

Caloote Southern Residential Area

REVIEW OF MANAGEMENT OPTIONS FOR FOUR RIVERBANK COLLAPSE HIGH-RISK SITES

Caloote Landing is on the right bank of the River Murray about 7km downstream of Mannum. The affected area is on the edge of the flood plain. The Southern Residential Area is south of the landing and consists of six houses between a limestone ridge and the river.

Caloote Landing was closed in September 2009 because of concerns about the high likelihood of riverbank collapse. Subsequent assessments have enabled parts of Caloote Landing to be reopened, but the Southern Residential Area remains closed and is cordoned off to prevent public access. This is due to concerns about continued instability of the site, both from the riverbank and the limestone cliffs behind the houses.

The cause of riverbank collapse

Collapses of some sections of the banks of the River Murray began in February 2008 as a result of very low water levels in the lower reaches of the river in South Australia. As a result, some sites were closed or access was restricted. Inflows from the Murray-Darling Basin have restored river levels to the normal operating range. However, some sites continue to show instability.

The 2012 site review

The Department of Environment, Water and Natural Resources commissioned a review by Coffey Geotechnics of management options for four high-risk sites. It determined that sites which have already been affected by significant cracking may be particularly vulnerable to collapse.

Findings and recommendations

There is a wedge of soft clay below the riverbank. The limestone cliff has an open joint close to the overhang.

"In our opinion the highest risk to the properties and their occupants is associated with the limestone cliffs.

"The potential failure at the overhang has a volume of several tens of cubic metres. If the slope failed, very large boulders could severely damage the houses downslope."

"In our opinion, the riverbank in front of the six houses is vulnerable to collapse during periods of low river level. However, most collapses are not likely to extend back as far as the houses."

Options to reduce the risk of collapse at the site include:

- Advising residents to seek independent advice about the risks associated with the limestone cliff, and possibly moving the houses below the overhang before stabilising the cliff.
- Engineering works at the front of the six properties to construct a retaining structure.

Next steps

The houses at this site are privately owned under Certificate Title. The riverbank and road in front of the properties are Crown land under care and control of the Mid Murray Council.

The Department of Environment, Water and Natural Resources has provided the investigation report to the affected councils and will continue to work with them, and the community, to achieve the best long-term outcomes for affected sites.

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For more information

visit www.sa.gov.au and search for "riverbank collapse"

The investigation report, *Review of Management Options for Four Riverbank Collapse High-risk Sites*, is available at www.waterconnect.sa.gov.au

