

July 2013

snowyhydro

NEWS

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ISSUE 21



Jounama Dam Wall

Reflecting on the last 14 years - Terry Charlton says farewell

Terry Charlton
Managing Director & CEO

It has been a very quick but most enjoyable and rewarding fourteen years as the last Commissioner of the Snowy Mountains Hydro-electric Authority and the first CEO and Managing Director of Snowy Hydro Limited.



When I joined the Authority, it was to be for about three years. One year would see the Authority corporatised, another year to see it privatised and a year to settle the new business into the National Electricity Market (NEM); well, history tells a very different story.

Irrespective of the pressures of the “timetable”, I came to Snowy Hydro after many years around high quality and complex engineering and manufacturing operations and recognised early on that our assets were the core of future success. The urgency to upgrade our assets was obvious given how the NEM was developing. Equally obvious was how little had been allowed to be spent on these assets.

Condition assessment and upgrade was necessary if we were to play the vital risk management role in the evolving NEM that our assets, over which we are stewards, made us ideally suited to play. I look back and I am satisfied and rewarded that these assets are now in better condition than they were in 1999.

I also saw, back then, that we had much work to do to make our operations safer for our people; I have always believed that any lost time injury was unacceptable, and that any near miss was also unacceptable. We have done a lot of work to make our business a safer business and hopefully instill the ethos of ‘Safety First’. This belief extends beyond the Company and into the broader community through our employees, their families and through initiatives with Snowy Hydro SouthCare. We have come a long way from multiple injuries a year to now one, or zero.

I was also very concerned to provide job security to our people across the Scheme because it is not easy to find alternative employment in country NSW and Victoria. Nor does one embrace learning and challenge if you don’t expect to be in the team in the near future. Pleasingly, job security is no longer a daily concern.

My fourth priority was to mend the relationship with the communities in which we operate.



The partnership between Snowy Hydro and the Snowy Hydro SouthCare rescue helicopter has now exceeded 13 years.

The Snowy Scheme is a large operation with many stakeholders; communities, businesses, contractors and industries either directly or indirectly linked to what we do each day. For many reasons the Authority had become disconnected from its community stakeholders and mutual goodwill, support and recognition for what we did was sadly lacking. This has changed markedly and for that I thank our communities, all our local residents and Council's for the support you now give Snowy Hydro.

...I thank our communities, all our local residents for the support you show Snowy Hydro...

While there has been considerable progress on these priorities each can still, however, be improved upon.

I also look, with some satisfaction, to our Young Driver Training program, to the Snowy Hydro SouthCare Rescue Helicopter Service, to the establishment of the Cooma Universities Centre in collaboration with the Cooma Council and to the number of young trades and professional people we have in most areas of the business.

Cloud seeding has also been a significant innovation with widespread benefits. Being able to scientifically prove that we can increase snow fall by 14% without negative environmental impacts was a significant achievement for the Company but also the program benefits the local community and all stakeholders who rely on snowfall.



Meeting with employees on what was happening around the company.



Addressing employees around the Scheme.

The acquisition and very successful growth of Red Energy and the establishment of open cycle gas fired electricity generation plant have also been strategically important undertakings. Each provided the hydro assets of the Snowy Scheme with the support needed especially during the decade long drought that covered much of my 14 years. On that note, I was pleased to see that as a business we survived those very challenging times, when storages were down to less than 5% active storage, and never failed to meet our water release obligations.

None of the above could have been achieved without a remarkable team effort and active support at all levels across the Company. I have only been the "conductor" of the "orchestra", but the "orchestra" is a highly competent and professional outfit. As I have said many times "the people at Snowy Hydro are the best team of people of which I have had the privilege to be a part". I will miss many things about Snowy but it is being part of the "Snowy team" that I will miss most.

You will note that I have not referred to our terrific and sustainably improving financial results, nor to

the overall strength of our balance sheet and the growth in our innovative financial products. Our results are enviable on any measure but are simply the outcome of the competence and commitment of the team... get the strategy right, have the right people and do the basics properly and the results will come.

I see nothing but continued success for Snowy Hydro in a market and business environment that will be characterized by uncertainty and risk well into the future. These are what I refer to as the "beautiful" new risks to which our assets are well designed to respond, and from which we will prosper. These risks will continue to provide profitable opportunities.

