

# OPERATING THE SOUTH EAST DRAINS AND FLOODWAYS

The effective operation of the South East's 2,500km network of drains and floodways is important for the long term economic, social and environmental future of the region.

## A unique landscape

The regional network of approximately 2,500km of ground water drains and surface water floodways is unique to the South East landscape.

The system extends from Port MacDonnell in the south to Salt Creek and the Coorong in the north. Since the first recorded Government drainage works in 1863, the network has been gradually developed to increase agricultural productivity in the region, and more recently to enhance the region's valuable wetland ecosystems.

In addition to drains and floodways, the system has approximately 2,000 structures including bridges, culverts, inlets, sea outlet structures and regulators.

The system is unique for its ability to flexibly manage water of different qualities and quantities in response to seasonal conditions, and to achieve multiple agricultural and environmental objectives.

The operation of this comprehensive drainage system is a fundamental component of water management in the South East region.

## Operating the system

Together, the South Eastern Water Conservation and Drainage (SEWCD) Board and the Department for Water operate the South East's drains and floodways.

The drainage network is operated to:

- Protect infrastructure, land, soils and ecosystems from flooding and dryland salinity
- Provide water for environmental purposes to enhance the natural environment
- Protect and enhance South East agricultural lands for primary production
- Assist in the proper conservation and management of water in the South East.

**“The SEWCD Board and DFW are working together to deliver optimal management of the South East drainage system.”**

*– Andrew Johnson, Executive Director, Operations and Major Programs, DFW and Jim Osborne, Presiding Member, SEWCD Board.*



The South East drainage system has enhanced agricultural land in the region.



## Adaptive Management

Operating decisions for the management of water in the drainage system are made according to the principles of adaptive management. Simply, adaptive management means 'learning by doing' and ensures continuous improvement in the operation of the system. This includes a rigorous program of planning, operating, monitoring and improvement.

Each year, pre-winter planning is undertaken to establish objectives for the annual management of the network.

The system's winter/spring operations are run to achieve the management objectives. Each operation (e.g. the lifting of a regulator) is recorded for subsequent review.

In addition, a comprehensive hydrological monitoring network allows operators to manage the drainage system in response to catchment conditions and rainfall. Ecological monitoring captures the response of wetland ecosystems using key indicators of vegetation, waterbirds, fish and frogs.

At the end of each year, operating actions are reviewed and their effectiveness is evaluated. Results are then recorded to ensure that the operation of the drainage system continually improves each year.

## Wetlands and watercourses

Wetlands and watercourses are an important and valuable feature of the South East landscape. The operation of drains and floodways aims to protect and enhance these areas by:

- Providing fresh water flows to water-dependent ecosystems
- Minimising the negative impacts of waterlogging and/or salinity on ecosystems
- Annually monitoring the condition of wetland areas.

An important feature of the drainage system in the upper South East is the ability to separate saline ground water from fresh water. Saline ground water is transferred through the drainage network to the Coorong. Fresh water is utilised for environmental flows. This includes diversions to the REFLows Floodway which recreates the natural historic south to north flowpaths across the region.

Cleaning of the drains at Eight Mile Creek (shown below) is included in the South Eastern Water Conservation and Drainage Board's annual maintenance program of the drainage system.



## Agriculture

Prior to drainage, inundation of low-lying lands limited agricultural productivity in the South East. Reducing the flood risk of prime agricultural land is one of the drainage system's key functions.

The upper South East drainage system continues to significantly reduce the risk and extent of dryland salinity and waterlogging, while delivering flows to the environment. As a result of its construction the USE drainage system saved 175,000 hectares of prime agricultural land that was at risk of salinisation and restored productivity to a further 250,000 hectares of land that was already salt affected.

## Drainage asset maintenance

Prolific growth of rushes and other vegetation in drainage channels encourages silt deposits. In the lower South East, there is a maintenance program which includes machine cleaning of silt deposits, control of vegetation obstructing flows and regular attention to road bridges and other structures.

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