



# Bellfield: a beauty

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Geological difficulties were delaying work at the lake site in September when geologists and engineers discovered the dam's original foundations were not deep enough to anchor the vast wall and an additional 1,500,000 cubic metres of rock and earth were removed, increasing the planned work by 30 per cent.

Torrential rain was also affecting work progress.

In a speech to Wimmera Regional Committee in November, the Wimmera-Mallee SR & WS Commission divisional engineer Claude Evans stated that water was expected to be contained in the new lake by the middle of the next year.

The original intention that water from the lake was to be for irrigation of land close to the Grampians was rescinded.

Bellfield was the deepest storage with a small surface area and low evaporation loss; it was considered ideal to be reserved as a carry over storage and utilised mainly during drought years.

**1965:** By May, the combined work force of contractors and Water Commission employees on the lake's construction totalled 190.

Timber in the lake area had been cleared and ready to burn and 70 per cent of the embankment work had been completed.

Horsham City Councillors were concerned by reports of a proposal by the Member for Dundas, Sir William McDonald, to divert the Wannon River south, to supply a 70,000 irrigation scheme in the Western District.

The proposed plan was to irrigate 7000 acres of land in the lower Wannon Valley.

At a meeting held in Casterton, land-owners of the Wannon River Flats voted not to oppose the diversion of water into Lake Bellfield. The decision was made on the motion of Cr F.H. Sylvester of Merino and C. McNamara of Clover Flat.

In his first ministerial statement to Parliament on the Wannon water issue, the Minister for Water Supply, Mr Darcy said: "The possibility now exists that this diversion will not take place", reminding parliament the sub-committee in its 1961 report, had made two recommendations:

1. Construction of what is now known as Lake Bellfield.

2. Diversion of small streams in the upper nine square miles of Wannon River catchment to Lake Bellfield storage.

The first recommendation was almost completed; the second however was held over pending the outcome of a general enquiry by the Parliamentary Committee into State Resources as a whole.

The Wannon diversion scheme was shelved at this time, due mainly to the pressure from Western District landholders who claimed they were already supporting the Wimmera with Glenelg River water in Rocklands Reservoir.

**1966:** The Lake Bellfield outlet tower valve was closed on May 17 to start storing water entering the lakes southern end from Fyans Creek.

Resident engineer Mr J. Tinney announced it was the beginning of the final stages of the project and that it would be completed by September.

Approximately 80 men were still employed at the site.

A 145-foot concrete tower, housing the lakes water regulation works, was one of the final stages in the reservoirs construction.

At the SR & WS Commission request, more than 90 Dunmunkle Shire landholders lodged applications for 2000 acres of irrigation after the completion of Lake Bellfield.

Wimmera River Water Users Association was also re-formed to investigate the allocation of water from Bellfield.

At a Wimmera Regional Committee meeting in August, SR



**CONSTRUCTION SITE:** The first embankment earthworks are undertaken during the construction of the Lake Bellfield reservoir.

& WS Commission divisional engineer Claude Evans reported: "The Commission would not release extra water for irrigation until the whole of the Wimmera and Mallee system was buoyant."

The Wimmera was experiencing an extremely dry period at this time, preceding the 1967-68 drought years.

Equipment, motor vehicles, tools, furniture and other items from the Lake Bellfield construction project were auctioned in October.

Auctioneers J.H. Curnow and Sons from Bendigo conducted the auction, selling 255 items valued at \$12,600.

The highest price paid was \$2600 for an International six-tonne tip truck.

Houses constructed for the workmen were sold by auction at a later date.

**1967:** In July, the Water Commission started an investigation into the need for a water storage on the Upper Wannon River near Mirranatwa Gap.

It was reported that if this proposal proceeded it would take all the water from the Wannon, including the volume proposed to be diverted into Lake Bellfield.

The investigation was initiated by Sir William McDonald, MLA for Dundas.

The outlet valve at Lake Bellfield was opened on November 17 to discharge water for the first time at the rate of 30 cubic feet per second.

The water was destined for the channel system to supply domestic and stock water to the areas of Swanwater, Wedderburn, Charlton, Korong Vale and St Arnaud.

In December, 10 of the houses used by workers during the construction were sold by auction at an average price of \$3850.

Buyers came from Melbourne, Geelong, Swan Hill, and South Australia.

