orx	ORRORAL	Alluvial (Swamp)

Landscape— Narrow, often swampy, alluvial plains in the southern ACT. Slopes <3%, local relief <5 m, elevation 900 - 1400 m.

Soils— Moderately deep (50 - 150 cm), moderately well-drained Chernic-Leptic Tenosols and Humose-Bleached Brown Chromosols (Brown Podzolic Soils), with moderately deep to deep (> 100 cm), very poorly drained Redoxic and Oxyaquic Hydrosols (Alluvial soils, Black and Grey Clays) in swamps.

Qualities and limitations— localised non-cohesive soils, widespread foundation hazard, localised recharge zone, widespread discharge zone, localised streambank erosion hazard, widespread high run-on, widespread poor drainage, widespread permanently high watertables, widespread permanent waterlogging, widespread seasonal waterlogging, widespread flood hazard.

LOCATION AND SIGNIFICANCE

Alluvial valley flats and drainage lines of organic and granitic materials. Found in valleys within the Namadgi National Park. Type location is Orroral Valley, 500 m SE of the old tracking station site (MGA grid reference 677650E, 6055200N, grid zone 55).

Variants

None.

Included landscapes

Small areas of the Tharwa (thw) soil landscape are included due to the scale of mapping.

LANDSCAPE

Landform

Level plain to gently undulating plain, alluvial channels and swamps formed from accumulation of organic materials and adamellite-derived alluvium. Slopes are <3%, local relief is <5 m and elevation varies between 740 - 1420 m. Landforms comprise alluvial plain and channels with minor colluvial slope materials included. Occasional adamellite boulders are found within the alluvial material and at the surface. This landscape stores and slowly releases water to the Paddys River and Murrumbidgee River catchments.

Geology

Organic material derived from alluvial processes with a base of sand and gravels derived from the surrounding adamellite and granodiorite.

Source: DMR 2002.

Vegetation

Common species of these alpine low-lying drainage plains and swamps include Eucalyptus paciflora (snow gum), E. rubida (candlebark), E. stellulata (black sallee) and Carex gaudichaudiana (tufted sedge) and Ranunculus amphitrichus (small river buttercup).

Source: Office of Environment and Heritage (2011).

Land use

Namadgi National Park, previously used for grazing prior to its establishment.

Land degradation

Land degradation is minor. Streambank erosion from past grazing practices is evident but is now mostly stabilised.

Erosion hazard

Land use	Non-concentrated flows	Concentrated flows	Wind
nature conservation	slight	moderate	slight

SOILS

Soil variation and distribution

Where drainage is unrestricted, such as on sloping lands, moderately deep (50 - 150 cm) moderately well-drained Chernic-Leptic Tenosols and Humose-Bleached Brown Chromosols (Brown Podzolic Soils) occur. In flatter, swampy areas, with restricted drainage, moderately deep to deep (>100 cm), very poorly drained Redoxic and Oxyaquic Hydrosols (Alluvial soils, Black and Grey Clays) have been observed.

QUALITIES AND LIMITATIONS

Land capability

Urban Capability	E	**Soil Regolith Class**	R3 (R1)

Limitations to land use

Grazing	moderate	**Cultivation**	high to very high
Urban	very high		

Landscape

Steep slopes	not observed	**Mass movement hazard**	not observed
Rock outcrop	not observed	**Rockfall hazard**	not observed
Foundation hazard	widespread	**Complex terrain**	not observed
Productive arable land	not observed		

Soils

Shallow soils	not observed	**Complex soils**	not observed
Poor moisture availability	not observed	**Non-cohesive soils**	localised

Hydrology

High run-on	widespread	**Poor drainage**	widespread
Permanently high watertables	widespread	**Permanent waterlogging**	widespread
Seasonal waterlogging	widespread	**Flood hazard**	widespread

Erosion

Wind erosion hazard	not observed	**Wave erosion hazard**	not observed
Gully erosion hazard	not observed	**Sheet erosion hazard**	not observed
Streambank erosion hazard	localised		

