snowy hydro Limited
renewable energy

Water Operations Report
2007-2008 Water Year

Lake Jindabyne

FOREWORD

This Water Operations Report has been written for the benefit of all stakeholders and the community associated with the Snowy Scheme. It describes in high level summary form how the Snowy Scheme operates, the water operations during the 2007-08 water year and how Snowy Hydro met its obligations under the Snowy Water Licence during that year.

I encourage all stakeholders and the community to read this report in the interests of improving public understanding and appreciation of the many responsibilities and obligations Snowy Hydro has with regard to the water resources of the Snowy Scheme.

Opposite you will find an independent report that gives assurance of the accuracy of the data contained within this report. Further information including terminology, calculation of data and licence obligations can be found by visiting www.snowyhydro.com.au or www.dwe.nsw.gov.au

David Harris
General Counsel
Snowy Hydro Limited

NCS International

29 January 2009

VERIFICATION STATEMENT

Snowy Hydro Limited commissioned NCS International to verify the data from its Water Operations Report for the 2007-2008 Water Year in respect of the volumes that it was required to target and the actual releases made to meet those targets.

NCS International was not responsible for the preparation of any part of the report.

The audit was carried out using recognised assessment techniques based on ISO19011 with the Water Operations Report as the core reference. The audit was office based and included interviews with staff. Numerical values provided in the Water Operations Report were compared with the required target volumes from the approved Annual Water Operating Plan (2007-08 and 2008-09 Water Years) and actual releases were compared with a sample of entries from the water accounting databases. The maintenance and calibration of equipment used in monitoring water flows was also reviewed.

Data was reviewed for reasonableness and where practical checked for the order of magnitude but detailed calculations were not carried out.

Based on the data review process applied during the audit, the Water Operations Report for the 2007-2008 Water Year provides an accurate representation of the required target volumes and Snowy Hydro Limited's water operations.

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Talbingo Reservior

CONTENTS

KEY HIGHLIGHTS IN THIS WATER OPERATIONS REPORT

- Snowy Hydro complied with its Snowy Water Licence requirement to target the Required Annual Release to the River Murray catchment in the 2007-08 Water Year.
- Snowy Hydro complied with its Snowy Water Licence requirement to target the Required Annual Release to the Murrumbidgee River catchment in the 2007-08 Water Year.
- Snowy Hydro complied with its Snowy Water Licence requirement to target environmental releases into the Snowy River from Jindabyne Dam in the 2007-08 Water Year.
- Snowy Hydro complied with its Snowy Water Licence requirement to target environmental releases from Tantangara Dam in the 2007-08 Water Year.
- The current drought sequence of 11 years is worse than what the Snowy Scheme was intended to cope with and includes the lowest inflow year on record during 2006-07.
- A number of years of above average inflows are now required to see Snowy Scheme storage levels increase to long term average levels.
- Snowy Hydro is meeting both electricity and water obligations even through a drought sequence worse than what the Snowy Scheme was intended to cope with.


Island Bend Dam

PURPOSE OF THIS REPORT

The main purpose of this Water Operations Report is to provide stakeholders with information on how Snowy Hydro performed in the 2007-08 Water Year in meeting the obligations imposed on it by the Snowy Water Licence. Those obligations essentially relate to:

(1) targeting releases to the River Murray and Murrumbidgee River catchments, the annual volumes of which are determined according to formulae set out in the Snowy Water Licence;
(2) targeting releases from Jindabyne Dam into the Snowy River for environmental purposes ("Snowy River Increased Flows"); and
(3) facilitating potential additional natural flows over nominated Snowy Scheme aqueducts and targeting releases from Tantangara Dam, both for environmental purposes ("Snowy Montane Rivers Increased Flows").

The Snowy Water Year commences on 1 May and concludes on 30 April each calendar year. Volumes in this report are quoted in gigalitres (GL).

- 1 gigalitre is equal to 1,000 megalitres (ML).
- 1 megalitre is equal to 1 million litres.

Since the commencement of the operation of the Snowy Scheme, water release volumes have been set as targets and any minor differences between the target and actual release volumes (excess or shortfall) are carried over to the next Water Year. This is done in the form of "overs and unders" and is expressly permitted in the Snowy Water Licence in recognition of the difficulties inherent in achieving precise release volumes using infrastructure on the large scale of that comprising the Snowy Scheme.

Jounama Release Gates

For additional detail on the background and methods for the derivation of figures in this report, further information is available on our website at **www.snowyhydro.com.au**

Tumut 3 Power Station

OVERVIEW OF SNOWY HYDRO

The Snowy Scheme was built over a 25 year period from 1949 to 1974. It includes sixteen major dams, seven power stations, 145km of interconnected tunnels and 80km of aqueducts.

The Snowy Scheme was designed to produce electrical energy, but one of the objectives of the Snowy Scheme was to mitigate the effects of drought on irrigated agriculture in NSW and Victoria. In essence, to improve the security of water supply to farmers along the River Murray and Murrumbidgee River.

The Snowy Scheme only became a reality when the Governments worked out a way to pay for the Snowy Scheme – which was from the sale of the Snowy Scheme's electricity output.

The Snowy Mountains Hydro-electric Authority was responsible for the construction and maintenance of the Snowy Scheme under the direction of the Snowy Mountains Council.

From 1998, when the National Electricity Market (NEM) was formed, the electricity output from the Snowy Scheme had to be bid into the spot market with all other energy companies in an open, competitive marketplace. Snowy Hydro Trading Pty Ltd was formed to trade the electricity output of the Snowy Scheme.

In 2002, the Snowy Mountains Council was abolished and the Snowy Mountains Hydro-electric Authority was corporatised to create the Snowy Hydro Limited company we know today. Also, Snowy Hydro Trading became a non-operating subsidiary of Snowy Hydro.

Snowy Hydro is a business providing a range of financial hedge and renewable energy products to participants in the competitive NEM.

Snowy Hydro operates the 3800 megawatt (MW) Snowy Scheme. Snowy Hydro also owns and operates the 300MW Valley Power gas-fired power station and the 320MW Laverton North gas-fired power station, both located in Victoria. Red Energy, an electricity and gas retailer operating in three States with over 120,000 customers, is a subsidiary of Snowy Hydro Limited.

Snowy Hydro operates under an independent board and the company's shares are owned by the NSW Government (58%), VIC Government (29%) and the Commonwealth Government (13%).

HOW THE SNOWY SCHEME WORKS

The Snowy Scheme was designed to collect and store water, including water that would naturally flow east of the Snowy Mountains to the coast, diverting it through trans-mountain tunnels and power stations and then releasing it west of the Snowy Mountains into the catchments of the River Murray and the Murrumbidgee River where it can be used for town water supply, irrigation and environmental uses. The Snowy Scheme comprises two major developments: the northern Snowy-Tumut Development and the southern Snowy-Murray Development.

THE SNOWY-TUMUT DEVELOPMENT

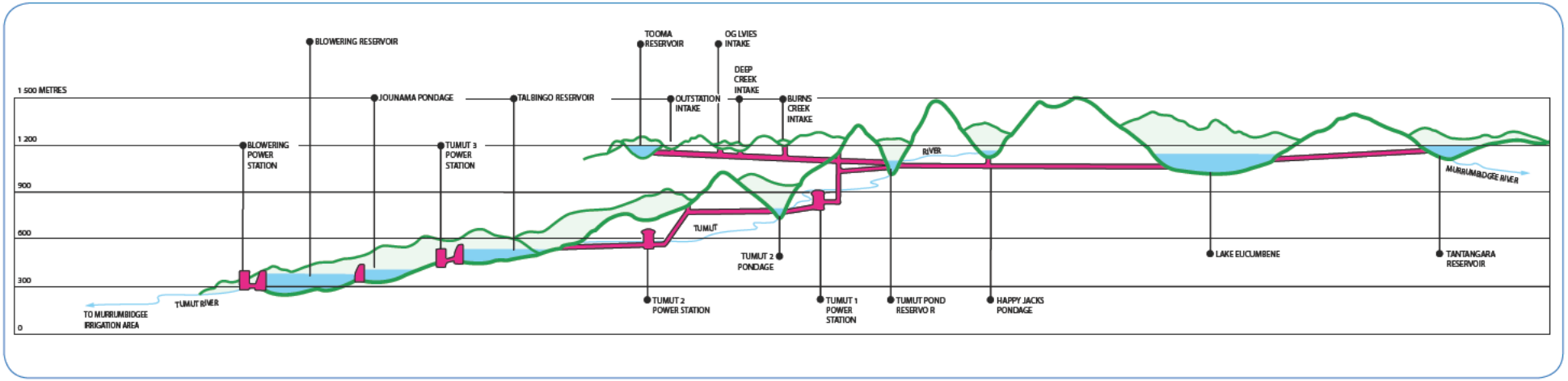
The Snowy-Tumut Development consists of four power stations and 15 generating units.

