

OVERVIEW

Growing environmental awareness in Australia has fostered a climate which enables governments to take steps to improve the effects on the environment of their required approvals and actions.

This is especially so with respect to wastewater treatment and sewage sludge disposal, the potentially adverse effects of which have been brought to the country's attention by the severe pollution of Sydney's beaches as the result of the dumping for decades of barely treated liquid effluent and untreated sludge through nearshore ocean outfalls.

Wastewater Treatment and Disposal

The technologies used to treat wastewater in Australia range from zero treatment before ocean discharge to sophisticated tertiary treatment with biological or chemical nutrient stripping.

- * zero treatment prior to discharge via ocean outfall is permitted to some communities along the east coast.
- * primary sedimentation prior to discharge via ocean outfall is allowed in a number of places; notably, Sydney (NSW), from which 1129 ML/d are emitted on dry days into the Tasman Sea via near-shore outfalls at the three major plants; and Geelong (Vic), which discharge 50 ML/d into Bass Strait.
- * lagoons as the sole means of treatment prior to use of the effluent for irrigation of a wide variety of crops are common in Victoria. In Melbourne, the Werribee Farm plant treats 470 ML/d by ponding, irrigation and ultimate discharge into Port Phillip Bay (which adjoins Bass Strait). Elsewhere in Victoria, there are 60 individual systems with a total design capacity of 275 ML/d.
- * Secondary treatment in its various forms is common, being the required minimum level of treatment in NSW outside Sydney, and in Queensland. In Victoria, the major Melbourne South-Eastern Purification Plant (580 ML/d activated sludge) uses it, as do about half of the 145 plants operated by local authorities outside Melbourne. Thirty nine of these are trickling filter plants, which require upgrading.
- * tertiary treatment, which in Australia usually means effluent "polishing", often by use of post-secondary maturation (retention) ponds for "natural" disinfection prior to discharge, is used to meet bacteriological effluent standards at many coastal plants. Chlorine dioxide is replacing chlorine as the chemical disinfectant of choice.