As long as our assets are maintained to a high order, while our innovation meets the evolving needs of a changing market and while we continue to value the relationships we now have with our local communities and stakeholders, then "Snowy" is in pretty good shape.

Thank you for fourteen terrific years.



June 2010 - the official opening of the Jounama Small Hydro Power Station with stakeholders including Tumut Mayor, Trina Thomson.



Speaking at the Annual Former Scheme Worker Presentation.



Terry at the opening of the Cooma Universities Centre in March 2013.



Snowy Hydro has championed support for Childhood Cancer Research through the Snowy Ride.



Environmental flows into the Snowy River

Our Cloud Seeding Program is now operational!

Karen Kemsley
Atmospheric Scientist



Following a comprehensive and internationally recognised scientific trial, the Snowy Mountains Cloud Seeding Act (Act) has been amended to allow Snowy Hydro to undertake an operational Cloud Seeding Program over the Snowy Mountains.

To start, cloud seeding operations will generally remain unchanged under an operational program.

Cloud seeding will be undertaken using the same method as the trial and under similar meteorological conditions, but an increase in seeding opportunities means we can now maximise the benefits to all stakeholders.

The decision to move from a trial to an ongoing program was based on:

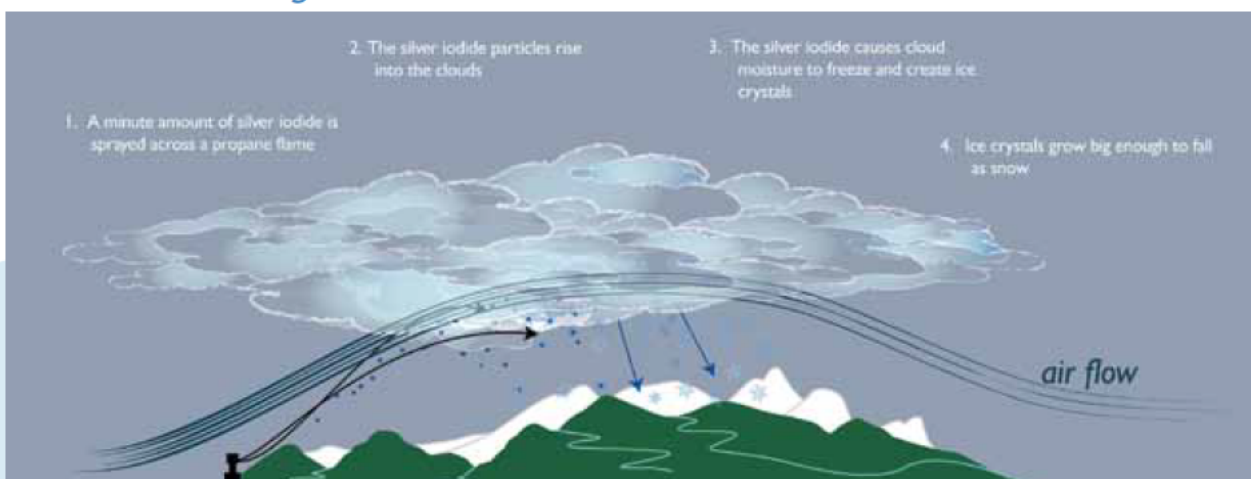
1. The positive results of the trial: An independent evaluation found cloud seeding created an average of 14% more snow under suitable conditions.
2. Extensive environmental monitoring over the nine years of the trial showed no adverse impacts, including no effects downwind of the target area.
3. The scientific merit of the trial, with evaluation and environmental results published in peer reviewed journals and independently reviewed by the Natural Resources Commission.
4. Very strong community and stakeholder support.

So what does moving from a trial to an operation actually mean?

...an increase in seeding opportunities means we can now maximise benefits to all stakeholders.

Under the trial, a proportion of storms were left unseeded as part of the experimental design. Following the extensive evaluation this is no longer necessary, simply because we know it works. So rather than miss opportunities to seed due to the design of the experiment, we will now seed just about all suitable storms.

