NSW EPA

Hunter River Salinity Trading Scheme 2013-14 performance

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What is the Hunter River Salinity Trading Scheme?

The Hunter River Salinity Trading Scheme (HRSTS) involves a system of salt credits which industries can buy and trade. Industries use these credits to discharge their by-product salty water into the Hunter River when the river contains adequate fresh water to dilute the salt and maintain water quality. The HRSTS allows industries, such as agriculture, mining and electrical generators to operate side by side and share the use of the river while maintaining an appropriate level of water quality and freshness.

River flow is measured at a series of monitoring points along the river. When flows are low, no discharges are allowed; when flows are high, limited discharge is allowed using salt credits; and when flood flows occur, discharges are allowed to an agreed salinity goal. The river is divided into three sectors for the purposes of the scheme, with salinity goals set for each sector.

The scheme is administered by the NSW Office of Water under a service agreement with the NSW Environment Protection Authority and guided by the HRSTS Operations Committee. The Committee includes representatives from the State Government, industry and the community.

What is the purpose of the Hunter River Salinity Trading Scheme?

The HRSTS has been designed to balance the need for good water quality in the Hunter River for water users with the discharge needs of industry. Overall, salinity is kept to an appropriate level by only allowing discharges during high flow or flood events and balancing the amount of salt that industry can discharge with the naturally occurring salt in the river.

The Hunter River naturally contains high levels of salt as a result of salty groundwater inflows and the HRSTS monitors these levels to ensure that industry discharges only occur when natural salinity levels are appropriately low. By balancing the amount of salt that industry can discharge with the naturally occurring salt in the river, the scheme improves the health of the river and the surrounding environment and ensures that the water is suitable for local primary producers to use for irrigation purposes.

How did the Hunter River Salinity Trading Scheme perform in 2013–14?

During 2013–14, HRSTS participants had four opportunities to discharge under the scheme. Discharge opportunities occurred in November 2013, March and April 2014. No flood events occurred during the year.

Salinity is measured by determining the electrical conductivity (EC) of water. EC estimates the amount of total dissolved salts (TDS) in the water and is measured in microSiemens per centimetre (µS/cm). Salt water has an EC of around 55,000 µS/cm. Drinking quality water usually has an EC of between 600 and 1200 µS/cm.

The HRSTS has established salinity goals to be maintained in the three sectors of the Hunter River identified below. The salinity goals were not exceeded during industry discharge events.

