



**EUROBODALLA SHIRE COUNCIL**

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## **Water Treatment Plant at Denham's Beach Reservoir**

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The need for additional water treatment for the Eurobodalla Shire was identified in the Integrated Water Cycle Management Strategy (IWCM Strategy) developed by Eurobodalla Shire Council in 2003.

### **Background**

Eurobodalla Shire Council provides water to most of its towns/villages within its local government area. The Shire has a permanent population of 33,000. The typical current daily water usage of the shire is 14.5 million litres with an annual demand of 5,500 million litres. During the summer holiday periods the shire water usage significantly increases, with peak day demands in summer holidays reaching as high as 29 million litres due to seasonal increases in the population.

Eurobodalla Shire Council has investigated the water treatment options for its storage and Northern System source waters, namely:

- Buckenboursa River;
- Moruya/Deua River

These investigations recommended building a new Water Treatment Plant to treat the water from the Deep Creek Dam at Denhams Beach Reservoir site located in the Mogo Forest. This plant will be known as the Eurobodalla Northern System Water Treatment Plant.

### **Existing Infrastructure**

The Eurobodalla Water Supply System consists of two systems, namely the Northern system and the Southern System. Both systems are interconnected and water can be transferred both ways. The Northern System is fed from the Buckenboursa River and Moruya River and stored in the Deep Creek dam. The Southern System is fed from the Tuross River system.

At present in the Northern Regional System the water harvested from the Moruya River is pumped directly into the Council's pipe network after disinfection with chlorine. Excess water from the Moruya River Water plus water from the Buckenboursa River is stored in Deep Creek Dam, an off creek storage dam with a capacity of 4,900 million litres.

A new pipeline has recently been constructed to transfer water from the Moruya River to the Deep Creek Dam before supplying to the consumers.

## **The Project**

In the upgraded Eurobodalla Northern Water Supply System the existing pump station at Deep Creek Dam will be upgraded to pump raw water from the Deep Creek Dam to new Water Treatment Plant (WTP).

A site adjacent to Denhams Beach Reservoir in the Mogo Forest has been selected to construct the new WTP. The WTP shall have a capacity of 20 ML/d at this stage (Stage 1) with provisions to upgrade to 30 ML/d in the future (Stage 2).

The treated water from the WTP shall then be pumped to the Denhams Beach Reservoir for distribution throughout Eurobodalla Shire.

An aerial view of the proposed site for the WTP is provided in Figure 1.

## **What will the new Water Treatment Plant do?**

The Water Treatment Plant will:

1. Allow water to be harvested from the rivers during high flows when they are running 'dirty' with high turbidity. This will allow Deep Creek dam to recover quicker from the impacts of droughts, and minimise the need having to take water from the rivers during low flows when they are under stress.
2. Provide additional barriers between the raw water sources and consumers. This approach is in accordance with Australian Drinking Water Guidelines. The additional barriers include filtration and UV disinfection.
3. 'Harden' the water. The raw water in Eurobodalla is 'soft' (low in calcium carbonate) and is aggressive towards pipework and plumbing fittings. 'Hardening' the water by increasing the amount of calcium carbonate will address this.
4. Investigations have shown that there is a risk of blue green algae in Deep Creek dam that could reach potential harmful levels. The new Water Treatment plant will be able to treat water so that it is safe to drink.
5. Treat up to 20 million litres a day and will be able to be upgraded to treat 30 million litres a day in the long term.

## **Current Status**

Tree felling on the site of the new treatment plant has been completed by Forests NSW. The harvested timber is in the process of being removed from site to local sawmills.

A contract for the construction of the new Water Treatment Plant was awarded to Water Infrastructure Group (WIG) on 4 August 2009. Construction work will commence shortly. Construction is scheduled to be completed within 12 months.