

21.0314/02/2019
C031pt1**ENVIRONMENTAL RISK AND LANDSCAPE VALUES**

This clause provides local content to support Clause 12 (Environmental and landscape values) and Clause 13 (Environmental risks) of the State Planning Policy Framework.

21.03-114/02/2019
C031pt1**Environment, landscape values and risk****Overview**

With the Grampian Ranges to the south and the Pyrenees Ranges to the east, the shire contains some of the most significant environmental features in the State. Other major environmental assets of the shire include Lake Lonsdale, Lake Fyans, Teddington Reservoir, Lake Batyo Catyo and the Kara Kara State Forest.

The shire has a wide range of habitat areas supporting a diverse range of flora and fauna. The shire includes parts of the three distinctive catchments of Glenelg Hopkins, Wimmera and North Central.

The Avoca, Avon, Richardson and Wimmera Rivers are all within the shire. The upper catchment of the Wimmera River supplies a secure water supply to thousands of farms and over fifty towns in the Wimmera and Mallee regions. Stawell and St Arnaud townships are supplied water from Lake Fyans, Lake Bellfield and the area known as the Volcano.

The Grampians are a mountainous landscape of national significance consisting of rugged landscape ridges and escarpments. The surrounding farming country is attractive, containing mature river red gums and other native trees in paddocks and along roads and streams.

Land in the shire is subject to environmental risks such as bushfire, landslides, flooding and salinity.

Active riverine flooding occurs along the Avoca, Avon, Richardson and Wimmera systems and further sheet flooding also occurs throughout parts of the shire creating overland flow paths.

Areas of high hazard are generally confined to the waterway due to the depth and velocity of the water. Areas of broad floodplain are generally low hazard where flooding may be extensive but is generally shallow and slow moving. However overland flow paths have the potential to isolate settlements due to hazards along roads.

Significant flood events occurred in 2011 and were costly to the community. Halls Gap and Glenorchy townships are at particular risk of flooding.

Halls Gap is situated within the Grampians National Park in the Fyans Valley. The surrounding catchment is very steep with inundation caused by Fyans Creek and the gullies flowing from Mount Difficult (including Stoney Creek). Fyans Creek rises south of Halls Gap around Cathedral Rock and flows north into Lake Bellfield. The Wannon River flows south along the same valley beginning its journey on the opposite side of Cathedral Rock. From Lake Bellfield, Fyans Creek flows through Halls Gap approximately 4.5 km downstream, and then on to Mount William Creek.

The township is subject to flash flooding with significant flood events occurring in 1946, 1992, 1996, 2005, and 2011. The January 2011 event inundated several homes and businesses. The steep terrain contributes to the rapid generation of significant runoff volumes from relatively minor rainfall events.

Glenorchy is positioned in close proximity to the Wimmera River, which in turn exposes the town to risks from flooding. Glenorchy Township suffers significant inundation in moderate to major flood events, and there is substantial documentation of historic flood events that affected the town.

Flooding in Glenorchy is a result of both direct inundation from the Wimmera River, and breakout flow from upstream areas flowing through the town. Between 2 and 3 kilometres upstream of Glenorchy, Dunmunkle Creek and Swedes Cutting (diverting water to Swedes Creek) divert floodwaters to the north. A substantial portion of these floodwaters flow through railway embankment bridges, returning to the Wimmera River through the Glenorchy township.

Inappropriate development in floodways and floodplains can exacerbate flood impacts, not only at the development site, but elsewhere in the floodplain. Development in floodplains must maintain the capacity of the floodplain. An integrated approach to floodplain management is needed.

The shire also has land susceptible to landslides and land with a high risk of potential instability including land located in the Grampians National Park, and the township of Halls Gap.

Key issues

- Habitat loss caused by the removal of remnant vegetation is a key environmental issue.
- Integrated management of environmental assets across the shire, with the shire crossing three Catchment Management Authority boundaries.
- Bushfire is a hazard in the shire and around townships, with Halls Gap and land around Kara Kara State Forest being at high risk.
- Protecting the environmental and landscape values of the Grampians National Park.
- Flooding occurs along the river systems in the alluvial plains and sheet flooding also occurs in parts of the shire creating overland flow paths.
- Gully, soil erosion and sedimentation causing downstream impacts contribute towards the poor to moderate condition of the shires rivers.
- Salinity and erosion occur in the more elevated discharge areas.
- Appropriately managing development in areas susceptible to environmental landslide or instability to reduce the impacts of future landslide events and improve community resilience.
- Inappropriate development in these areas susceptible to landslide or instability, including vegetation removal can exacerbate the risks to life, property and the environment.
- Managing drainage, rock and soil disturbance and stormwater disposal to minimise the risk of landslides.