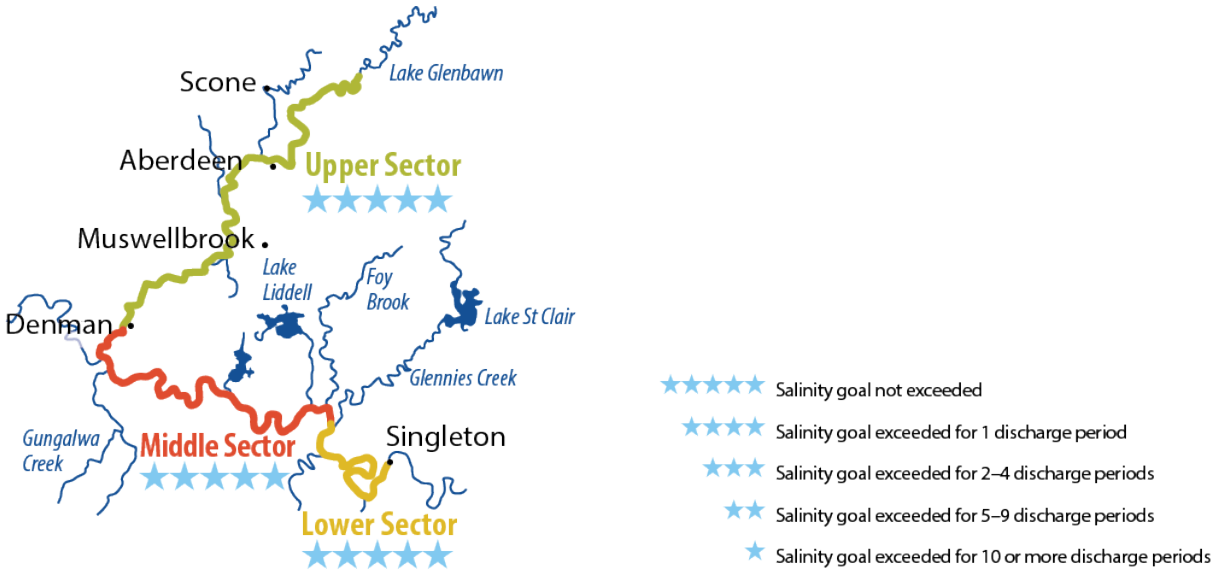

Figure 1: Scheme performance during industry discharge events

During periods of low flow, the Hunter River may experience periods of naturally elevated levels of salinity as demonstrated in the graphs below. This is a result of naturally salty groundwater flow and is not related to industry discharges.

Below are summaries of salinity in the upper, middle and lower sectors of the Hunter River over the year.

Upper Sector: Hunter River upstream of Denman

The salinity goal for the Upper Sector is 600 µS/cm during high flows (shown below as a solid green line) and 900 µS/cm during flood flows (shown below as a solid black line). There were no industry discharges reported during the 2013/14 year for the Upper Sector participants. The elevated levels shown in the graph are not related to any discharge from the coal mining or power generation industries but are due, instead, to naturally salty groundwater flow.

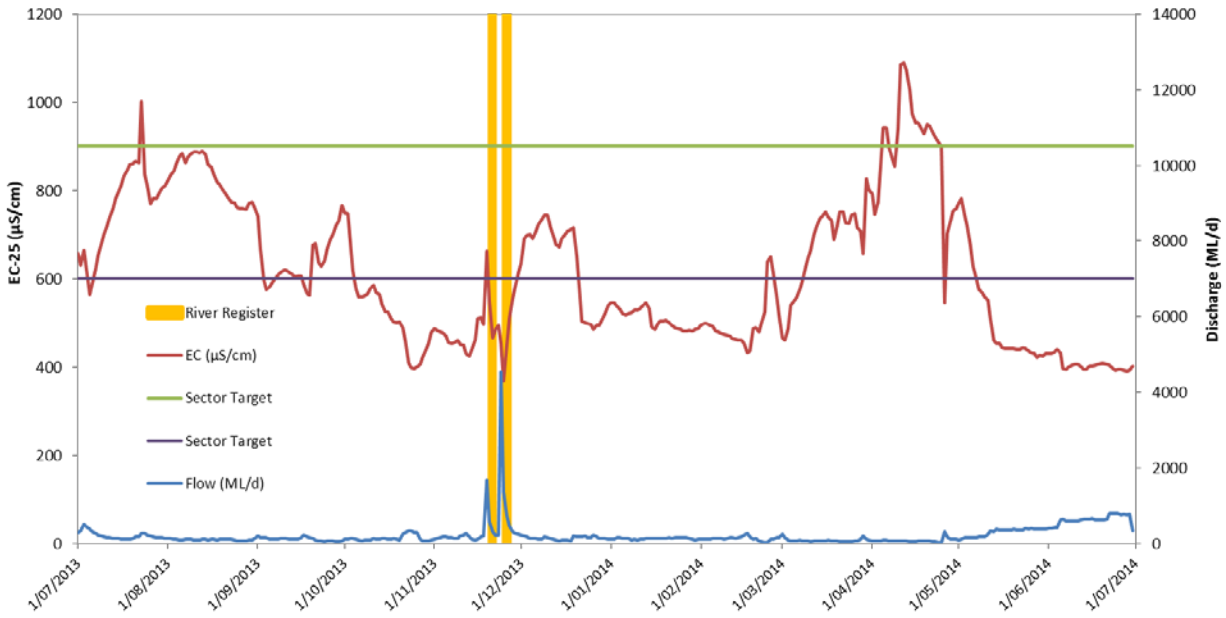

Figure 2: Maximum daily salinity and minimum daily flow - Hunter River at Denman

Middle Sector: from Denman to the junction of the Hunter River and Glennies Creek

The salinity goal for the Middle Sector is 900µS/cm and is shown below as a solid green line. Industry discharges occurred during discharge events in November 2013 only.