How Cloud Seeding Works



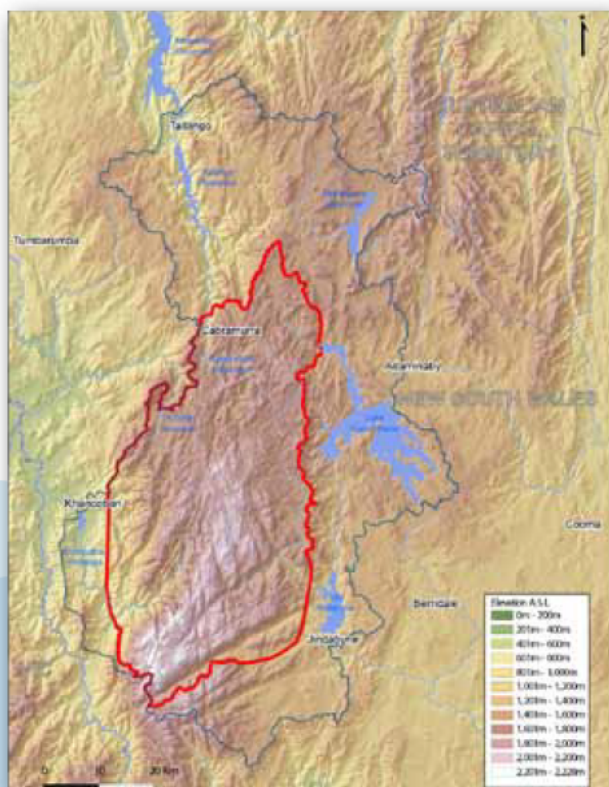
It is also important to note that cloud seeding will continue to take place only when precipitation is likely to fall as snow to at least 1400 metres within the Snowy Water Catchment and that the current cloud seeding target area remains at approximately 2100km² (see area marked in red in map below).

As always, environmental management will continue to be a major component of the Cloud Seeding Program. The Act stipulates that operations must be carried out in accordance with an approved Environmental Management Plan (EMP) which must be reviewed at least once every five years.

Environmental and operational activities will continue to be reported to the NSW Government annually, with the Environment Protection Authority (EPA) nominated by the Act to review these reports and ensure compliance with the legislation. The EMP has been developed in consultation with the Office of Environment and Heritage (including the National Parks and Wildlife Services division) and the EPA.

As we have done for the past nine years of the cloud seeding trial, we will continue to provide the community with updates on the program, further information through our website, community group presentations, the local press and, of course, our Snowy Hydro Community Newsletter.

Cloud Seeding Target Area Map



When can we cloud seed?

Not every storm front is suitable for cloud seeding. Snowy Hydro's Atmospheric Scientists monitor weather conditions very closely to determine the suitability of each front. Very specific criteria must be satisfied before seeding operations can commence and even if only one of these fail, seeding cannot go ahead. So what are suitable conditions for seeding? That is, what are the criteria?

- Precipitation must fall as snow to at least 1400 m above sea level (a legal requirement)
- Cloud top temperature must be between -7°C and -35°C
- Cloud depth must be > 400m above the -5°C level
- Excess super cooled liquid water must be available
- Computer modelling indicates that snow will fall in the target area
- A minimum number of generators are targeting and available for operation
- Precipitation in the area has occurred within the last 30 minutes
- The forecaster expects the weather event to last for at least 5 hours

About silver iodide...

Cloud seeding involves the introduction of minute particles into suitable clouds to encourage the formation and growth of ice crystals, enhancing the amount of precipitation falling from the cloud. Silver iodide is used during the cloud seeding process because the particles are physically similar to ice crystals.

- Silver iodide is insoluble and non-bioavailable (i.e. not harmful).
- The particles are incredibly small – 300 million of them could fit onto the head of a pin.
- Minute quantities are used. In fact, between 2004 and 2012 an average of 20 kg silver iodide was used per season over 2000 km² !

An intensive environmental sampling program over the course of the trial showed that there were no adverse environmental impacts from silver iodide.

In their final review of the trial, the Natural Resources Commission stated that it:

“... continues to comply with the Act and to be of a high scientific standard. There is no evidence of adverse environmental impacts, or of adverse impacts of rainfall in down-wind areas.”

Major upgrades for Tumut 1 and 2 - Scheme Modernisation continues

Mark McFarland

Area Manager, Upper Tumut

Australia's highest town, Cabramurra, is home to assets that are an integral part of the Snowy Mountains Scheme.



Part of the Snowy-Tumut Development, Tumut 1 and Tumut 2 underground Power Stations lie deep within the mountains surrounding Cabramurra.

