

## Sustainable Sewage Treatment Contaminated Water Solutions Case Study



Turlinjah is a small community of 70 people on the NSW South coast of Australia. Previously sewage was collected in septic tanks located less than 200 meters from extensive oyster leases in the Tuross Lake. There was concern about the untreated septic discharge into this sensitive receiving environment.

Monitoring of the area showed levels of faecal coliforms and nutrients that supported these concerns and Turlinjah was identified as an area of high concern due to the environmental pollution from septic tanks.



A review concluded that soil based reed bed technology would be the most sustainable option, with a Coast and Clean Sea grant assisting with the capital cost. Whilst widely applied in Europe this was the first sewage treatment system of its kind in Australia. A soil reed bed is quite distinct from gravel or free water alternatives both in its method of treatment and performance as the naturally rich bio-activity of soil can greatly improve the rate of treatment. The Turlinjah reed bed offers an effective and ecologically sustainable treatment system with low levels of maintenance.



The two stage soil reed bed at Turlinjah contains a vertical flow bed followed by a horizontal flow bed which receives all the sewage from the local community. This system has significantly improved the quality of the estuarine water near the oyster leases by substantially reducing sewage BOD, suspended solids, nitrogen, phosphorus and faecal coliforms.

The reed bed treats the wastewaters to a class A reuse standard and is used by local farmers.

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