

## RIS programs at a glance: Salinity

Through the Regional Investment Strategy (RIS), Fitzroy Basin Association (FBA) coordinates eight programs that support and direct sustainable resource management and conservation in Central Queensland.

The *Salinity* program aims to address current salinity outbreaks and take steps to prevent future salinity impacts.

Salinity is one of the region's most significant long-term threats to our economy and environment. Although knowledge is poor about the total area currently affected, salinity hazard mapping for the region has identified 42,000km<sup>2</sup> (about 1/3 of the total area) with land characteristics that may lead to salinity problems. This does not include land use effects (e.g. clearing) that may increase an area's salinity risk.

**What causes salinity?** Causes vary across Australia's land types, but generally speaking changes in land use have increased the water stored in the landscape. Australia's native vegetation evolved with deep roots and high demand for water. As crop and pasture plants with less need for water (shallow roots, periods of dormancy) have replaced them, more water has infiltrated the landscape, causing water tables to rise. These rising water tables carry naturally occurring salt stored at depth upward to the soil surface. This salt-laden water then evaporates leaving salt behind.

## Share the work: Integrated Catchment Management

FBA's approach to sustainability in our region is called Integrated Catchment Management (ICM).

ICM provides a way for communities to work together. Projects undertaken on a small scale (e.g. backyard, beach, single property) can fail if neighbours take a different approach, or none at all (e.g. weed control). Likewise, projects at a regional or State level can lose touch with people on the ground. ICM bridges the gap, coordinating people on the ground working in small groups, toward common goals, to build up together to a broader, catchment-wide scale.

ICM focuses on strengthening assets as well as eliminating threats (e.g. kill weeds, but also improve land condition so native plants can thrive), so that natural systems bounce back quickly from disturbance.

Want to know more? For a copy of our ICM plan, the Central Queensland Strategy for Sustainability — 2004 and Beyond (CQSS2), go to [www.fba.org.au](http://www.fba.org.au) or phone (07) 4999 2800.

## Central Queensland's assets are under pressure

Unchecked, salinity has the potential to devastate our region's land and water resources.

### Significant assets protected by the *Salinity* program include:

- productive agricultural land (contributed over \$1,200 million to CQ economy in 2001, according to *Agricultural Census 2000/01*, Australian Bureau of Statistics)
- good quality water (irrigation, consumption, ecosystems, industry, mining and recreation)
- ecosystem health and biodiversity
- healthy soils
- rural and regional townships (rural towns are the social and cultural lifeblood throughout CQ)
- economic viability (assets potentially affected by salinity include agriculture, manufacturing and infrastructure across CQ).

**These assets are threatened by** land salinity and surface water salinity invading freshwater environments.

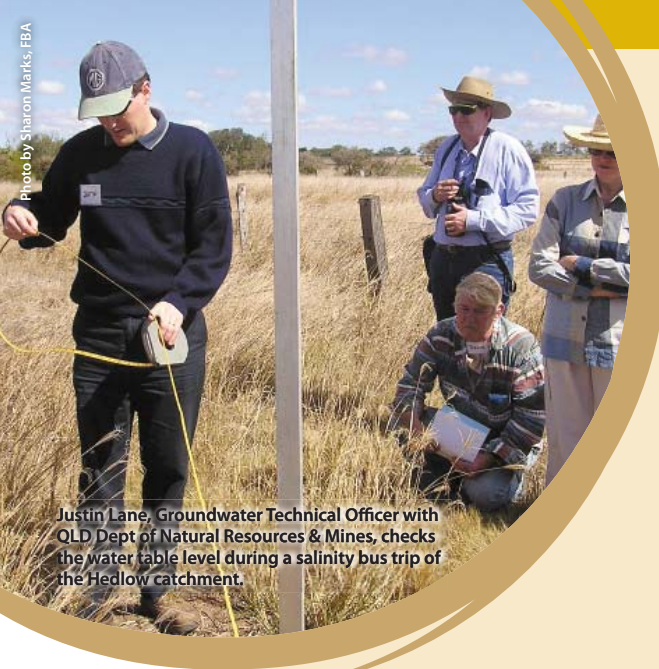
### Activities in the *Salinity* program

The regional salinity hazard map identifies salt stored in the landscape, recharge potential (how permeable is the landscape?) and discharge sensitivity (how easy does the landscape make it for the water table to rise?).