Fed by water from Eucumbene Dam, Tooma Dam, Tumut Pond reservoir and Tumut 2 Dam and connected by over 35 kilometres of tunnels and aqueducts, these power stations have a combined generation capacity of over 600 megawatts.

The township of Cabramurra is a unique place. Built, owned and operated by Snowy Hydro, it is the base for employees and contractors who maintain these critical assets.

As part of the ongoing Scheme Modernisation program, the upgrade of Tumut 1 and 2 Power Stations will commence in 2014 and will take five years to complete.

The recently refurbished Cabramurra General Store and 'Bistro 1488' are open to the public with lunch, dinner, refreshments and snacks available throughout the day.

*... the upgrade of
Tumut 1 and 2 Power
Stations will commence
in 2014...*

The General Store also incorporates a photographic exhibition of the Snowy Scheme construction era, where visitors can get a glimpse at what life was like for workers and their families in Cabramurra during that period.

Cabramurra is a fantastic place to visit. Unfortunately, overnight accommodation is not available for public visitors, but at only an hour and a half drive from Cooma, Tumbarumba or Tumut, it's an ideal day trip and I invite you to come up!





Talbingo Reservoir

Caring for the environment in which we operate

Charlie Litchfield
Manager, Environmental Services

Snowy Hydro manages over 8,000ha of land in Kosciuszko National Park and has worked with NPWS for over 50 years to an agreed high standard of environmental performance.



In all that time, there have been few major environmental issues - a testament to both the relationship and the way the land has been managed.

Snowy Hydro also cares for over 22,000 hectares of land outside Kosciuszko National Park, ranging from temperate forests to natural grassland environments. Approximately 600km of this is foreshore around water storages like Jindabyne, Eucumbene, Khancoban and Talbingo/Jounama, as well as numerous smaller lakes.

These foreshores play a crucial role on the edge of storages built to hold the water fuelling Snowy Hydro's energy business. They also provide opportunities for a variety of recreational and community activities.

There are challenging environmental issues that come with all the different uses and the scale of the land area we manage. While I could name half a dozen issues we deal with regularly, there are three big ones.

Firstly, it's a challenge maintaining existing the tracks and access roads and limiting new ones, so

that sediment entering the lake is minimised and people are safe to move around.

Secondly, weeds are a constant threat to the native grasslands and farmland so Snowy Hydro works closely with its neighbours and Councils, committing significant funds each year to managing weeds.

But without a doubt the most challenging issue is keeping the foreshore safe and free from rubbish and human waste. The scale of the area and the fact that visitors are welcome to access most of the foreshore any time, makes this such a big challenge. Snowy Hydro is committed to the task, but frankly cannot do it without the active contribution of everyone who enjoys and benefits from it, from farmers to fishermen, local tourism businesses and Councils.

Everyone can contribute to helping with these challenges; by keeping to the existing tracks, taking rubbish with you, using toilets provided and camping only in designated areas and caravan parks. You can also report antisocial or dangerous behaviour to the local police when you see it.

The long term plan for these foreshores is to maintain them as safe and environmentally healthy edges to the hydro storages, which in turn will ensure that their recreational value is not impacted over time.

I ask that everyone who enjoys use of these areas to support us in working together to make this happen.

Snowy and Montane Rivers

Environmental Flows

Lizzie Pope
Environmental Scientist

The NSW Office of Water has finalised the 2013/14 environmental release patterns to the Snowy River below Jindabyne and the Snowy Montane Rivers.



A return to drier conditions across the Snowy catchment has seen a drop in the level of Lake Jindabyne compared to 2012 however levels are still expected to remain above average in the coming months in order to ensure that the

required volume of water for the full environmental release program is available.

As Snowy Hydro is legally obligated to meet the release requirements, we work hard to ensure sufficient water remains available to meet all of our release requirements whilst balancing the risk of Lake Jindabyne once again reaching full supply level and spilling as it did in 2012.

The 2013 pattern of daily releases from Lake Jindabyne down the Snowy River is much more varied than previous years and seeks to emulate flows in a natural un-regulated snow melt river system. This means that the operation of the release valves will be a regular feature during winter and spring as a number of high flow events will be delivered.

A flushing flow, which will peak at 10,083 megalitres per day, is tentatively scheduled for early October, although the exact release date will be dependent on inflows during spring. The NSW Office of Water will advise downstream residents and other stakeholders 14 days ahead of the confirmed release date.

