INTRODUCTION
The NSW Office of Water, together with State Water Corporation, and in consultation with local communities and stakeholders, is managing releases from the Menindee Lakes to the Lower Darling River and Great Darling Anabranch as floods from northern NSW and Queensland pass through the Darling River System. This is the sixth information paper produced to provide information on the inflows, levels, operations and management of the Menindee Lakes.

CURRENT FLOW MANAGEMENT
Over 70 mm of rainfall has fallen in the Menindee district during the past week but the forecast is for dry conditions to return for another week or two. The longer term outlook for Autumn (March to May) is that there is a good chance (60 per cent) that at least median rainfall conditions will be received. With the lakes nearing full capacity, weather systems are being closely monitored to enable us respond to any new flood threat.

The Darling River is now falling at Tilpa and further upstream. Tilpa recorded a peak of 12.43 metres last weekend. This means that a peak flow of less than 38,000 megalitres per day (ML/d) can be expected at Wilcannia next week. Currently the Darling River at Wilcannia is 36,600 ML/d and rising slowly but a small jump may be experienced from overnight rainfall. Upstream of Wilcannia, the flows into the top of the Talywalka system at the Barrier Highway are 24,000 ML/d and continuing to rise, with a peak expected next week of around 26,000 ML/d. About 560,000 ML has been measured in the Talywalka anabranch at the Barrier Highway gauge, since flows began in mid January.

Inflows to the Menindee system are currently 36,000 ML/d and rising. The expected peak inflow to the Menindee Lakes system is now estimated to be close to 45,000 ML/d in late March. During this flood event water has passed into the Talyawalka system filling small lakes and billabongs to Lake Teryawynia and south (Figure 1 below). Water has also made its way back to the Darling through Ten Mile Creek and the Seven Mile Creek has been flowing strongly.

At Menindee, the lakes are currently holding 1,604 GL or 92 per cent of full supply. The main weir gates have been repositioned to limit outflows to the Lower Darling through Weir 32 to 35,000 ML/d, which corresponds to a weir pool level of 7.02 metres. Slightly higher weir pool levels (7.1 metres) were temporarily experienced this week due to local heavy rainfall.

From Monday 14 March the main weir gates will be lowered each day to reduce the outflow from the lakes by about 1,000 ML/d. At this rate, a flow of 17,000 ML/d at Weir 32 can be expected by the end of March. This will alleviate virtually all of the local access difficulties caused by the high water levels. After such a long period of high flows, it is important that water levels be reduced at this slow rate to minimise the risk of saturated river banks slumping.

As the inflow rates and storage levels are monitored over the next few weeks, it may be necessary to hold releases at around 17,000 ML/d for a short time, before reducing the outflows further to seasonal minimums by May.
It is calculated that this strategy will produce a maximum storage level in Menindee Lakes of about 2,000,000 ML (surcharged to 116 per cent of capacity) in mid April. Some of this surcharge capacity may be needed to manage the lowering of water levels in the Lower Darling to minimise the potential for river damage. Full supply level of Menindee Lakes is 1,731,000 ML. About 3,300,000 ML has passed Weir 32 into the Lower Darling since flood operations commenced in October 2010.

**Figure 1** - Image: MODIS Australia6 Subset - Aqua 250m Bands 7-2-1 Image for 2011/053 (7 March 2011)
**RIVER LEVELS**

<table>
<thead>
<tr>
<th>Location</th>
<th>Height (m)</th>
<th>Flow (ML/d)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bourke</td>
<td>8.34</td>
<td>24,300</td>
<td>Falling (Peak 88,000 on 14/2/11)</td>
</tr>
<tr>
<td>Talyawalka (BH)</td>
<td>4.20</td>
<td>24,000</td>
<td>Rising slowly (nearing peak)</td>
</tr>
<tr>
<td>Wilcannia</td>
<td>10.41</td>
<td>37,400</td>
<td>Rising slowly (recent local heavy rainfall)</td>
</tr>
<tr>
<td>Weir 32</td>
<td>7.10</td>
<td>36,800</td>
<td>To begin falling from Monday 14 March.</td>
</tr>
<tr>
<td>Pooncarie</td>
<td>7.18</td>
<td>20,000</td>
<td>Rising slowly</td>
</tr>
<tr>
<td>Burtundy</td>
<td>7.09</td>
<td>18,200</td>
<td>Rising slowly</td>
</tr>
</tbody>
</table>

River data from 10 March 2011

Darling River Flows and Menindee Storage Volume
WHAT THIS MEANS

The outlook for the Lower Darling remains unchanged with flows at Pooncarie and Burtundy in the vicinity of 20,000 ML/d and minor flooding at Burtundy during March. This is similar to the event of 1998 (21,600 ML/d and 7.7 metres) but much smaller than that of 1976 (59,000 ML/d and 9.7 metres) at Burtundy. In the absence of further storms and significant inflows, the river at Burtundy is likely to be falling by late April and into early May.

Flows in the Murray River at the Darling confluence (Wentworth) remain high, around 74,000 ML/d, but are now falling slowly. These flows have created some backwater effects at the bottom of the Darling River and the Anabranch.

It is probable that the Menindee Lakes will remain near full throughout autumn and winter.