The Snowy-Tumut Development collects the headwaters of the upper Murrumbidgee, Tooma and Eucumbene Rivers. Those waters are diverted through trans-mountain tunnels to Tumut Pond Dam. There they join the waters of the Tumut River and flow through Tumut 1 and Tumut 2 underground power stations discharging into Talbingo Reservoir.

Water stored in Talbingo Reservoir then passes through the Tumut 3 Power Station and into Jounama Pondage. Three of the six generators at Tumut 3 Power Station have pumps that can be used to pump water from Jounama Pondage back up into Talbingo Reservoir, thereby "recycling" water. Water is released from Jounama Dam into Blowering Reservoir. A small hydro power station is currently under construction at Jounama Dam.

Blowering Power Station is located on Blowering Dam and is leased from State Water. Water releases from Blowering Dam are controlled by State Water, a NSW State Owned Corporation, to provide for town water supply, irrigation and environmental use requirements. Blowering Power Station is therefore a "run of river" plant that operates as State Water releases water from Blowering Dam into the Tumut River which joins the Murrumbidgee River near Gundagai.

On the Murrumbidgee River, as at Gundagai, the Snowy Scheme contributes inflows of around 25% during average inflow years but 60% during drought years.



Lake Jindabyne

THE SNOWY-MURRAY DEVELOPMENT

The Snowy-Murray Development consists of three power stations and 16 generating units.

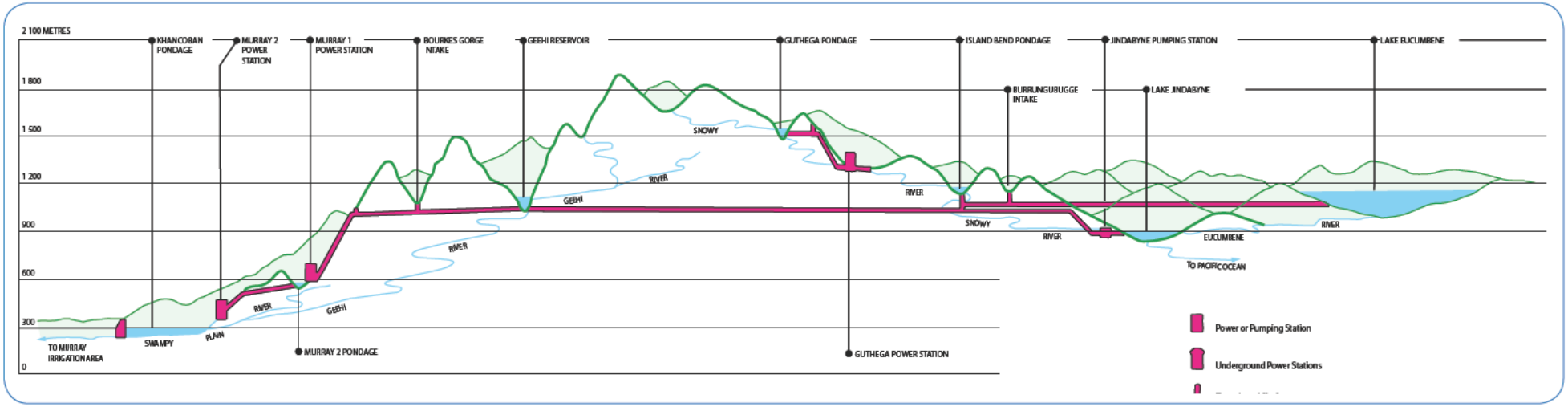
Water in the upper Snowy River is diverted at Guthega Dam through Guthega Power Station. Inflows into the relatively small Guthega Pondage are seasonal. During times of high inflows, water flowing into Island Bend Pondage is directed to Lake Eucumbene for storage and subsequently transferred to the River Murray catchment.

At times of low inflows, water from Island Bend Pondage is diverted directly to Geehi Reservoir through a trans-mountain tunnel together with water which flows back from Lake Eucumbene.

Pumps lift water from Lake Jindabyne, normally using off-peak power, to discharge into Geehi Reservoir on the western side of the Great Dividing Range.

There, with additional water from the Geehi River, the water passes through Murray 1 and Murray 2 power stations. Khancoban Dam regulates water released from Murray 2 power station down the Swampy Plain River which is a tributary of the upper River Murray.

On the River Murray, as at the Hume Dam, the Snowy Scheme contributes inflows of around 8% during average inflow years but 33% during drought years.



