

## Discussion

The health of the River Red Gums depends somewhat on soil moisture and flooding regimes. The trend of low rainfall and few floods during the seven-year study period appears to have had some impact on reducing the overall health of trees.

A change in land use and subsequent land management practices, such as grazing, mowing and cropping, have meant that there has been little recruitment of seedlings in the past 80-100 years. These practices have also caused bank erosion through the removal of bank stabilising vegetation and from stock trampling along the riverbank and into the water. The collapsing of banks is also caused by altered flow patterns as a result of unusually low average rainfall in recent years.



*Combined with erosion caused by livestock, powerboats and clearing, natural erosion is causing the riverbanks to be undercut*

Natural erosion caused by:

- ◆ water movement
- ◆ wind driven waves

combined with erosion caused by:

- ◆ livestock
- ◆ powerboats
- ◆ clearing

is causing the riverbanks to be undercut around the tree roots.

The removal of stabilising soil is also resulting in older Red Gums collapsing into the river, as they are generally found on the edge of the river bank.

Reducing livestock access through fencing and planting vegetation will assist in reducing river bank erosion.



*Dead River Red Gums provide a valuable habitat*

## Fact file

1. River Red Gums are found along inland waterways and low lying areas.
2. They are the most wide spread eucalypt species in Australia.
3. Their growth habits have a close relationship with regular flooding and inundation, with optimal regeneration occurring following mild annual flooding.
4. River Red Gums are medium to large trees with extensive root systems and are essential for bank stability and river health.
5. The growth habit and presence of hollows in the mature trees makes them excellent habitat for numerous indigenous bird and mammal species. The gnarled limbs and spreading canopy provide excellent nesting and roosting sites for a large number of bird species.
6. River Red Gums also provide food and habitat for insects and aquatic organisms.
7. Dead River Red Gums continue to provide a valuable habitat as the number of hollows increases with time.

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# River Red Gums

*Along the Barwon River through Geelong*





## Introduction

River Red Gums (*Eucalyptus camaldulensis*) were once the dominant tree along the Barwon River and other low-lying areas around Geelong.

They were an essential tree in the lives of local indigenous people, the Wathaurong, providing many of the daily necessities such as food, medicine, fibre, canoes, houses and materials for tools.

European settlement, in Geelong, led to trees being harvested for farming, fuel and building material.

## Surveys

The first survey of River Red Gums along the Barwon River was conducted during 1997/98 and aimed to:

- ◆ map River Red Gums older than 50 years of age
- ◆ establish a photographic record of each tree
- ◆ assess the health of each tree
- ◆ record a snapshot of the immediate surrounding vegetation and land use
- ◆ identify threats to the on going health of these trees.

The second survey was completed in June 2003, and the objective was to:

- ◆ re-photograph each tree
- ◆ plot each tree on a G.I.S. mapping database
- ◆ identify current and future threats to each tree
- ◆ ascertain trends in tree health over the seven-year period between surveys.

The report also correlates tree health with land use and riverbank disturbance.

*Left: Bank erosion caused by grazing, Wilsons Road stand*



*Above (top to bottom): Lower Breakwater 5 - 1997/98, Lower Breakwater 5 - 2003*

## Results

Generally, the overall health of the River Red Gums between assessments was steady to degrading. Almost two-thirds of the trees maintained their health, whilst more than one-quarter of the trees declined in overall health.

Health: Percentage of trees surveyed (approx.) there were 136 trees surveyed during the assessment.

Dramatically Improved	0%
Improved	11%
Steady	63%
Degraded	18%
Severely Degraded	8%