The remaining 15 houses were sold the following year.

**1968:** The battle for the diversion of the Wannon River water to Lake Bellfield to be implemented continued, when another submission from the Wimmera Regional Committee, in conjunction with the SR & WS Commission was submitted.

In September, the Glenelg Regional Committee declared it was not opposed to the diversion of Wannon water; specifying that it was not a commitment and that the diversion could stop if water was

needed for domestic use south of the Grampians.

It also said the diversion of water would only apply between June and October at particular flow rates and was not to be a total diversion.

The first yacht was launched to sail on Lake Bellfield. The vessel was a catamaran which was built and operated by Mr Barry Cosson of Stawell.

The Country Roads Board completed a road to the summit of Mt William.

First proposed by the Department of Conservation Forests and Lands in 1985, the road serves to provide access to a navigational aid for commercial aircraft and as a scenic lookout for tourists to the region.

**1969:** The Premier of Victoria Sir Henry Bolte unveiled a commemorative bronze plaque set in a 10-tonne rock which was excavated during the dam construction, to officially open the Lake Bellfield water storage.

Other dignitaries present were The Minister of Water Supply, Mr Borthwick; President of the Stawell Shire, Cr M. D. Rahley and The Member for Ballarat Murray Byrne.

Mr Borthwick announced that the Government had approved the temporary diversion of the upper 15-square kilometres of the Wannon catchment to Lake Bellfield, subject to four conditions:

1 — Diversion to Bellfield will stop immediately on proof of demand from municipalities south of Mirranatwa Gap for urban or stock and domestic water supplies.

2 — Diverted water stored in Bellfield will be for stock and domestic use only.

3 — No extra irrigation will be developed as a result of the diversion.

4 — Any extra irrigation to the north will be met by diversion of water through the Waranga channel to the Northern Mallee Stock and Domestic System.

**1970:** In January, Work on the Wannon diversion started in January when earthmoving machinery owned by Robin Keath turned the first sod in the construction of an eight kilometre access road to the diversion site.

The site engineer was Mr M. Smith.

Victoria's most debated water diversion project was at last under way, following a delay since it was first recommended in 1961.

Wal Henning Earthworks Company from Navarre was awarded the \$91,857 contract for

the construction of the Wannon Pipeline.

The company was granted an extension of time for its completion due to wet conditions.

Pipe laying work was made impossible through the swampy country after the area received 584 millimetres of rainfall in four months and the Water Commission was forced to postpone all work until the summer.

**1971:** The Wannon diversion pipeline was completed by March and underwent test filling during the first winter flow of 39 megalitres per day from the Wannon River in April.

At 7pm on Wednesday, October 27, Lake Bellfield overflowed for the first time — water cascading down the three 12-metre drops of the spillway from the \$6 million storage destined for Lake Fyans and Lake Lonsdale.

It was reported that the first person to witness the overflow was Halls Gap resident Mr Lou De Clifford who was constructing a new restaurant-inn in the area.

Following an agreement between the Water Commission and Stawell Waterworks Trust in August, extra water was to be made available for Halls Gap by linking the present supply pipe from the reservoir on Dairy Creek with Lake Bellfield.

The works, costing \$16,425, would not only improve pressure but provide added security of supply for residents.

Water Supply Minister Mr Granter stated that: The Water Commission would limit the trusts usage to 27,276 kilolitres annually.

**1975:** In November, the Water Commission investigated the possibility of using water from Lake Bellfield to supply the towns of Ararat and Stawell.

Member for Western Province Mr Ken Gross protested to the Minister for Water Supply Mr Granter that: "Lake Bellfield water was to provide supply for more irrigation in the Horsham district and Southern Wimmera."

**Note:** No additional information was available regarding the supply of water from Lake Bellfield for irrigation.

**1978:** Police search and rescue divers failed to locate the body of a Melbourne schoolboy missing in Lake Bellfield.

The search was made difficult by the extreme cold in the 27-metre deep water and the lack of visibility.

The search extended into

December but police advised that the body may never be recovered.

**1980:** In August, police search and rescue divers recovered a body from the bottom of the lake.

The man had been fly fishing from a canoe when it overturned 35 metres from the shore.

**1988:** A Sydney Company investigated the possibility of building hydro-electric plants at Lake Bellfield and Rocklands Reservoir.