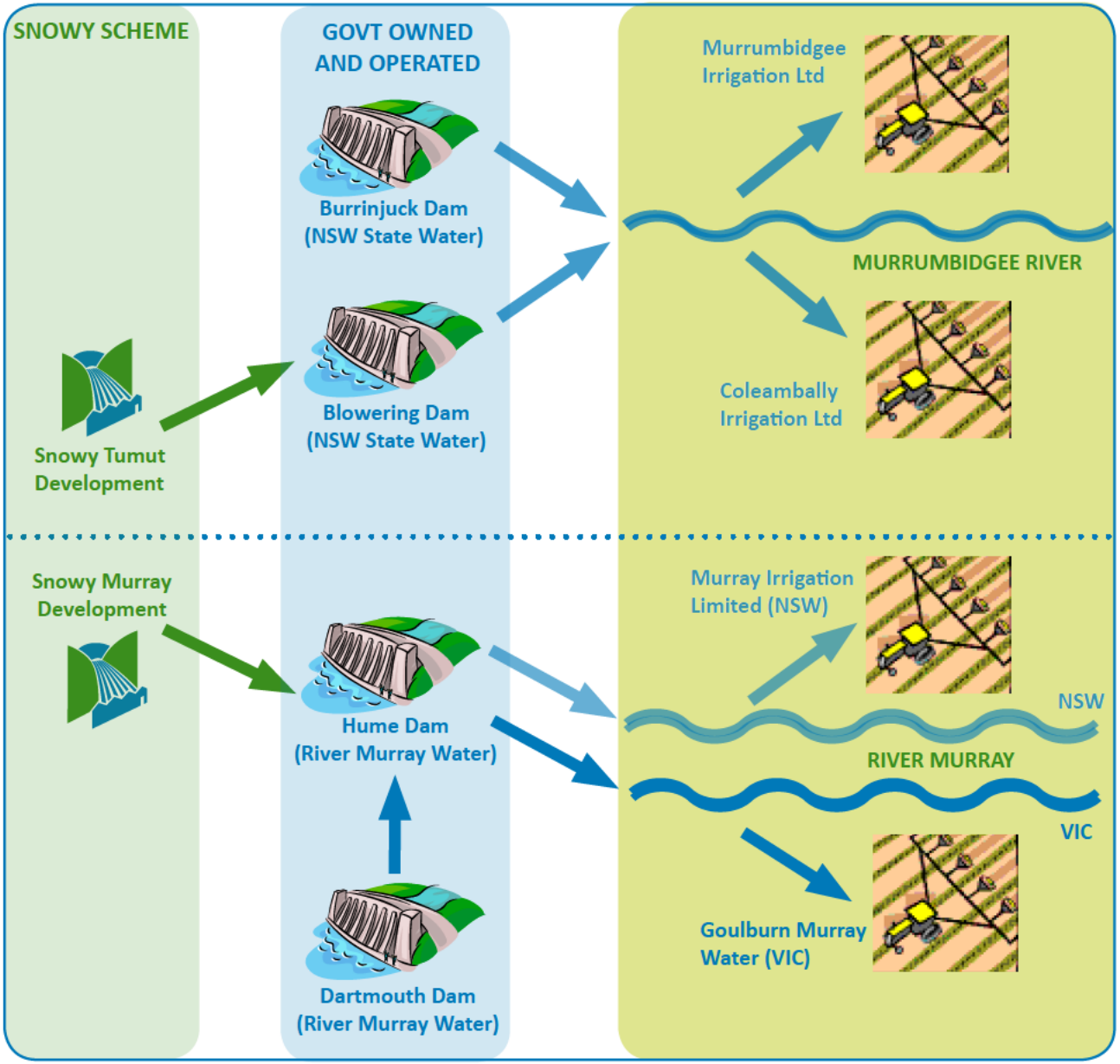
DOWNSTREAM FROM THE SNOWY SCHEME

Snowy Scheme releases and the other River Murray and Murrumbidgee River catchment inflows are re-regulated by the Hume Dam on the River Murray and Blowering Dam on the Tumut River, neither of which are controlled by Snowy Hydro.

Snowy Hydro has no influence or involvement in the allocation or delivery of water to downstream water users, for example to irrigators.

Water releases for irrigation and environmental uses along the upper River Murray are managed by the Murray-Darling Basin Authority principally through releases from Dartmouth and Hume Dams (the Snowy Scheme does not make releases into Dartmouth Dam).

Water releases for irrigation and environmental uses along the Murrumbidgee River are managed by NSW State Water principally through releases from Blowering and Burrinjuck Dams (again, the Snowy Scheme does not make releases into Burrinjuck Dam).



THE SNOWY WATER LICENCE AND OUR BUSINESS

To ensure that the benefits of the Snowy Scheme could be maximised for both water security and electricity generation, a set of operating principles and water accounting rules was developed under the 1957 Snowy Agreement.

On Corporatisation in 2002, the key elements of those operating principles and accounting rules were codified and carried forward in the Snowy Water Licence issued by the NSW Department of Water and Energy.

The Snowy Water Licence is not a freedom to act as is the case with most licence arrangements. Rather, it is a bundle of a few rights and numerous, legally binding and enforceable obligations.

The many legally binding obligations imposed on Snowy Hydro under the Snowy Water Licence include obligations with regard to water releases from the Snowy Scheme. The calculation of the volume of water to be released from the Snowy Scheme each year to each of the River Murray and Murrumbidgee River Catchments (the Required Annual Release) is prescribed by the Snowy Water Licence; it is not determined by Snowy Hydro.

Snowy Hydro's rights to collect, divert, store and release water under the Snowy Water Licence in no way represent any form of ownership of the water. All of the water in the Snowy Scheme is owned by the interests who have an entitlement to releases from the Snowy Scheme. This includes the States of New South Wales and Victoria, irrigators from those States and of course the environment.

In practical terms, to generate electricity Snowy Hydro must release water from the Snowy Scheme, and to release water from the Snowy Scheme, Snowy Hydro must generate electricity. In this way, water releases, electricity generation and their associated market impacts are inseparably linked.

The mandatory nature of the obligations imposed on Snowy Hydro by the Snowy Water Licence means that, as a practical matter, Snowy Hydro operates the Snowy Scheme to first meet its water release obligations and then to maximise electricity market opportunities.

Downstream water users have never been charged for the water regulation services provided to them each year by the Snowy Scheme. Snowy Hydro has to fund both the debt and operating costs for the Snowy Scheme through its participation in the highly competitive NEM. Those electricity revenues pay for the increasing costs of maintaining and operating the Snowy Scheme, including the costs associated with making environmental flows.

The calculation of the volume of water to be released from the Snowy Scheme each year to each of the River Murray and Murrumbidgee River Catchments (the Required Annual Release) is prescribed by the Snowy Water Licence; it is not determined by Snowy Hydro.

Khancoban Pondage

DROUGHT AND WATER RELEASES

Snowy Hydro's primary obligation under the Snowy Water Licence is to release a calculated volume of water annually to each of the River Murray and Murrumbidgee River catchments. Each volume of water is calculated principally by reference to inflows.

In extreme drought years, like we are experiencing at the moment, the volume of water to be released from the Snowy Scheme is reduced under the formulae set out in the Snowy Water Licence. This is known as the Dry Inflow Sequence Volume (DISV) reduction. This reduction to the volume of water to be released from the Snowy Scheme has been applied since the 2006-07 water year, which was the lowest year on record for inflows into the Snowy Scheme. In 2006/07 only 683 gigalitres flowed into the Snowy Scheme storages compared to long term average annual inflows of around 2,800GL.

Despite the challenges, in recent years of critically low and well below average inflows, Snowy Hydro is meeting both electricity and water obligations even through a drought sequence worse than what the Snowy Scheme was intended to cope with.

Record low inflows have resulted in record low storages which will affect Snowy Hydro's ability to make long term average releases in 2008-09 and beyond.

In the absence of an incredibly wet year the storages in the Snowy Scheme will not recover for some years, underscoring the importance of Snowy Hydro's investment into gas fired electricity generation. Without this foresight and investment, the financial implications on the business would have been severe.

Lake Eucumbene

The current drought sequence is worse than what the Snowy Scheme was intended to cope with.

There has only been one year in the last 11 years that has seen slightly above average inflows.

The occasional large storm that hits the area or the snow melt from a big winter season will not fill the storages of the Snowy Scheme.

It will take many years of above average inflows to replenish Scheme storages to pre-drought levels.

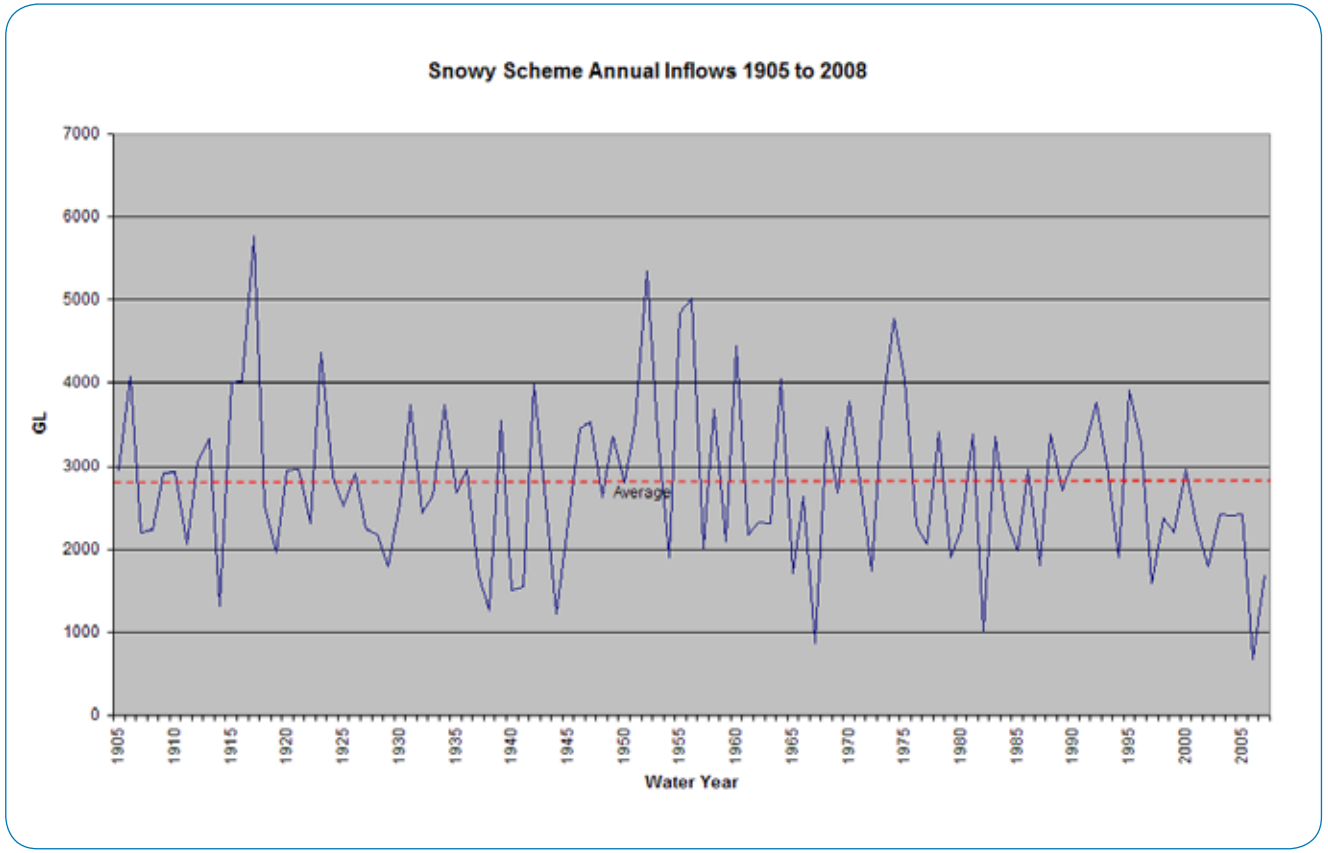
Snowy Hydro is still meeting both electricity and water obligations.