There were no exceedances of the salinity goals during or immediately after any discharge events in the Middle Sector during 2013/14.

The elevated levels shown are not related to any discharge from the coal mining or power generation industries but are instead due to naturally salty groundwater flow.

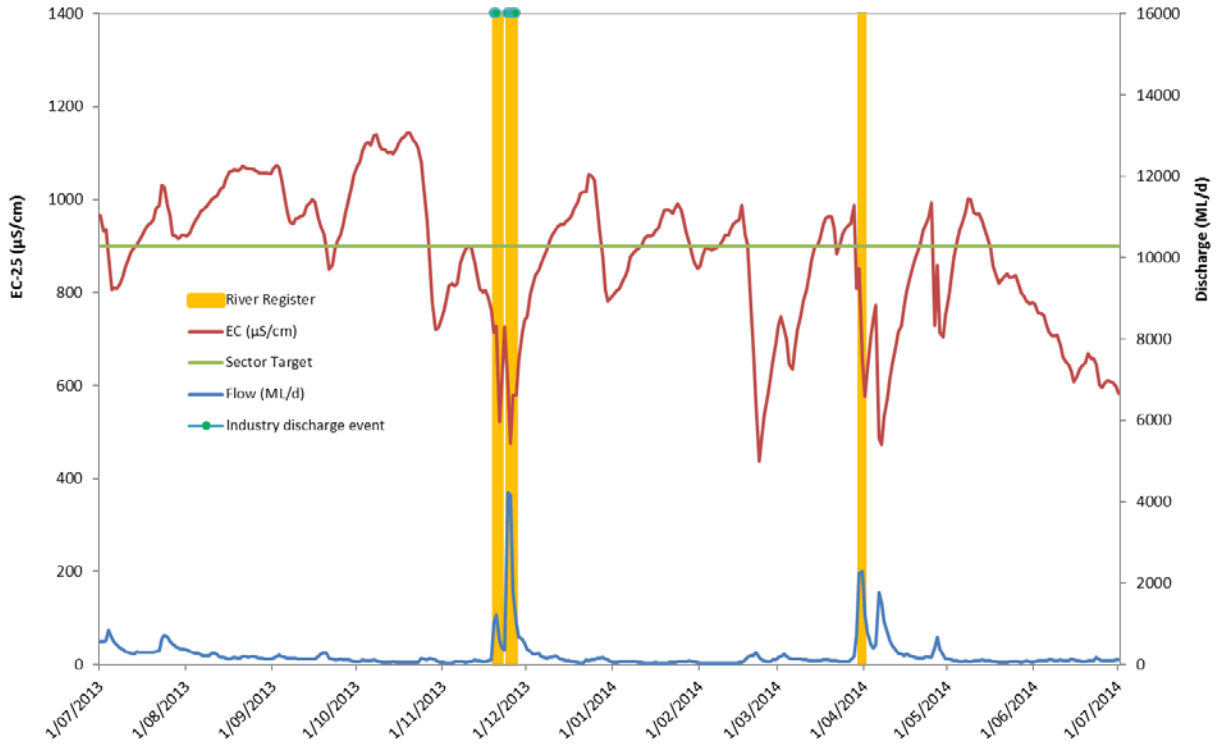

Figure 3: Maximum daily salinity and minimum daily flow - Hunter River at u/s Glennies Creek

Lower Sector: from the junction of the Hunter River and Glennies Creek to Singleton

The salinity goal for the Lower Sector is 900 µS/cm, shown as a solid green line below. Industry discharges occurred during discharge events in November 2013 and April 2014 only.