Objective 1 To ensure land use and development does not increase the level of bush fire risk and includes adequate fire protection measures.

Strategy 1.1 To identify areas in the shire that are at risk from bushfire.

Strategy 1.2 To limit development in areas subject to extreme bushfire.

Objective 2 To protect local flora and fauna.

Strategy 2.1 Reinforce existing wildlife corridors along road and railway reserves with supplementary revegetation in adjacent private lands to establish strong biolinks between important habitats.

Strategy 2.2 Protect and reinforce significant environmental nodes or biolinks on private land.

Strategy 2.3 Support the location of services on private cleared land rather than on roadsides.

Strategy 2.4 Support future development on land within the shire that is already cleared to avoid and minimise the removal of remnant vegetation.

Objective 3 To manage salinity and erosion.

Strategy 3.1 Reduce salinity risk by reducing ground water accessions, preventing development within high risk salinity areas and stabilising salinised areas.

Strategy 3.2 Encourage use and development that may impact on salinity to take into consideration Salinity Management Plans, where relevant to ensure impacts are minimised and appropriately addressed.

Strategy 3.3 Minimise land disturbance and inappropriate development in areas identified as being susceptible to erosion.

Objective 4 To recognise areas in the shire that are liable to flooding and inundation and minimise potential risk to life, property and the environment.

Strategy 4.1 Minimise impact of development on land liable to flooding and inundation.

Strategy 4.2 Ensure subdivision and the siting of buildings and works takes into account the potential depth of flooding, the route of major floodways, and the impact on the operation of the waterway system.

Strategy 4.3 Ensure permitted development and access is not compromised by flooding.

Strategy 4.4 Encourage an integrated approach to flood management between council, the Catchment Management Authorities and landowners.

Objective 5 To preserve the natural function of floodplains, including their inherent wetland values.

Strategy 5.1 Protect the capacity of floodplains to carry and store floodwaters.

NORTHERN GRAMPIANS PLANNING SCHEME

- Strategy 5.2 Promote community awareness of the value of floodplains and wetlands through recreational and tourism opportunities.
- Strategy 5.3 Promote land use practices that preserve or enhance existing natural water storage and wetland areas.
- Objective 6 To reduce the impact of landslides.**
- Strategy 6.1 Ensure that development does not increase the landslide risk to life or property.
- Strategy 6.2 Ensure that development proposed on land susceptible to landslides is justified and supported by adequate investigation of geotechnical and related structural matters.
- Strategy 6.3 Ensure that development on land susceptible to landslides is carried out having regard to the results of geotechnical and related structural investigations.
- Strategy 6.4 Require investigation into landslide and erosion risk for land in Halls Gap identified as being susceptible to landslides.
- Objective 7 To protect the environmental and landscape values of the Grampians National Park.**
- Strategy 7.1 Recognise the significance of the environmental and landscape values of the Grampians National Park, locally and as a major natural feature tourist attraction.
- Strategy 7.2 Ensure that development does not adversely impact on the landscape qualities of the Grampians National Park and surrounding rural areas.
- Strategy 7.3 Maintain the quality of vistas to and from the Grampians National Park.

Implementation

Policy guidelines

- To apply appropriate conditions to development to mitigate and manage the risks from bushfire to acceptable levels.
- Require applications for land identified at risk from landslide to provide a geotechnical report.
- Land in Halls Gap that has been identified susceptibility to landslides requires investigation for landslide and erosion risk.

Application of zones and overlays

- Apply the Rural Activity Zone, Significant Landscape Overlay and Design and Development Overlay to protect the values of the Grampians National Park environs.
- Apply the Bushfire Management Overlay, Land Subject to Inundation Overlay, Floodway Overlay, Environmental Significance Overlay and Erosion Management Overlay as appropriate to address areas at significant risk from bushfire, flooding, erosion and landslides.
- Apply the Significant Landscape Overlay to protect landscapes of significance.
- Apply Clause 22.02 *Floodplain Management Policy* in considering an application under the Floodway Overlay and the Land Subject to Inundation Overlay.

Further strategic work

- Undertake a strategic audit of sites subjected to environmental contamination.

Reference documents

Concongella Regional Flood Mapping 2014

Defendable Spaces Project: Planning Analysis and Implementation Final Report, 2014.

Glenorchy Flood Study, Water Technology, 2006

Mount William Creek Flood Investigation, BMT WBM Pty Ltd, 2014

Northern Grampians Shire Council, Report for Landslide Susceptibility Zoning, Halls Gap Township, September 2011.

Review of the Halls Gap Flood Study, Water Technology, 2016

Upper Wimmera Flood Investigation, BMT WBM Pty Ltd, 2014