THE DERWENT ESTUARY

The Derwent Estuary lies at the heart of the Hobart metropolitan area and is of great national and global significance. The Derwent Estuary is the principal water supply for the city and is an important estuarine, coastal and oceanic biodiversity and habitat.
RECENT MANAGEMENT ACTIONS, SAMPLING SITES AND DISCHARGE POINTS

DERWENT HABITAT ATLAS

Knowing which habitats exist on the Derwent estuary foundation and under what conditions is important for the ecosystem's integrity. To achieve this, a comprehensive assessment of the Derwent estuary's habitats has been conducted. The habitat atlas integrates new and previous mapping of freshwater and estuarine habitats (data held by DPIPWE (Coastal Marine Branch), Tasmania Ecosystem Futures Institute Information and Land Services, Securus). The project has yielded a number of information gaps, including freshwater vegetation maps along the Cremorne section of the Derwent estuary and a map of all the upper Derwent wetlands. The atlas is available through the Tasmanian Government's LIT website and will be particularly useful for planners. The project was funded by the Australian Government’s OceanoGen and supported by the Tasmanian Conservation Council.

LITTER TRAPS AROUND HOBART

Litter is visually and architecturally unpleasant and a hazard both to human health and marine life. Litter accumulation along the Derwent estuary's foundation has been one of the community's most pressing concerns. In the Water Sensitive Urban Design (WSUD) program's Community Survey 2007, respondents ranked litter second in terms of general environmental threats in the Derwent estuary, following pollution from local industry. Stormwater is the main source of litter to the estuary and in 2003 the DSE indicated that 1,500 tonnes reaches the Derwent estuary every year, which equates to 600,000 bags of rubbish. Stormwater litter traps are cost-effective in capturing litter including small items like cigarette butts. Hobart City Council has installed over 100 stormwater litter traps throughout its commercial areas since 2006, representing one of the largest installations of these devices in Australia. They capture approximately 1.5 tonnes of litter, 60 per cent of which is cigarette butts. Stormwater litter traps have been installed in local government areas, including the Hobart City Council. Over 100 traps have been installed by private industry throughout the Derwent estuary region.

WATER SENSITIVE URBAN DESIGN

Stormwater Litter Design (WSUD) is the design of stormwater infrastructure that aims to minimise impacts of urbanisation on waterways and industries. WSUD incorporates elements such as pervious pavements, vegetated roads, biofiltration systems ("greenwater"), green roof and stormwater treatment works followed by wetland fishing and rehabilitation of degraded areas. During the past six years over 25 urban WSUD systems have been installed in the Derwent region by local councils (see map). A recent example is the rain garden (small biofiltration system) installed in Lefroy St, North Hobart that captures and treats runoff from a Council car park 21m 2 in size. Native plants were selected to help filter the stormwater. A kit of detailed drawings of the layer by layer garden directs the treated stormwater into the adjoining Providence Gulley Bounded from where it flows to the Derwent estuary.

FORESHORE TRACKS

In 2007 a trails inventory was conducted to assess and map the existing trails on the Derwent foreshore and identify where they may be developed to create a network. Off the Derwent estuary’s 224 km of foreshore (projected from New Norfolk to the Derwent Point lighthouse), 41 of 51 km of walking trails and potential routes were surveyed. A baseline audit was used for mapping and photos were taken of the trail conditions, structure of signage and scenic value. Observation were also made regarding the current Australian Standard Walking Track Class, the recommended Australian Standard Track Class, tourist potential, priority for works, estimated cost for works and potential links to other trails. The assessment will provide a good starting point for establishing new pathways and development of user-friendly maps.

NYRSTAR HOBART SMELTER

Nyrsstar Hobart Smelter has been consistently monitoring and treating contaminated groundwater flowing beneath the site for the past six years in an effort to prevent discharging into the Derwent estuary. In 2008 a new major recovery system was installed to target heavy contamination below the new processing departments. A network of 15 boron/lithium bore holes were drilled to passively collect contaminated groundwater and direct it to the site’s Effluent Treatment Plant for heavy metal recovery. Initial monitoring of the extracted groundwater suggested that the combined flow from the network is 200,000 per day containing an average contaminant concentration of 1.5 g/l per litre of water. This totals approximately 15 tonnes of zinc per year that would otherwise have been discharged into the Derwent estuary if not intercepted. Monitoring is underway and results will be reported in the 2010-11 Nyrsstar Hobart Environmental Management Plan.