The NSW Office of Water will again be responsible for advising downstream landholders and other stakeholders of the flushing flow details and river heights. It is again expected that the Snowy River will likely rise downstream of Jindabyne Dam between approximately 1.8 to 3.6 metres in height during this time dependant on location and local inflow conditions. Snowy Hydro will again assist the NSW Office of Water in preparing a detailed communications plan in order to raise awareness of the planned releases and to ensure public safety.

As of 1 May 2013, environmental flow releases have also commenced into the Snowy River below Island Bend as part of the Montane Rivers environmental flows program. This year approximately 19 gigalitres will be targeted for release from a total turn out of Tolbar and Diggers Creek Aqueduct Intake Structures. Recreational users are advised to maintain vigilance when undertaking activities in and around the Snowy River in this area as river flows are likely to be much higher and more variable compared to previous years, especially during the winter and spring period.

As with previous years the Montane Environmental Program will also deliver additional water to the Murrumbidgee River below Tantangara, the Goodradigbee River and the Geehi River below Geehi Reservoir. The total volumes targeted and the apportionment of water between all of the Montane catchments is determined by the NSW Office of Water.

If you want more information about the targets and release patterns for the Snowy and Montane Rivers environmental release programs contact the NSW Office of Water:

✉ information@water.nsw.gov.au

🏠 www.water.nsw.gov.au



The CUC Study Zone

Over 50 students studying at the Cooma Universities Centre



Zoe Dawson
Cooma Universities Centre Coordinator



When the Cooma Universities Centre (CUC) opened its doors in March 2013 the goal was to have a dozen students enrolled in distance university study to register to use the facility by the middle of 2013.

However, after only four months of operation the CUC now has over 50 student registrations, surpassing all expectations and highlighting the need for such a facility in the Snowy Mountains region.

... the CUC now has over 50 student registrations, surpassing all expectations...

The CUC has been steadily growing in numbers with students studying through 12 different universities in a range of courses from undergraduate degrees in accounting and agriculture, to PhD's in Archaeology and Political Philosophy.

The CUC is also working in partnership with the University of Canberra who will be running a second UCanREACH course at the CUC commencing in late August.

UCanREACH is a course aimed at preparing students for university studies. UCanREACH has two important objectives: A pathway to the University of Canberra; and an opportunity to develop the skills needed to study successfully at university. Classes run for 14 weeks, twice a week in the evenings and commence on Monday 20 August. Information sessions are being held at the CUC on Tuesday 16 July and Thursday 1 August at 5pm.

With more than 50 students registered, and what we hope to be a large number of year 12 students from the area registering to study at the CUC from 2014, we are on track to achieve our goal of having the CUC self-sustaining within a few years.

Ongoing community support and strong student numbers is critical to the success of the CUC. This will enable us to successfully negotiate commercial agreements with universities to support their students studying at the CUC.

Our view has always been that the long-term future of the CUC is best served through community leadership. It is anticipated that in late 2013 we will be ready to appoint a Board and incorporate the CUC in its own right.

If you want more information about the CUC feel free to drop into 38 Bombala St, Cooma, call 02 6452 3368 or visit:

 www.coomauc.com.au



Discover the Snowy Scheme!

Have you got friends or family visiting over winter and want to show them the best our region has to offer? We encourage you to visit the Snowy Scheme!

Snowy Hydro Discovery Centre, Cooma

Open 7 days: 8:00am - 5:00pm Monday to Friday
9:00am - 2:00pm Saturday, Sunday & Public Holidays
Closed: Christmas Day & Anzac Day



Murray 1 Visitors Centre, Khancoban

Alpine Way, 10kms east of Khancoban

Open 7 days: October to April, 9:00am - 4:00pm Monday to Friday
10:00am - 4:00pm Saturday, Sunday & Public Holidays
Open 5 days: May to September, 9:00am - 4:00pm Monday to Friday
Closed: Christmas Day, Anzac Day & winter weekends

Power Station Inspections 11am and 2pm daily

Cabramurra Visitors Centre & General Store

Open 7 days: 8:30am - 5:00pm Monday to Friday
10:00am - 3:00pm Saturday, Sunday & Public Holidays
Closed: Christmas Day



Talbingo Visitor Display Centre

Talbingo Shopping Centre, Whitty Street, Talbingo

Open 7 days: 8:00am - 4:00pm

1800 623 776
www.snowyhydro.com.au





The region's saviour in the sky performs 51 missions during May

Danielle Venables

Marketing Communications Advisor

You may not realise that when you see and hear the Snowy Hydro SouthCare Rescue helicopter fly overhead just how busy the bell-412 helicopter is each day, week or month.