Current releases from the Menindee Lakes are:

<table>
<thead>
<tr>
<th>Outlet</th>
<th>ML/d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main weir</td>
<td>35,800</td>
</tr>
<tr>
<td>Lake Wetherell outlet</td>
<td>200</td>
</tr>
<tr>
<td>Lake Pamamaroo outlet</td>
<td>-</td>
</tr>
<tr>
<td>Lake Menindee outlet</td>
<td>-</td>
</tr>
<tr>
<td>Lake Cawndilla outlet</td>
<td>1,200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>37,200</strong></td>
</tr>
</tbody>
</table>

HOW THIS FLOOD COMPARES TO PREVIOUS EVENTS

The table below shows a comparison of the current flood events with previous floods.

<table>
<thead>
<tr>
<th>Year</th>
<th>Max height at Bourke (m)</th>
<th>Total volume at Bourke (GL)</th>
<th>Max height at Wilcannia (m)</th>
<th>Total flows at Wilcannia (incl. Talyawalka Ck) (GL)</th>
<th>Max height Weir 32 (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>12.57</td>
<td>3,500</td>
<td>10.19</td>
<td>2,900</td>
<td>5.10</td>
</tr>
<tr>
<td>1990</td>
<td>12.99</td>
<td>9,000</td>
<td>11.0</td>
<td>8,150</td>
<td>7.37</td>
</tr>
<tr>
<td>1998</td>
<td>13.78</td>
<td>9,700</td>
<td>10.83</td>
<td>6,700</td>
<td>7.45</td>
</tr>
<tr>
<td>2001</td>
<td>12.28</td>
<td>3,300</td>
<td>9.75</td>
<td>2,250</td>
<td>6.21</td>
</tr>
<tr>
<td>2010</td>
<td>10.78</td>
<td>2,370</td>
<td>9.43</td>
<td>2,400</td>
<td>5.44</td>
</tr>
<tr>
<td>2011</td>
<td>12.56</td>
<td>6,000*</td>
<td>10.4*</td>
<td>4,500*</td>
<td>7.03*</td>
</tr>
</tbody>
</table>

* Predicted values

ENVIRONMENTAL MANAGEMENT

Good flows into the Talyawalka system have seen many lakes and billabongs receive water from this flood event. For example, the upper reaches of Lakes Wongalara and Poopelloe are full as is Gunyulka Lake just to the east of Wilcannia. Further downstream, Lake Teryawynia is near full as are most of the numerous other small ephemeral lakes to its south and west. Flows through Seven Mile Creek are reaching the Talyawalka in its lower westward reaches providing tremendous in-stream benefits and continuity for riparian vegetation and habitat after many years without water. The replenishment of these water bodies will now rejuvenate and support dependant ecosystems for extended periods.

Lake Wetherell is now at 74 per cent of capacity and rising after a period of drawdown to nearly 50 per cent of capacity to allow aeration of the important riparian zones, following nearly 18 months of saturation. Lakes Pamamaroo, Menindee and Cawndilla are currently at 97 per cent, 97 per cent and 98 per cent respectively. All the lakes will continue to rise during March and April to near maximum surcharge capacity and, given that the high flows in the Murray River are continuing, will probably remain high into winter.
The Great Darling Anabranch has received a good proportion of Lower Darling flows and continues to flow its full length to the Murray River. Flood flow releases from Lake Cawndilla have been reduced to 1,200 ML/d to alleviate some backwater impacts from the Anabranch into Redbank Creek. This will be further reduced to 600 ML/d in the next few days. Nearly all the lakes along the Anabranch have received water, most for the first time in 10 years. Popiltah Lake was one of the last, with water being introduced last week. Travellers Lake, Mindona Lake and Popio Lake can be seen near full in the bottom left hand corner of Figure 1. Flows are providing clear improvement in both terrestrial and aquatic ecosystems along the Anabranch, with numerous local reports of an increase in the populations of fish and birds and improvement of native vegetation.

**COMMUNICATION AND ADDITIONAL INFORMATION**

It is important that visitors to the region, particularly those visiting by boat, as well as local water users and property owners, are mindful that water levels will be slowly falling in the Lower Darling for the remainder of March. It is likely that water levels will fall in the range of 40 to 60 mm per day. This will expose saturated river banks which are heavy and vulnerable to damage (slumping), particularly from wave action, stock and vehicle movements, as well as unstable trees. Care should be taken when moving or working in proximity to the river banks, particularly at this time.

Flows and water levels are being closely monitored and information will be updated and distributed by the NSW Office of Water and State Water fortnightly as far as possible, or more frequently if necessary. A public meeting will be hosted by Broken Hill City Council at Broken Hill and Menindee on Friday 18 March 2011. This meeting will outline the operation of the lakes’ infrastructure during this flood event, contrast it with previous floods and to take questions and feedback about flood operations. Delegates from State Water Corporation will be attending. Details of the time and place of the meeting will be available from Broken Hill City Council.

A regional committee, that includes representatives of water users from the Menindee, Lower Darling and Great Anabranch has been established and convenes weekly to ensure that local knowledge and conditions are incorporated into flow management strategies and that appropriate information about river levels and flow management is made available to the community.

The NSW Office of Water and State Water Corporation will continue to work with the SES, local police and councils as required.

**WHERE DO I GO FOR ADDITIONAL INFORMATION?**

NSW State Water office in Cawndilla Street Menindee.

SES free call 132 500

NSW Office of Water: call Bunty Driver T 03 5898 3910 or visit the website [www.water.nsw.gov.au](http://www.water.nsw.gov.au)