MALLACOOTA WATER SUPPLY AND TREATMENT

Introduction
East Gippsland Water source's drinking water for Mallacoota from the Betka River and several groundwater bores.

The Mallacoota Water Treatment Plant came into operation in 1997 and is able to treat up to 1.2 million litres of water per day.

The off-season population of Mallacoota is roughly 1,100 people but can increase up to 10,000 people during the peak summer season.

In 2011 two new production bores were installed to supplement the town's drinking water supply.

Water collection and treatment
Water is pumped from the Betka River, via a seven kilometre pipeline into a 41 million litre raw water storage basin. During times of low river flow, groundwater is accessed from two bores and added to the raw water basin.

Water is transferred from the basin to the water treatment plant where it is treated to remove any dirt and other unwanted particles.

To treat the water a coagulant is added, which draws all of the dirt and other unwanted particles together. This is known as a floc. The water then enters the second part of the treatment cell where the floc is encouraged to settle out along the cylindrical tubes. The clear water is able to continue and goes through a filter containing sand and charcoal (anthracite).

The treated water is then disinfected and pumped to the 240,000 litre (240KL) clear water tank, before it is supplied to the township of Mallacoota. There is also a 23 million litre clear water basin which holds excess treated water that is available for use as required.

Backwash system
There is also a backwash system. This blasts the sediment that has formed within the treatment cell back into the water column, where it is passed back to the backwash tank. The sediment is then able to settle out and is passed into geobags. Any water coming out of the bags is passed back into the basin for reuse. The geobags are sent to the wastewater treatment facility where they are reused.

Plant control
The treatment plant control system incorporates a Programmable Logic Controller (PLC) for fully automatic stop/start control of the plant, automatic backwashing, desludging (removal of sediment within the system), alarms and indicators. This allows operators to remotely access and operate the water treatment plant.

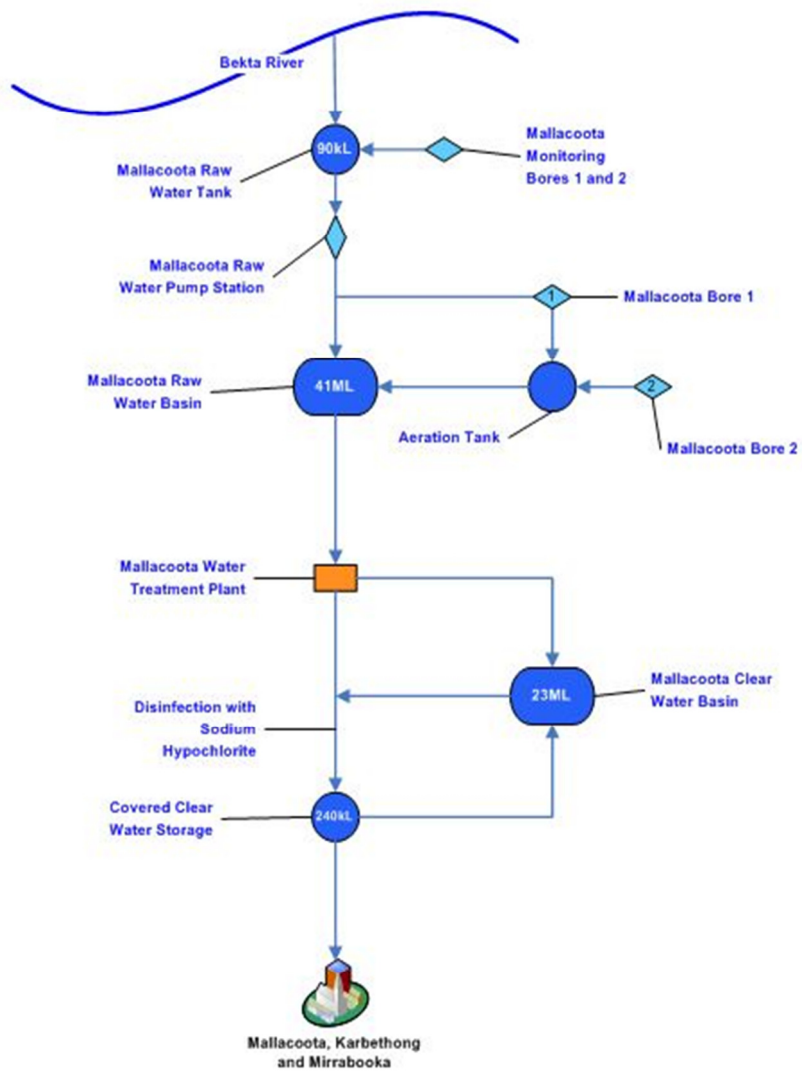
Remote monitoring by SCADA (Supervisory Control and Data Acquisition) operates continuously and provides early warning of faults or performance issues. The focus is on maximising operational efficiency, monitoring equipment reliability and compliance, and improving customer service.

Shadecloth covers
During 2004, the clear water basin was covered by a shadecloth. This was completed as part of a $1 million research project, supported by CSIRO, which was designed to fully test the effectiveness of shadecloth covers on drinking water storages. The cover reduced the annual evaporation rate at the Mallacoota storage from 10 million litres (ML) to just one million litres. It was also very effective at reducing algal growth in the basin. During 2011 the raw water basin was also covered by a shadecloth cover.

For more information –
Contact East Gippsland Water on
1800 671 841 or by emailing
egw@egwater.vic.gov.au
Alternatively visit the Bairnsdale office at
133 Macleod Street, Bairnsdale
weekdays during business hours.

The Betka River

Mallacoota Water Supply System



The new cover over the Mallacoota raw water basin