During the month of May the helicopter performed 51 missions, an average of two missions per day. On call 24/7, 365 days per year Snowy Hydro SouthCare responds to a range of missions across diverse terrains in the South eastern NSW & the ACT.

Included in the 51 callouts during May was a motor vehicle accident on the Barton Highway North of Canberra, a search operation in the Snowy Mountains for a missing bushwalker and a hospital transfer from Batemans Bay Hospital to The Canberra Hospital. One weekend the helicopter responded to five missions in 20 hours – more than double its average mission count.

Snowy Hydro SouthCare performs three types of missions. These are:

Primary missions: where trained crews fly directly to the scene of an accident and transport patients to hospital.

Secondary missions: involve the transport of patients who need urgent specialised services from regional hospital to other major hospitals.


Non-medical missions: the helicopter also performs non-medical missions including search and rescue operations and bushfire assistance.

A defining capability of the Snowy Hydro SouthCare Rescue Service is its crew composition, which consists of four members; a pilot, aircrewman, intensive care paramedic and doctor. Since crew members must be prepared to undertake unpredictable missions in diverse terrain they are continually completing vigorous training so they will be prepared for anything.

With potential missions in the Snowy Mountains region, along the South Coast and in erratic weather conditions, crews are often presented with challenges when retrieving patients. As a result, flight crews work as a team to complete the mission successfully and keep the patient safe.

Similarly, Snowy Hydro SouthCare's doctors and intensive care paramedics are highly skilled and trained, as they often have to complete complicated medical procedures without having the resources of a hospital until they land at the hospital helipad.

To learn more about the Snowy Hydro SouthCare aero-medical rescue service, and the crew that save lives our region, visit:

 www.snowyhydrosouthcare.com.au

JUMP INTO A BETTER ENERGY DEAL.

snowyhydro
renewable energy

Finding the right energy deal for you shouldn't be as difficult as negotiating a mogul run. At **Red Energy** we're committed to giving our customers the best value for their energy dollar that we can.

Not only do we offer competitive rates, but when you switch to Red you can save on your entire energy bill with our Pay on Time™ discount.

Red is 100% Australian owned and operated by Snowy Hydro which means profits stay in Australia making our economy stronger. Our award winning Customer Solutions team are based right here in Australia too.

So, if you want a better energy deal from the people who live energy call the number below or visit us online.



Call **131 806**
redenergy.com.au

red[™] 
we've living energy

The logo features the word "red" in a bold, lowercase, sans-serif font. To its right is a graphic of a red scribble or starburst. Below the word "red" is the tagline "we've living energy" in a lowercase, italicized, sans-serif font.

What's on in the region...

Snowy Hydro NEWS includes a calendar of local events to help promote upcoming community initiatives and activities.

If you have an activity or event that you would like included, email us a short outline of what is happening and the date to communityfeedback@snowyhydro.com.au

August

DATE	
2-4 August	Woodland Film Festival, Tumbarumba - www.woodlandfilmfestival.com
3-10 August	Snowy Mountains Cross Country Week, Perisher - www.perisherxcountry.org
31 Aug - 1 Sept	Tumut Valley Fly In, Tumut Airport - www.tumutaeroclub.org.au

September

DATE	
1-29 September	NAICOC Expo, Indigenous Exhibition - Raglan Gallery, Cooma
2-6 September	Australian Paralympic World Cup, Thredbo - www.thredbo.com.au
21 September	Lanterns on the Lagoon, Tumut - www.lanternsonthelagoon.com.au

October

DATE	
5 October	NSW Trout Season opens
5 October	Upper Murray Challenge, Khancoban - www.uppermurraychallenge.com.au
19 October	Batlow Apple Blossom Festival, Batlow - www.visitbatlow.com.au

Remember - if you would like your community event advertised for free in "What's on in the region" email the details to: communityfeedback@snowyhydro.com.au