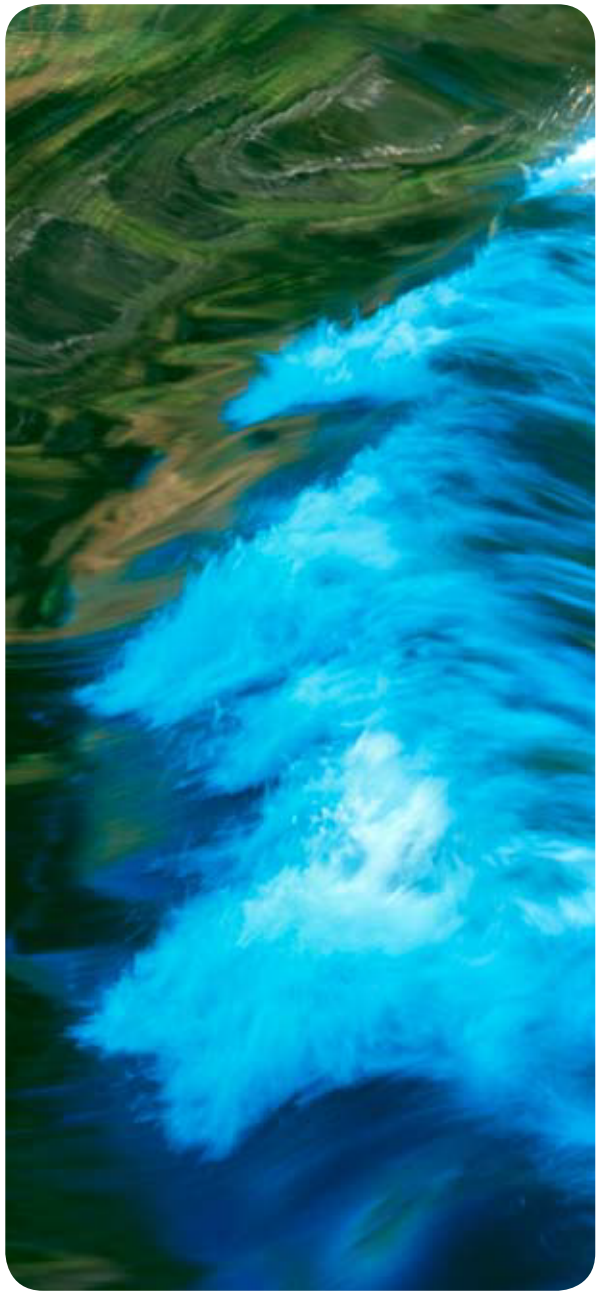
INFLOWS

SNOWY SCHEME INFLOWS

The historical record of annual inflows into the Snowy Scheme is characterised by high variability with annual inflows ranging from less than 700GL to well over 5,500GL. Of particular note is the now unprecedented dry inflow sequence that started in 1996-97 and which includes the lowest inflow year on record during 2006-07.

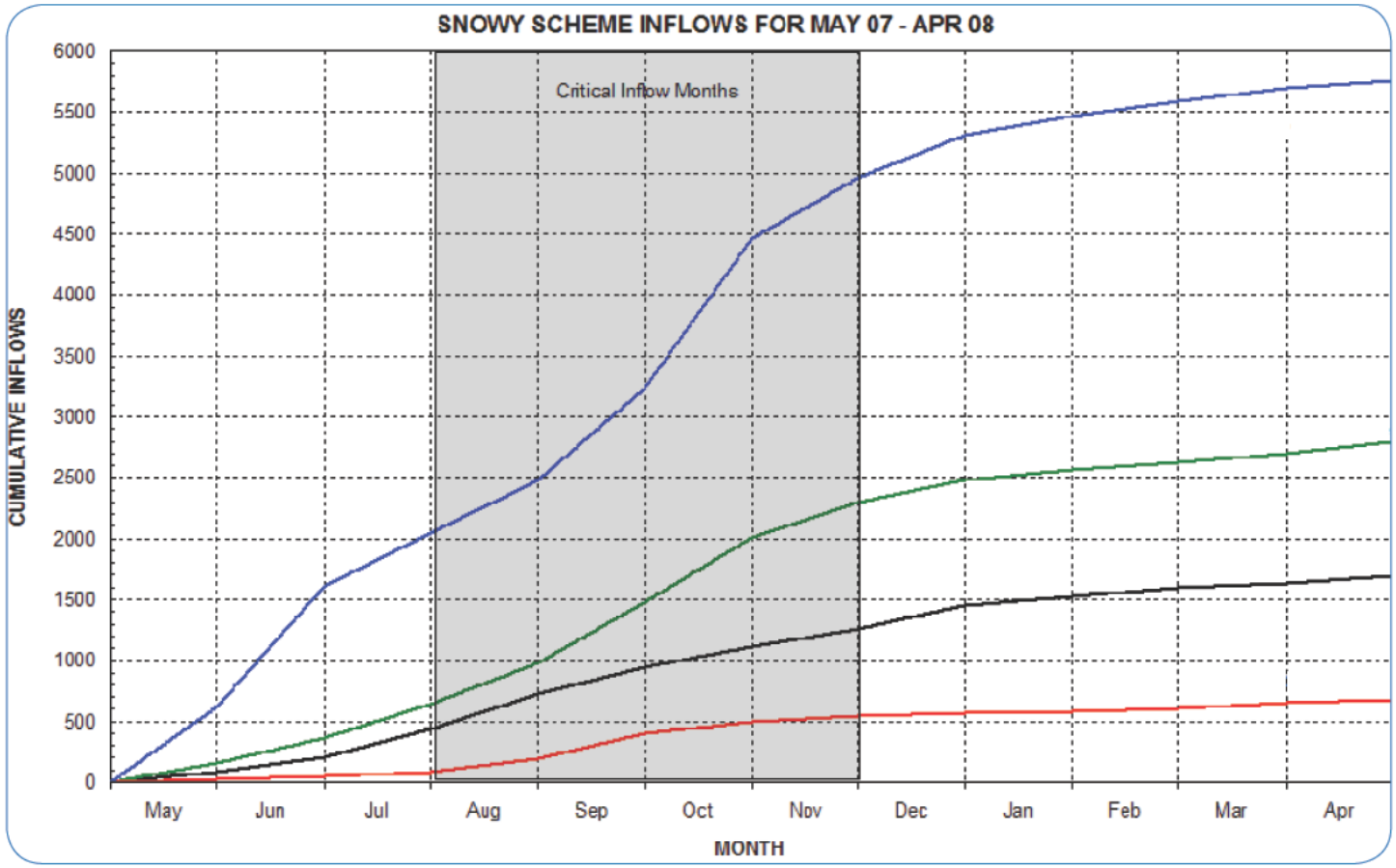
There has only been one year in the last 11 years that has seen slightly above average inflows. This is the primary reason why lake levels have dropped over the past decade and remain at low to very low levels.