The State Electricity Commission of Victoria invited companies to express interest in the development of power generating plants at 30 Victorian reservoirs.

In July, a 500 megalitre per day flow was released from the lake to maintain flood reserve level.

At this time there was a moderate flow in the Wimmera River and Rocklands Reservoir level was 40 centimetres below overflow.

**1993:** Two men from Hamilton escaped a spectacular airplane crash two kilometres south of Lake Bellfield in February.

The plane was a Cessna Sky hawk being flown from Great Western to Casterton.

**1995:** In October, Wimmera Anglers Association attempted to have the boat-motor ban lifted at Lake Bellfield.

Wimmera-Mallee Water Authority rejected the request, quoting that the ban was imposed when the storage was originally constructed and was to remain.

Grampians Region Water Authority consulted with residents of Halls Gap in regard to treating the town's water supply as significant levels of E-coli had been detected in November and complaints had been received on the water's discoloration.

**1996:** On several occasions during this year, Wimmera Anglers Association attempted unsuccessfully to have the boat-motor ban on Lake Bellfield removed.

Wimmera-Mallee Water Authority re-stated that it was committed to the preservation of peace and tranquillity of the Grampians lake and only approved the use of sail boats, rowing boats or battery powered boats on its water.

**1997:** In January, a freak hailstorm struck an area north east of Halls Gap.

The 15-minute storm forced vehicles to a halt, smashing windscreens and denting bodywork; hailstones the size of golf balls cracked house roof tiles,

stripped trees of their fruit and foliage and caused thousands of dollars in damage to a Halls Gap nursery.

Once again angling clubs rallied support for the removal of boat-motor bans on the lake, requesting a three month power-boat trial period.

The lake's governing body, Wimmera-Mallee Water Authority, again denied the request; replying that there was a power-boat available at all times for rescues and emergencies.

A recent survey revealed that water related activities did not rate highly with visitors to the area.

**1999:** As part of a dam safety review program for the Grampians Reservoirs, technical audits were carried out which adopted standards from guidelines prepared by the Australian National Committee on Large Dams.

Design work to address possible problems at Lake Bellfield was started to identify if the storage met current design standards and identify solutions if necessary.

**2000:** Wimmera-Mallee Water Authority Engineering Consultants discovered that earlier large flood modelling of Bellfield's spillway by the Rural Water Commission had been optimistic.

Monash University's Civil Engineering Department was commissioned to build a scale model of Lake Bellfield spillway to mimic heavy flood flow conditions.

**2001:** As the result of dam safety investigations carried out by Risk Assessment URS Australia, Bellfield storage structure was found to be inadequate to meet current standards.

Following analysis of a range of options the following solutions were considered:

1. Raising the embankment by 0.9 metres.

2. Constructing a 0.1 metre high concrete parapet wall along the raised crest

3. Deepening the spillway discharge channel by 3.4 metres.

Investigations also revealed the outlet tower may fail in the event of a significant earthquake.

Work was proposed to anchor the tower by drilling and inserting two, 15-metre long steel anchors,

through the towers concrete base into underlying rock; each anchor would be stressed to 325 tonnes tying the tower down.

The Lake Bellfield rehabilitation project was started in May 2002 and completed in 12 months.

The storage now complies with National and International standards in the control of freak flood events.

**2004:** A significant event took place at the entrance to Halls Gap when a new bridge was built over the Fyans Creek to replace Delly's Bridge.

The \$1.9 million structure was built by Rowe and Thomas Constructions and was completed by November of this year.

The final decision to construct Lake Bellfield in 1962, although not fully realised at the time was vital to the security of the Wimmera-Mallee water supply system.

It was to be proven in the dry seasons to follow and especially during the 1990s and early 2000 drought when Lake Bellfield water was essential in saving parts of the Wimmera-Mallee from a waterless existence.

Bellfield will again prove its value as a water supply source when the Wimmera-Mallee pipeline project, now in progress, is completed.

The beautiful Fyan's Valley, originally a pristine wildlife habitat providing shelter and sustenance for Aboriginal tribes, pasture for settler's cattle and sheep and once a favourite haven for stock rustlers, now features the third largest reservoir in capacity in the Wimmera-Mallee headwork's system.

It has a growing residential community and is one of Victoria's prime tourism destinations.