There were no exceedances of the salinity goals during or immediately after any discharge events in the Lower Sector during 2013/14.

The elevated levels shown are not related to any discharge from the coal mining or power generation industries but are instead due to naturally salty groundwater flow.

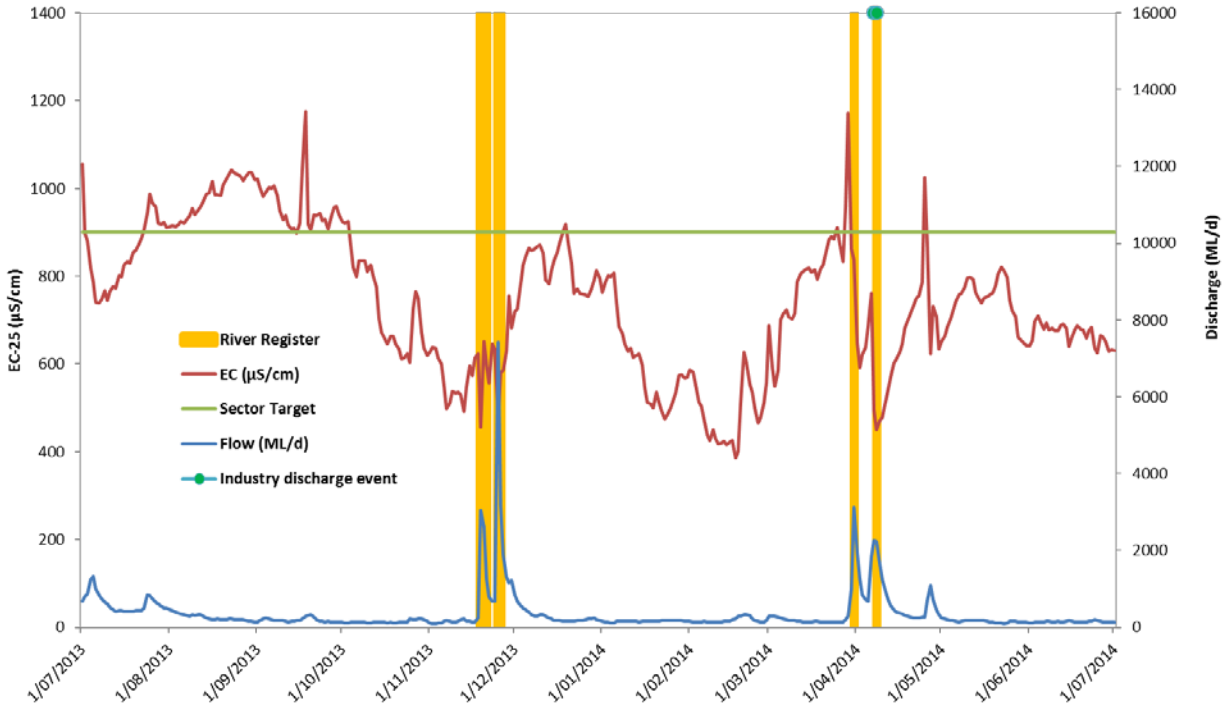

Figure 4: Maximum daily salinity and minimum daily flow - Hunter River at Singleton

Further information

Further information on the operation of the Hunter River Salinity Trading Scheme can be obtained online from the EPA www.epa.nsw.gov.au/licensing/hrsts and the NSW Office of Water www.waterinfo.nsw.gov.au/hunter/trading.shtml. Follow the links from these webpages for information on river flow and electrical conductivity conditions in the Hunter River.

For more information on the operations of the HRSTS, phone (02) 4908 6800 or email hrsts@epa.nsw.gov.au

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