SNOWY SCHEME INFLOWS FOR 2007-08

Drought conditions continued during the 2007-08 Water Year. This negatively impacted on the Snowy Scheme with only 1,688GL of inflows. This is about 60% of the long term average annual inflow of 2,800GL.



WETTEST ON RECORD

AVERAGE

ACTUAL 2007/08

DRIEST ON RECORD

WESTERN RIVER RELEASES

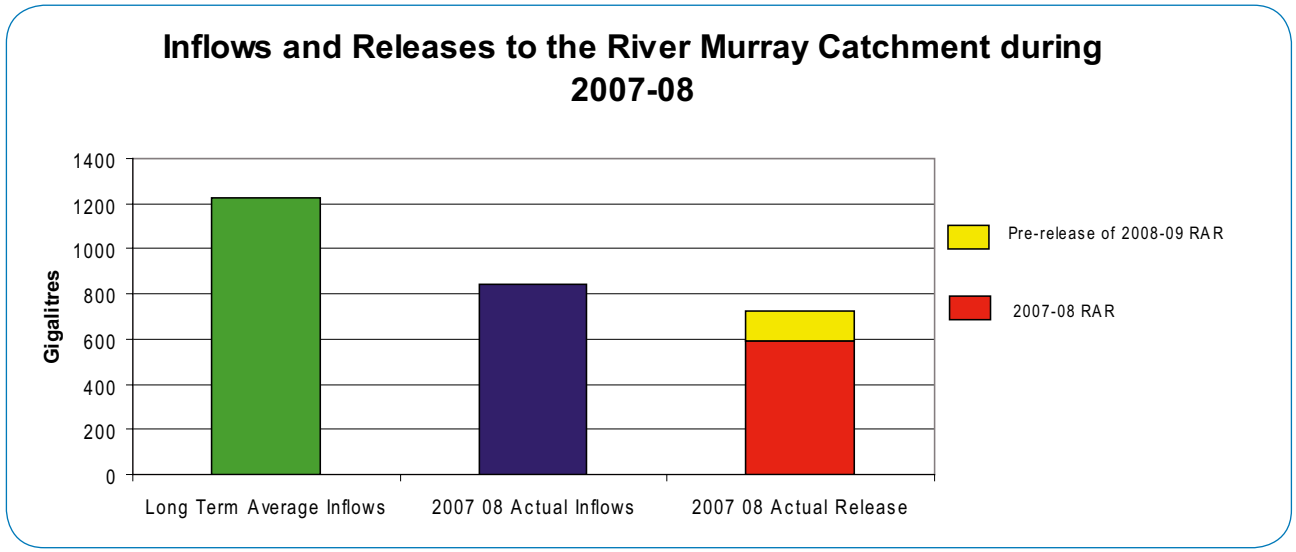
RIVER MURRAY CATCHMENT

Snowy Hydro complied with its obligation to target the Required Annual Release from the Snowy-Murray Development to the River Murray catchment during the 2007-08 Water Year.

The total actual release volume was 727GL. This was made up of 595GL being the 2007-08 Required Annual Release calculated under the Snowy Water Licence and 132GL of pre-release of the 2008-09 Required Annual Release as approved by the NSW Department of Water and Energy.

The calculated Required Annual Release volume for the Snowy-Murray Development is nominally set at 1,062GL. Due to the continuing drought, this nominal volume was reduced by the Dry Inflow Sequence Volume, the volume of water savings allocated to the Snowy-Murray Development to allow environmental releases to be made and a pre-release made in 2006-07.

For more information on River Murray Water visit www.mdbc.gov.au/rmw




Khancoban Dam

MURRUMBIDGEE RIVER CATCHMENT

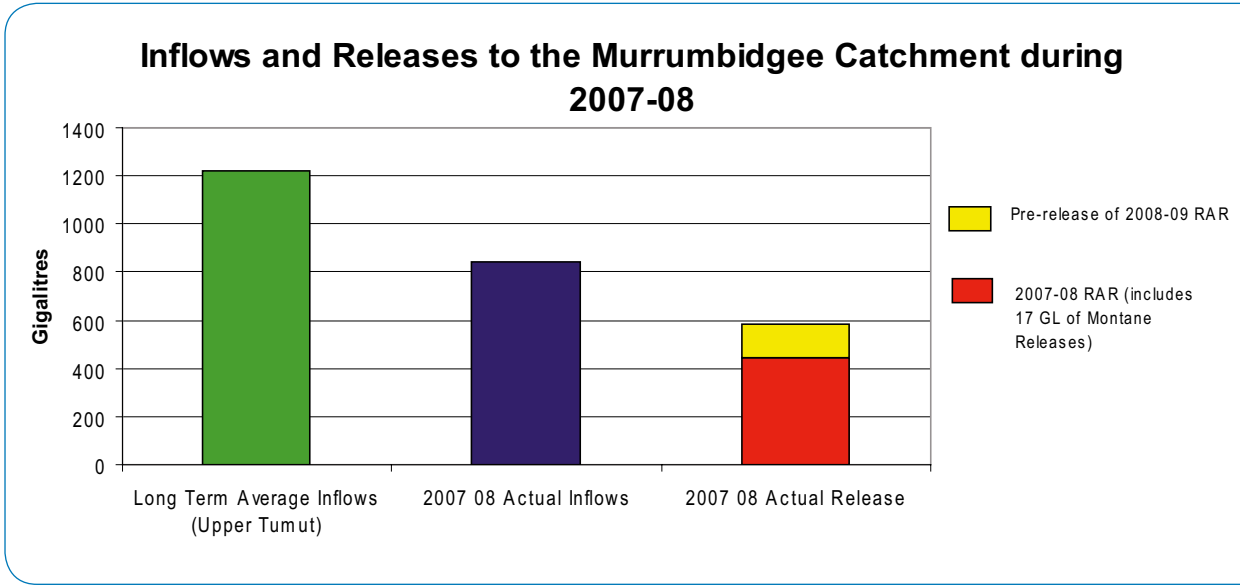
Snowy Hydro complied with its obligation to target the Required Annual Release from the Snowy-Tumut Development to the Murrumbidgee River catchment during the 2007-08 Water Year.

The total actual release volume was 584GL. This was made up of 447GL being the 2007-08 Required Annual Release calculated under the Snowy Water Licence (this includes 17GL montane release) and 137GL of pre-release of the 2008-09 Required Annual Release as approved by the NSW Department of Water and Energy.

The calculated Required Annual Release volume for the Snowy-Tumut Development is nominally set at 1,026GL. Due to the continuing drought, this volume was reduced by the Dry Inflow Sequence Volume, the volume of water savings allocated to the Snowy-Tumut Development to allow environmental releases to be made and a pre-release made in 2006-07.

For more information on the Murrumbidgee River Catchment visit www.statewater.com.au

Jounama Release Gates



ENVIRONMENTAL RELEASES

SNOWY RIVER ENVIRONMENTAL FLOWS

The key element of the Snowy River environmental flow arrangements is that the total volume of environmental flows each year must not be greater than the volume of the water savings achieved by the Governments to date.

Snowy Hydro is not responsible for securing water savings or for setting the release targets. Snowy Hydro is simply required to meet release targets notified under the Snowy Water Licence.

This table sets out the major steps and accountabilities in the process from securing water savings on the western rivers through to the actual release of environmental flows.

