



## RMA QA Aerator Case Study

Moree Plains Shire Council had a need to upgrade the town water quality at two towns in Northwest New South Wales, being Boggabilla and Toomelah. Originally the plan was to upgrade the Boggabilla Water Treatment Plant and construct a new plant at Toomelah; however, it was decided better use of money to create a pipeline between the two towns which would allow movement of water either way and gain access to an improved water supply for both towns.

In amongst the revised strategy was a need to relocate the raw water inlet for the Boggabilla water supply. This meant moving this inlet further downstream and improve the positioning in the weir to ensure water supply in times of drought. The raw water supply is the McIntyre River which separates Queensland and New South Wales. As a result, a new pontoon was constructed holding raw water pumps and an RMA QA 60 aerator.



The new raw water inlet is positioned in a deeper part of the weir built on the river to supply water to the town of Boggabilla.

The river experiences times of stopped flow and major floods. The old inlet position was not as secure as the new position, which is placed in the river shown left during a period of low waterflow.

Aeration has been included in the project to improve the quality of the river water that will be pumped to the town treatment plant.

### Why Aerate:

Aeration will always improve the quality of water. Water and air are injected in close contact to remove dissolved gases (such as carbon dioxide) and oxidizes dissolved metals such as iron, hydrogen sulphide, and bvolatile organic chemicals (VOCs). Aeration is often used as the first step in water treatment. During aeration, constituents are removed or modified before they can interfere with the treatment processes.

The RMA QA aerator introduces a range of bubbles into the water body. These are coarse, fine, micro and nanobubbles. The smaller the bubble the better.



Pontoon with the aerator positioned between



+61 (03) 7035 6313



info@igswater.com



www.igswater.com



IGS Asia Pacific,  
Ground floor  
470 St Kilda Rd  
Melbourne, VIC 3000, AUS





## IGS ASIA PACIFIC

WATER SOLUTIONS

In a riverine environment coarse and fine bubbles will break the surface of the water and bring to the top many contaminants which bacteria and microbes will use as food, thereby removing these from the water. The micro and nanobubbles do not have the energy to break the water surface and as such this oxygen is available to improve the water quality.



The aerator is positioned between the two raw water pumps (shown at left during installation) to deliver the maximum amount of aeration throughout the water body where raw water is harvested for treatment.

The nanobubbles created will spread throughout the water body; downstream, some upstream, deeper to the river bed and across the river. These bubbles will release high levels of oxygen into the water providing improved quality at the start of treatment.

In a riverine environment aeration also assists the marine life present in the river. In aquaculture studies of micro and nanobubbles, yield increase of up to 15% weight have been registered on some species. Within the river are native Australian fish and the weir is a popular fishing spot for local people. A side benefit is the gain in fish numbers and size these people will experience.

Aeration will not only occur between the raw water pumps. At right shows aeration moving away from the side of the pontoon and across the river. Physical aeration movement could be seen close to the centre of the river, with aeration under the surface able to move fully across the river.

Not only does this aeration improve the town water supply, it is also improving the environment including removal of algae that does build up in the warmer month.



+61 (03) 7035 6313



info@igswater.com



www.igswater.com



IGS Asia Pacific,  
Ground floor  
470 St Kilda Rd  
Melbourne, VIC 3000, AUS

