and is subject to strict environmental standards as set out in the 'Code of Forest Practices'.

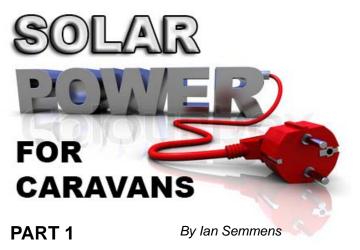
ATTRACTIONS

The Craigie State Forest contains numerous natural attractions, all of which can be seen around Battery Dam. The main tree species in this part of the Forest are Red Ironbark, Grey and Yellow Box and Yellow Gum. Red Box, Long Leaf Box and Red Stringybark can also be found in the area. The large Grey Box located near the picnic tables is thought to be over 250 years old, a true forest giant!

During the spring and early summer a wonderful mix of wildflowers fill the forest with colour. The most obvious is the Golden Wattle, which blankets the forest understorey in golden yellow during September and October. Other easy to find wildflowers include Gold Dust Wattle, Narrow Leaf Bitter Pea and Cats Claw Grevillea. Numerous orchids are found in the forest, with the most common being Waxlip and Leopard Orchids and Blue Caladenia. Wildlife abounds in the forest around Battery Dam. Watch for Wallabies, Echidnas and if you're lucky (and quick) the tiny Yellow Footed Antechinus. Some of the most common birds you are likely to encounter are the Yellow Tufted Honeyeater, Musk Lorikeet, Eastern Yellow Robin and Superb Wren

WALKING TRACKS

The walking track from Battery Dam to the Bull Gully Rock Wells is an excellent way to experience the Box Ironbark Forest. This easy walk is 2 km return and will take approximately 45 minutes to complete.



Topics to be covered in this series.

- What Electrical Power Source do I need?
- 2. Basic power calculations. What size panel do I need? What size battery do I need?
- 3. Types of solar panel, regulator, battery and cable.
- 4. Basic Installation tips
- 5. Practical experience in the field

1. What Electrical Power Source do I need?

We all now have a need for portable source of power when we go camping to run our lighting, radio, TV, computers, charge detector batteries and mobile phones.

This can be met by: battery only, portable generators, fuel cell (methanol) or a solar power system.

Why Solar Power?

For camping a solar panel system is ideal as a power source because it is silent there are no fumes, no moving parts, no running costs, maintenance or need to carry petrol. They are very cost efficient and cheaper to run in the long term than a generator. A well designed solar system meets the needs for charging a battery for a normal camping environment. Also Generators are banned in some caravan parks and National Parks and some other camping locations. They have a long life with most panels having a 20 year guarantee.

How does a Solar Power System work?

The basic principle of a solar system is that sunlight strikes the solar panel which then generates a current which goes to a controller and this then delivers a current to the battery at the correct rate to charge it up to its normal operating voltage. Lights and other electrical devices draw their power either directly through the battery or via the controller. In normal use during the day the battery is recharged and in the evening the power is drawn from the battery.

There are three approaches to battery use while camping:

a. Battery only – no panels. This is where you charge up your battery at home and it steadily discharges while you use it camping.

Advantages: Cheap, simple.

- Disadvantages: May run out of power, may subject the battery to deep discharge periods &the need to recharge the battery after each trip.
- **b.** Use a solar panel to supplement the rate of discharge so that it extends your period that you can have power while camping.

Advantages: Cheaper than a full solar system. Less panels on the roof and smaller battery capacity needed compare to full solar power & no need to recharge the battery manually as while the caravan is stored it uses the panel to recharge the battery. The battery is automatically maintained at an optimal charge.

Disadvantages: May run out of power.

- **c.** Use a solar panel to provide all of the recharging needs for the battery. Ideal for longer trips away from the power grid.
 - Advantages: A well designed system means that you will not run out of power. Fully independent of other power sources.
 - Disadvantages: More expensive. Requires more capacity in the panels and battery and more weight. May mean a higher capacity controller.

2. Basic power calculations

What size panel do I need?

What size battery do I need?

This all depends on how much power that you consume and your approach to your battery use.

To have a solar power system that maintains your batteries indefinitely then amps produced must equal or exceed the amps consumed. See, its just a matters of getting the number right.

It makes sense to look at your electrical devices and to see if there is any way that you can reduce your power consumption. Things like more efficient devices such as LED lighting or a LED LCD TV may mean that you may not need as large a panel or battery.

You need to know just two Electrical Theory formulas:

Watts (power) = volts x amps (current) or put another way: Amps = watts/volts

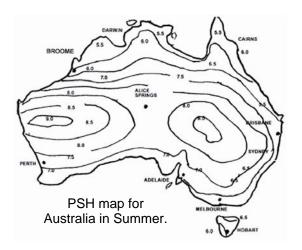
You now need to calculate your power consumption.