MAJOR STEP	WHO IS RESPONSIBLE
Securing verified water savings from water savings projects on the River Murray or Murrumbidgee River (or purchase of water entitlements)	Water for Rivers www.waterforrivers.org.au
Transferring verified water savings into Environmental Entitlements.	NSW Dept of Water and Energy & VIC Dept of Sustainability and Environment www.dwe.nsw.gov.au & www.dse.vic.gov.au
Calculating annual allocations from the Environmental Entitlements each year (in arrears).	NSW Dept of Water and Energy & VIC Dept of Sustainability and Environment
Apportioning the annual allocations between the Snowy River Increased Flows, River Murray Increased Flows and the Mowamba Borrow.	NSW Dept of Water and Energy
Determining and then notifying Snowy Hydro of annual, monthly and daily release volumes for Snowy River Increased Flows.	NSW Dept of Water and Energy
Providing infrastructure to enable Snowy River Increased Flows from Jindabyne Dam and modifying existing infrastructure to enable Snowy Montane Rivers Increased Flows.	Snowy Hydro
Targeting releases of Snowy River Increased Flows from Jindabyne Dam and those structures nominated for Snowy Montane Rivers Increased Flows.	Snowy Hydro

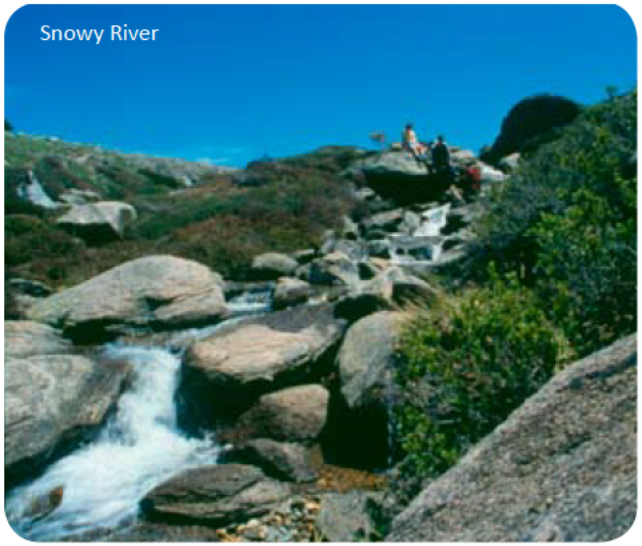
SNOWY RIVER INCREASED FLOWS

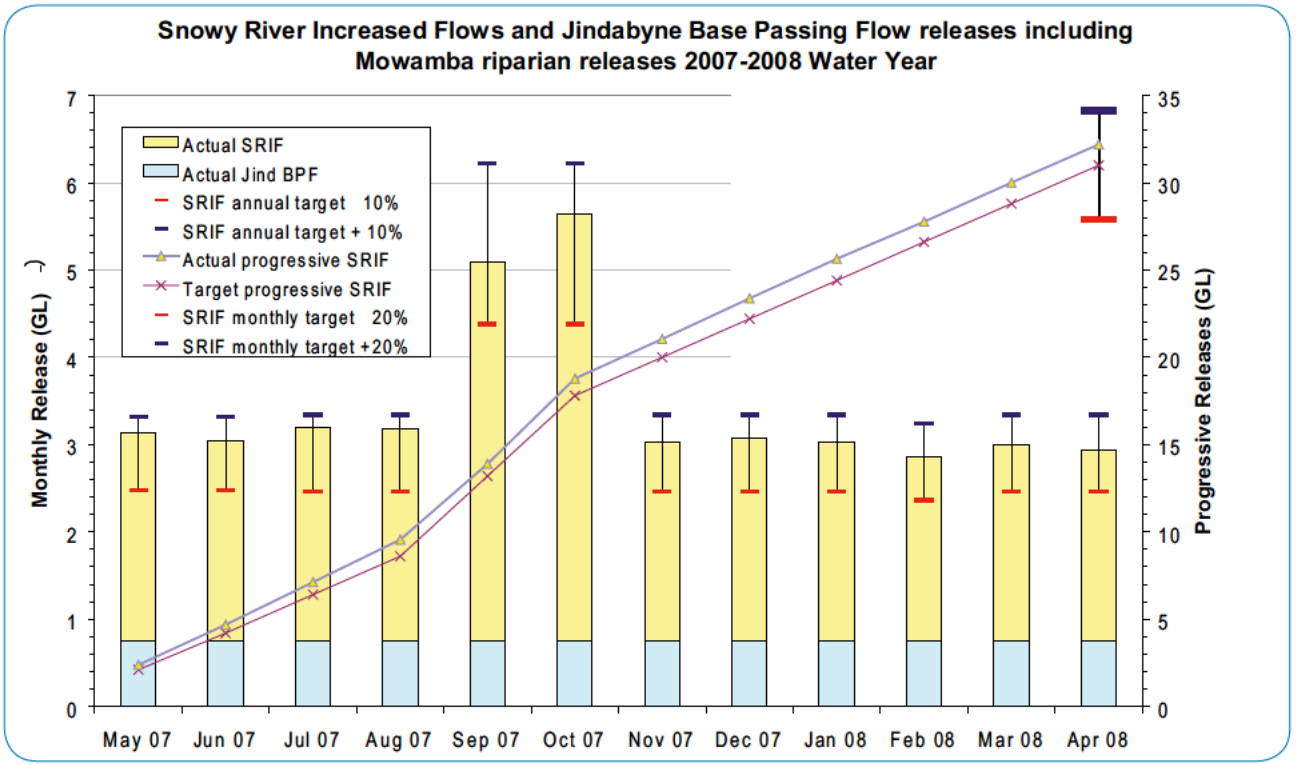
Snowy Hydro complied with its obligation to target releases from Jindabyne Dam for environmental purposes during the 2007-08 Water Year.

The volume of Snowy River Increased Flows (SRIF) released from Jindabyne Dam during the 2007-08 Water Year was 32.2GL, which was 1.2GL in excess of the target volume of 31.0GL. That excess is well within the +/-10% tolerance allowed under the Snowy Water Licence.

The 2008-09 target will be adjusted to account for this additional release. In addition to the environmental releases, 8.5GL base passing flow was also released from Jindabyne Dam and 0.5GL riparian flow was released from the Mowamba Weir.

The following chart shows the actual cumulative Snowy River Increased Flow releases compared to the target for the 2007-08 Water Year.


Snowy River



You can download a full copy of the Snowy Water Licence from the NSW Government website.

SNOWY MONTANE RIVERS INCREASED FLOWS

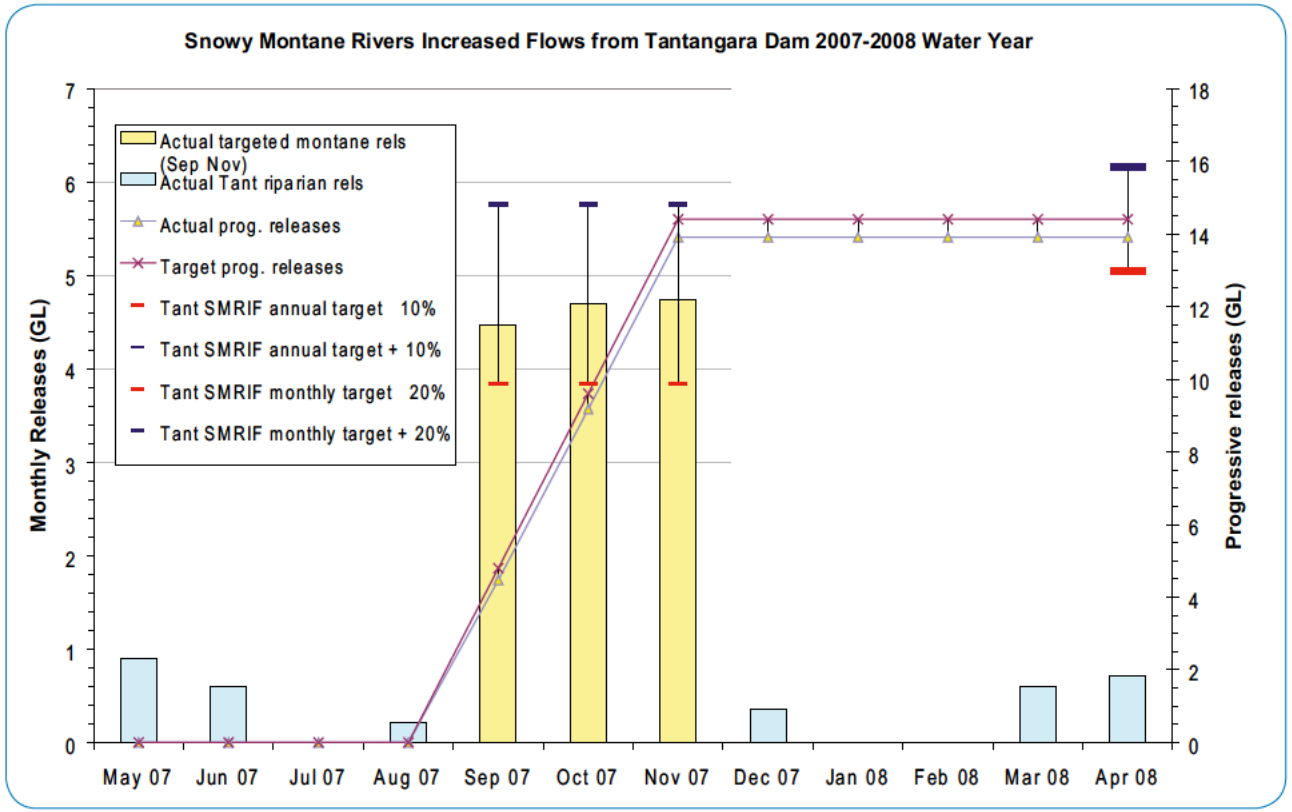
Snowy Hydro complied with its obligation to target releases from Tantangara Dam for environmental purposes during the 2007-08 Water Year. For 2007-08 Snowy Hydro was directed to make Snowy Montane Rivers Increased Flows only from Tantangara Dam.

