The Derwent Estuary is a strategic and productive ecosystem and supports a wide range of habitats and species. A number of environmental issues affect the Derwent Estuary, in particular:

- Heavy metal contamination;
- Loss of estuarine habitat and productive ecosystems;
- Intermittent faecal contamination and urban water pollution, contaminated sediments, introduced species and loss of seagrassing ecosystems.

Thus, the Derwent Estuary Monitoring Program (DEMP) was established in 1999 as a partnership to monitor and restore the Derwent Estuary. The program ambition is to bring together a wide range of partnerships, to build a common understanding, vision and shared responsibility and to secondly to progressively implement coordinated monitoring programs and partnerships agreements and practical actions.

The program was initially designed to address environmental quality issues such as industrial and urban water pollution, contaminated sediments, introduced species and loss of seagrasses. More recently, foreshore issues have also been included within the program.

The first DEP Environmental Management Plan was created in 2002 by the DEP, the Premier, the Mayors of Brighton, Clarence, Derwent Valley, Glenorchy, Hobart and Kingborough Councils, and the Mayors of the Derwent River Council and the City of Hobart. In addition to the three levels of government, many other stakeholders participate in and support the DEP, including major industries and utilities, commercial and environmental groups and research institutions.

The program’s vision and mission have been updated and will be published for publication in 2007/08.

Key aspects of implementation include environmental monitoring and assessment of regional and local issues, and implementation of priority projects such as effluent reuse, stormwater management and wetland conservation.

Although there have been significant improvements in the treatment of sewage and industrial waste over the past decade, the Derwent Estuary remains one of the worst Northern Hemisphere estuaries and still faces a number of environmental challenges. A strategic and coordinated planning approach across all levels of government and the community is our best opportunity to move forward to a healthy and sustainable future.

### Swarming in the Derwent

Swarming is a problem during late summer and early autumn. Significant swarms can cause economic damage to local industries and to the environment. Swarms are typically observed in coastal areas, particularly around the major harbours such as Risdon and Glenorchy.

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### Derwent Water and Sediment Quality

Each summer, councils and the State Government monitor recreational water quality at about 15 beaches and more than 50 sites across the Derwent Estuary. Sampling is conducted weekly at five beaches and fortnightly at others. The sampling locations are based on the water quality of the beach and its potential for human use.

During the 2006-07 season, most of the beaches showed low levels of faecal bacteria and contaminants except for Montagu, Kangaroo and Lilli Pilli Bay, which received high results.

During the 2007-08 season, most of the beaches received good or intermediate quality results, with the highest water quality measured at Tahune, Howrah and Bellerive. High-quality results were also observed at the five beaches that were monitored on a monthly basis, including Mount Wellington, Penguin Point and Risdon. The quality was low at Estuarine Bridge and Currie’s Beach, with results indicating that water quality is not safe for swimming.

### Derwent Estuary and Species

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### Contaminant Levels in Seafood

Heavy metal levels in Derwent Estuary estuary oysters, mussels and shellfish have monitored levels for over a century by Hobart Professor Dr. J. en

### Derwent Maritime and Coastal

In 2006, coastal vegetation along the Derwent Estuary was dry and hard to identify. In 2007, the Derwent Estuary was dry again.

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Recent Management Actions, Sampling Sites and Discharge Points

ZINC WORKS TACKLES STORMWATER CONCOMITANCE AND FORESHORE RESTORATION

The Nyrstar Zinc Works invested $2 million to undertake a series of projects aimed at reducing stormwater discharges and improving the foreshore in the Blackmans Bay area. The projects included the installation of stormwater infrastructure, the installation of litter traps, and the revegetation of the foreshore. These actions are expected to reduce the amount of pollutants entering the Hobart Smelter site's drainage system, thereby improving water quality in the area.

DEPOT MANOR WATER LEACHATE MANAGEMENT - EFFLORESCENT WATER

Efflorescent water from Depot Manor, a former landfill site, is being managed to prevent pollution of local waterways. The site has been extensively monitored, and a leachate management plan has been developed to minimize the impact on the surrounding environment.

DERWENT RIVER RECOVERY - GUIDING AUSTRALIA

Effluent released from the Hobart Smelter site is one of the major sources of pollution in the Derwent estuary. The site is being managed to reduce the amount of pollutants entering the river, including improvements to water quality monitoring and enforcement of pollution control measures.

DERWENT ESTUARY MANAGEMENT PLAN - HOBART WATER

A new wastewater treatment plant is being constructed to manage effluent from the Hobart Smelter site. The plant will be designed to meet strict water quality standards, reducing the risk of pollution in the Derwent River.

DERWENT RIVER-RIVERA MICROBIOTIC MAPPING PROJECT

This project aims to map the microorganisms present in the Derwent River, providing valuable information on water quality and ecosystem health. The mapping will help identify areas at risk of pollution and guide management actions to improve water quality.

WATER SENSITIVE URBAN DESIGN IN KANGAROO ISLAND

Effluent from a landfill site is being managed to minimize its impact on the water quality of the Kangaroo Island River. The site is being monitored, and management actions are being implemented to reduce pollution.

MAJOR BOOST TO EFFLUENT REUSE - THE CLARENCE WATER SCHEME

This project involves the reuse of treated effluent from the Pine Rivers and Kallangur areas. The scheme is expected to provide a significant and consistent source of high-quality water for a range of uses, including industrial, agricultural, and environmental purposes.

MAJOR ROBUST TO DURABLE RULE - THE CLARENCE WATER SCHEME

The scheme is designed to be robust and durable, capable of meeting the water needs of the area for years to come. The project is being monitored closely to ensure its effectiveness and sustainability.

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Water Quality Monitoring Sites in 2007

- Intermediate water quality
- Ambient monitoring site (temperature, salinity, pH, dissolved oxygen, turbidity, chlorophyll, etc.)

Wastewater Treatment Plant Discharges in 2007

- 2900 m³/d

- 2900 m³/d