Read off the device or light globe label, or measure with an amp meter, all of the lighting and electrical devices for the current (amps) that it consumes. For lamps that just have the watts stamped on the side of them then divide the voltage (12 volts) into the watts to give you the amps consumed. Multiply the amps by the hours that it will be turned onto give amp hours. Add up all the devices to get total amp hours that you consume per day.

To find out your potential to produce power first consult the Peak Sun Hours (PSH) chart that shows the long term average sunlight that you get for that location in that season. This is available from the Bureau of Metrology website.

PSH Chart	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Melbourne	6.67	5.92	4.89	3.69	2.64	2.28	2.39	3.08	4.03	5.17	5.94	6.42
Mildura	7.47	6.97	5.81	4.47	3.19	2.78	2.94	3.72	4.81	6.06	6.97	7.47

This chart above will give you an idea of who much sunlight, and therefore amps, that you can expect to get in two locations in Victoria at different times of the year.



Divide amp hours into PSH to get the amps that need to be generated by the panel. Multiply amps x voltage (12) and then multiply by 3 to allow for the actual output of the panel.

For example: If total amp hours used per day is 12 and in winter there is 3 PSH for that location (Victoria) then the panel needs to put into the battery at least 4 amps per hour to maintain it at its current level (providing that no power is used during the day). So, 4 amps \times 12 = 48 amps \times 3 = 144 watts panel. I believe that it would be best to go for a 24 volt 200 watt panel or for a bit more money you could get a 250watt panel.

3.Equipment:

Types of solar panel, regulator, battery and cable. Solar Panel:

Polycrystalline – The panel of choice. Most popular, least expensive, efficiency of 12%, affected by heat by reduction in output of 14-23%

Monocrystalline–More expensive but more efficiency of 15%, affected by heat by reduction in output of 12-15%

Amorphous— efficiency of 6%, not affected by heat. Not suitable for caravan applications due to twice as many panels needed.

Free standing fold out or Roof mounted panel? Although you can get fold out panels up to 200 watts. The more common ones are 40, 80, and 120 watts. This may not be enough for your requirements. They also come with a very basic regulator that give little information and some frames are rather flimsy. While left outside they may be subject to theft or accidental damage from wind, a passing dog knocks it over or someone drives over it. These are all scenarios that I have seen. They also require time to set up and you need to use the right size cable to connect to your battery. Many of the

supplied cables are to light for the task. Because of this, my choice is roof mounted. Though you will have to climb the ladder to clean it every so often. Yes, you will lose about 10% efficiency when compared to a panel that is tilted at the RIGHT angle to the sun (15-62° tilt, depeding on time of year)however if you simply get the next size up in the panel this will more than compensate for this loss. The price of panels has dropped dramatically over the last 12 months so this is not an major issue anymore.

Solar Panel Factors:

The stated wattage of the panel is not what you will get. Take off around 20%-50% of the stated watts for the true wattage available. This is because the rated watts is based on peak voltage (17v) , a cell temperature of 25C and peak current . As our normal use is 12 volts and battery charging requires 13.2 -13.8 volts for much of the charge the actual watts will be substantially less than that stated.

In addition, Polycrystalline and Monocrystalline panels get less efficient the hotter that they become. Most modules lose around 5% output for every 10 degrees C increase above the cell (not ambient) temperature of 25 degrees C. On a moderate 25 degrees C day that cell temperature is, according to the industry's own data, is 47-49 degrees C. So here is a further 13% loss in the rated watts.

It is not practical to tilt your roof mounted panel at the sun. You would gain about 10% but the cost in brackets, weight, stability and complexity is outweighed for a caravan. For a fixed location installation there is an advantage of a tilted panel.

There are naturally losses when you park your solar panel equipped caravan under shade and they range from 20%-50%. This is why it is beneficial to get a 24 volt panel as they are less affected by shade than a 12 volt panel. These are the same type as installed in houses and because of this they are much cheaper and are available in bigger sizes than the12 volt panels. You then simply use a controller that detects that you have a 12 volt battery and it converts the 24 volt supply from the panel to 12 volt to charge the battery. There are also losses in the controller and the cabling.

All of these factors means that you need to make sure that you get the correct size and number of panels.

The time when you often most need to use power is normally during winter with shorted days and inclement weather keeping you indoors, but ironically this is the hardest time to generate it. However you can still generate a charge while it is overcast or even raining. I generated a 0.5 amps (10%) charge during rain in winter in a shaded position.

NEXT ISSUE: Controllers, Batteries and cabling.

Nov. Outing: Craigie West

Friday 1st to Tuesday 5th Nov.

DIRECTIONS - From Melbourne take the Calder High-

Xmas Outing: Goldsborough

Wed. Dec. 25th to Wed. 1st Jan. DIRECTIONS From Dunolly- Take the

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