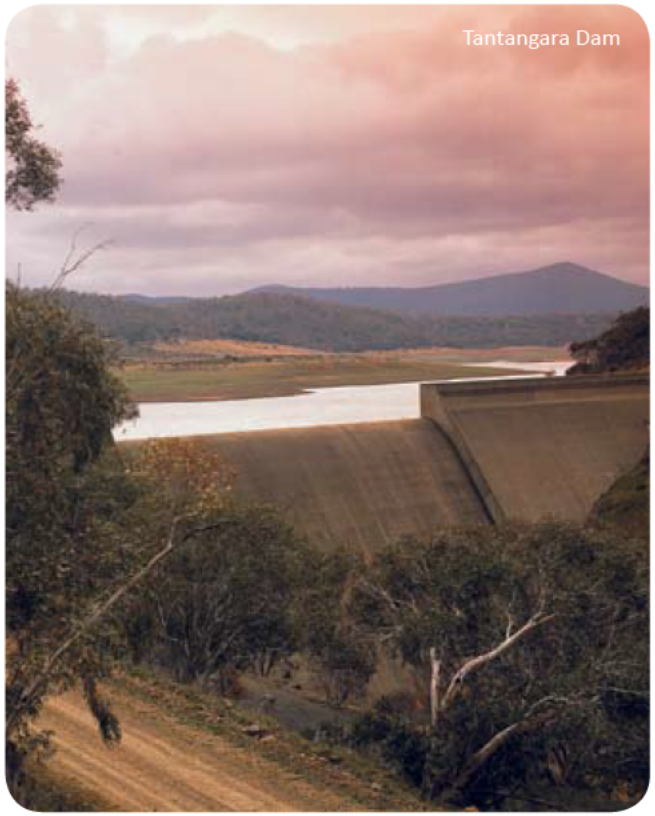
For 2007-08, riparian releases from Tantangara Dam were also accounted as Snowy Montane Rivers Increased Flows as instructed by New South Wales Department of Water and Energy.

The target volume for Snowy Montane Rivers Increased Flows from Tantangara Dam was 16.4GL comprising 14.4GL to be released during the spring period and an additional 2GL riparian releases to be targeted over the summer-autumn period.

The total actual release volume was 17.3GL, which was 0.9GL above the target. This was made up of 13.9 GL released during the spring period and 3.4GL released during the summer-autumn period to maintain the water supply for Cooma township during low inflow months. The 2008-09 target will be adjusted to account for this additional release.

The comparison of the monthly release volumes for the Snowy Montane Rivers Increased Flows against the actual from Tantangara Dam is set out in the figure below.





STORAGES

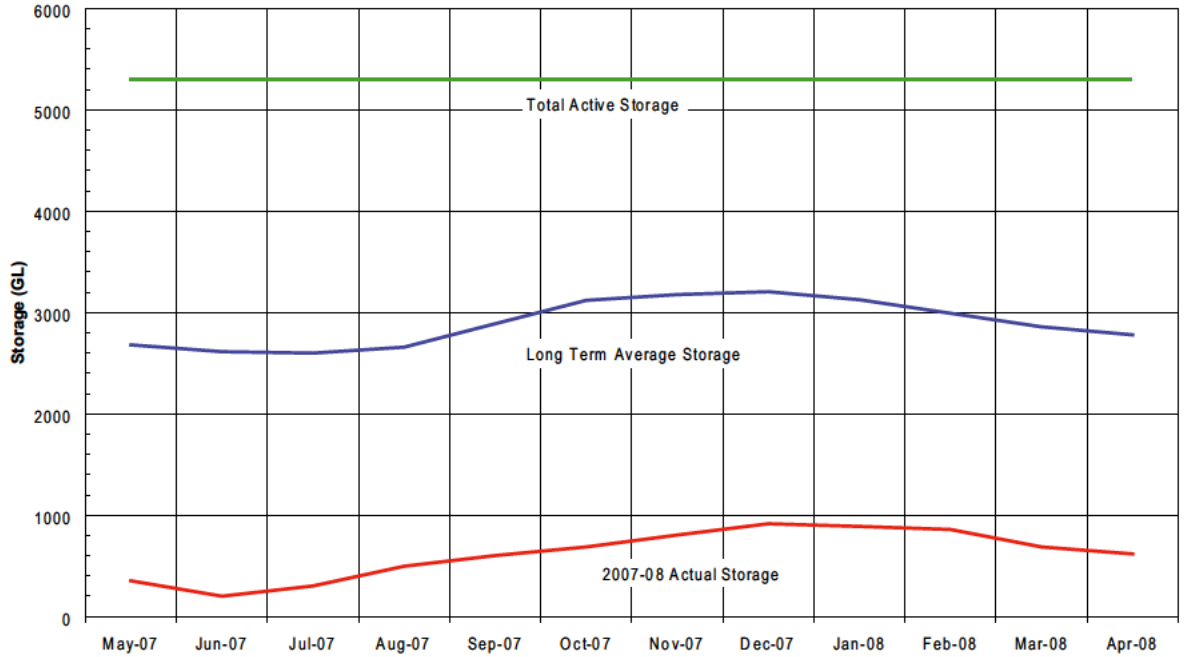
SNOWY SCHEME STORAGE FOR 2007-08

Snowy Scheme storage levels are referred to from time to time in different measurements, they being Active Storage and Gross Storage. Active Storage is the water that generally can be accessed by either pumping or through release via dams or through power stations. Gross Storage is the total amount of water behind the dam wall including "dead storage" or water than cannot be accessed due to the design of the Snowy Scheme.

For the purposes of our business operations, active storage is used whereas recreational users are generally more interested in and familiar with gross storage. For example, Lake Jindabyne could experience a 0% active storage level but the lake itself would be then at approximately 42% gross storage. This remaining water cannot be accessed via the pumping station due to the physical design limitations of the Snowy Scheme.

At the start of the 2007-08 water year, Snowy Scheme active storage was 417 GL. This is equivalent to 8% of the Snowy Scheme active storage capacity. During the 2007-08 Water Year the Snowy Scheme active storage increased by 200 GL. At the end of the water year the active storage was 617 GL, which is 12% of the Snowy Scheme active storage capacity.