However, it does not present a clear picture of which areas are most likely to be affected due to changed land use (e.g. land clearing). As about 50% of the Fitzroy Basin has been cleared of native vegetation, this information is vital to prevent future salinity impacts in areas that may not be currently identified as at risk.



Salinity weakens and eventually kills trees, and creates a habitat in which only salt-loving plants like samphire (reddish colour in foreground) can survive.



Justin Lane, Groundwater Technical Officer with QLD Dept of Natural Resources & Mines, checks the water table level during a salinity bus trip of the Hedlow catchment.

**The Salinity program aims to build on existing knowledge by:**

- improving information about regional groundwater levels and systems, recharge and soil leakiness
- identifying salinity risk across the region, and monitoring areas at risk
- identifying management options for agricultural production systems in high salinity risk or current outbreak areas.

**The program seeks to protect at-risk areas by:**

- preventing salinity occurrence in currently unaffected, high salinity risk landscapes using practices that seek to achieve a sustainable water balance
- protecting current vegetation in areas of high salinity risk.

**The program helps address current outbreaks by:**

- re-vegetating cleared areas with high salinity risk or current outbreak
- restoring deep drainage to natural levels in areas with high salinity risk or current outbreak.

Incentives have been built into the program, mainly via the Neighbourhood Catchments approach, to make sure individuals are not adversely affected for broad community benefit.

**About Neighbourhood Catchments: ICM in action**

A *Neighbourhood Catchment* is a group of properties located in a common catchment. Neighbours working together can address production and natural resource concerns at the property scale as individuals and at the Neighbourhood Catchment scale as a group. (see "Share the work" box, above). This approach makes significant progress for less time and money, and makes good use of local and experiential knowledge, as demonstrated by successful projects across the region since 2001.

Supported by FBA, community groups known as *sub-regional* groups work directly with Neighbourhood Catchment groups, providing information, resources and technical support. To learn more, see FBA's fact sheet on Neighbourhood Catchments (FBA-05-002), available on our web site or by calling (07) 4999 2800.

**How can we help you?**

Services and support for activities in the *Salinity* program are delivered via Neighbourhood Catchments under the *Sustainable Landscapes* program, including resources, training, technical support and help with property management planning.

**Partners and related projects**

- Queensland Department of Primary Industries and Fisheries
- Cooperative Research Centre for Plant-Based Management of Dryland Salinity
- University of Queensland • Central Queensland University
- Cotton Australia • SunWater and its Customer Councils
- Fitzroy Basin Food and Fibre • Department of Natural Resources and Mines
- stakeholders managing resources potentially affected by salinity, or who have potential to affect salinisation.

This program builds on work undertaken by the Salinity State-level Investment Project (SIP), Cooperative Research Centre — Landscape, Environment and Minerals Exploration (CRC LEME) and CSIRO for Land and Water.

Research studies are conducted by a consortium of researchers from Queensland Department of Natural Resources and Mines, CSIRO, Geosciences Australia, CRC LEME and others. Extension elements of the program are delivered through the *Sustainable Landscapes* program, and incorporate work undertaken by the CRC for Plant-Based Management of Dryland Salinity and relevant State agencies.

**References and resources**

Visit our web site for the following resources:

- Fact Sheet: *Neighbourhood Catchments* (publication number FBA-05-002)
- Fact Sheet: *RIS programs: Sustainable Landscapes* (publication number FBA-05-003)
- *Central Queensland Strategy for Sustainability — 2004 and Beyond* (CQSS2).

Or contact the Regional Coordinator for the *Salinity* program on (07) 4999 2800.

**Further information**

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