Tumut Pond Dam



LAKE LEVELS

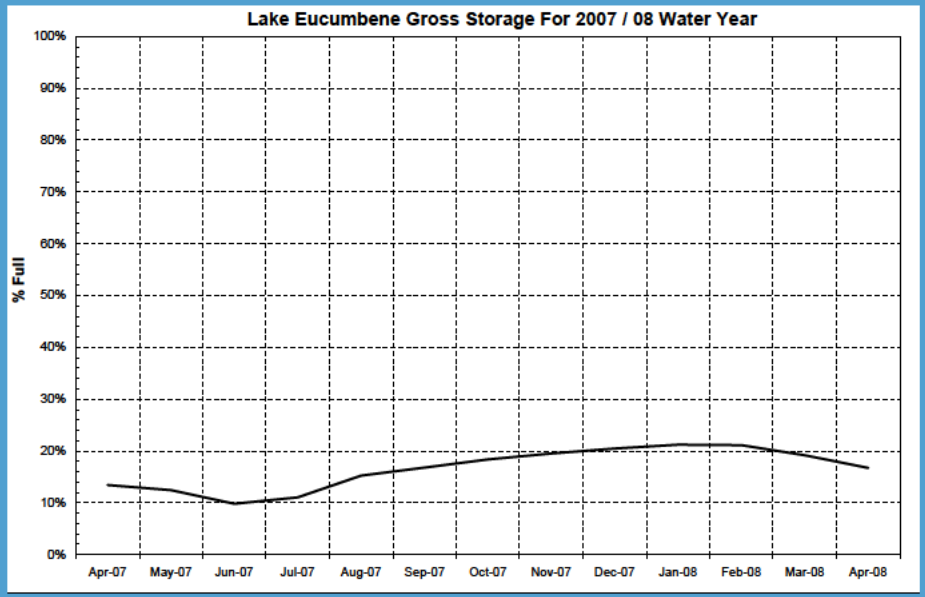
Snowy Hydro receives enquiries about whether the occasional large storm that hits the area or whether the snow melt from a big winter season will fill the dams. This is not the case. Due to the requirement to maintain the annual releases required under the Snowy Water Licence, a number of years of above average inflows will be required to see storage levels increase to long term average levels.

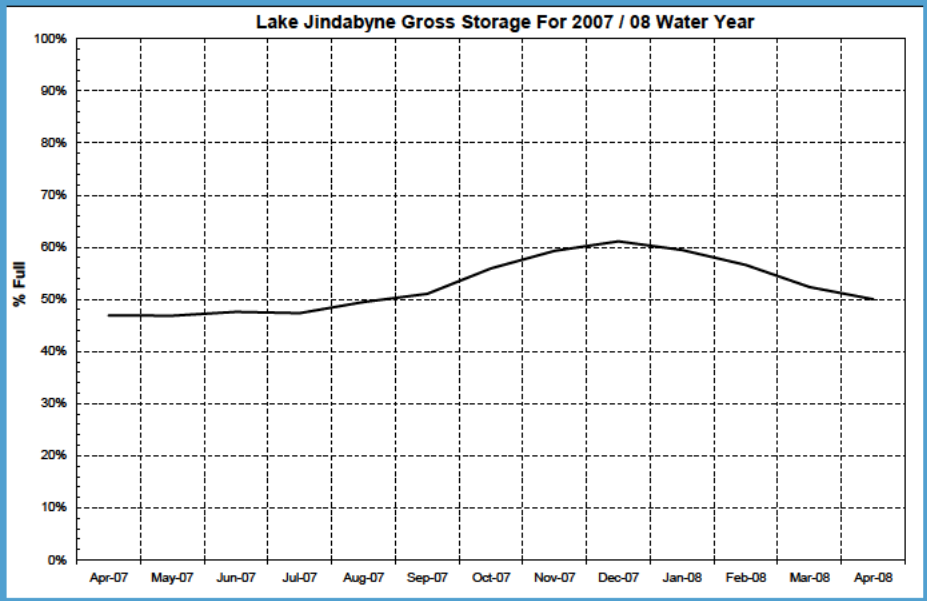
Lake Jindabyne is larger than Sydney Harbour and Lake Eucumbene is around nine times the size of Sydney Harbour. These are huge storages and one good snow year will not be enough to fill the lakes.

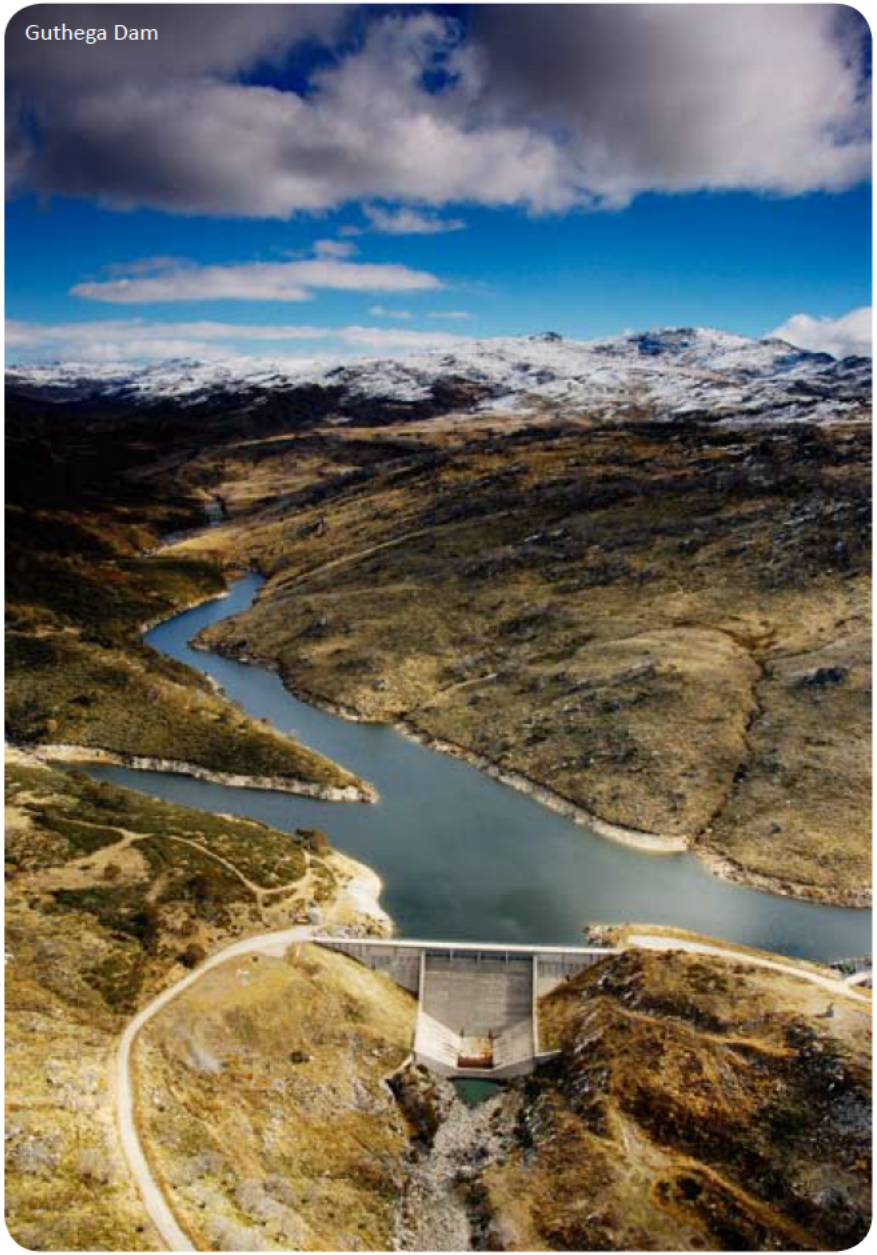
Snowy Hydro reports gross storage levels to local tourism operators and the local community on our website. Lake Levels for our three main storages of Jindabyne, Eucumbene and Tantangara are provided weekly and is available at www.snowyhydro.com.au

Lake Jindabyne

2007/08 LAKE LEVELS



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renewable energy