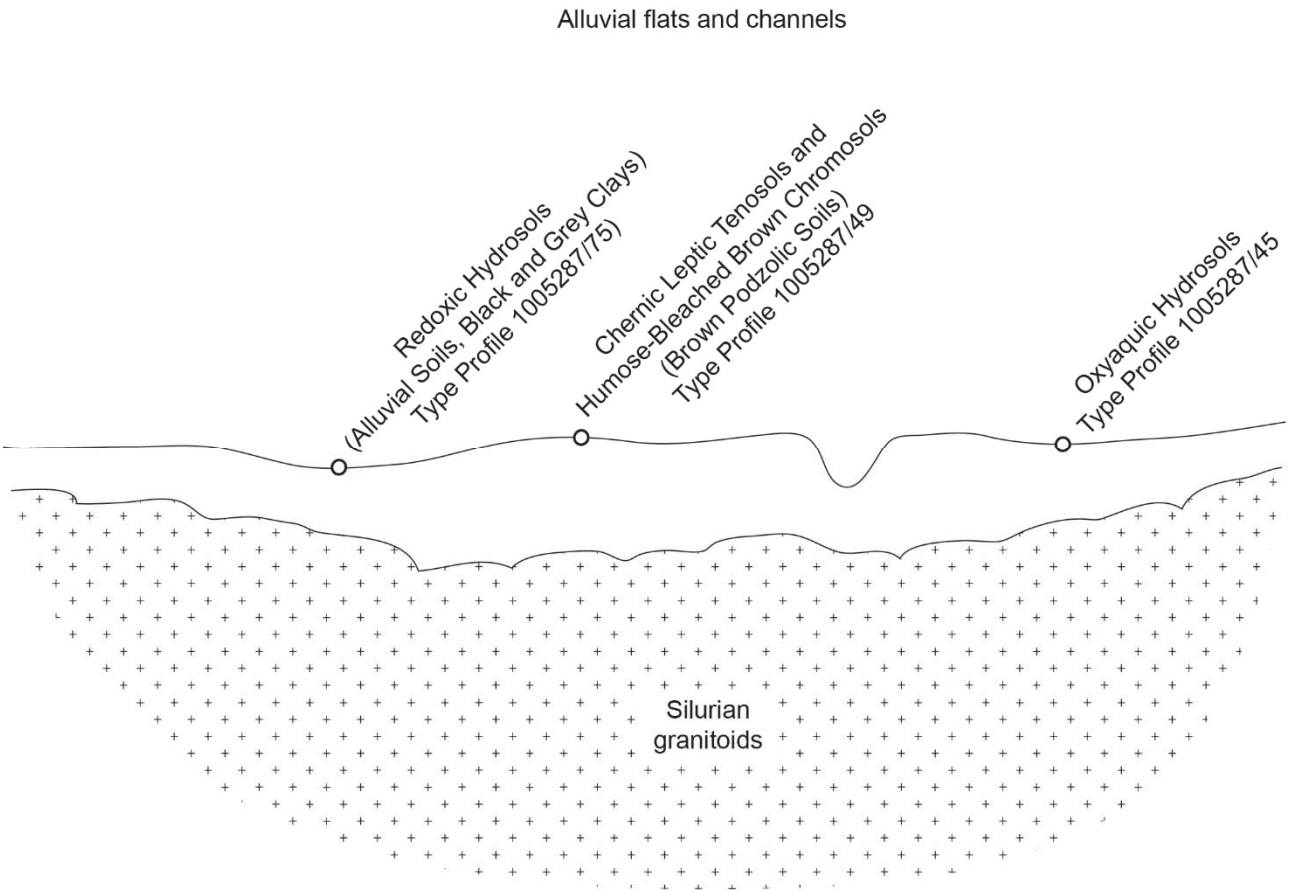
Salinity

Recharge zone	localised	**Discharge zone**	widespread
Salinity hazard	not observed	**Seepage scalds**	not observed
Salt stores	low		

FACETS

orx(1)— Alluvial flats and channels

Soils	Where drainage is unrestricted, such as on sloping lands, moderately deep (50 - 150 cm), moderately well-drained Chernic-Leptic Tenosols and Humose-Bleached Brown Chromosols (Brown Podzolic Soils) have been observed. In flatter, swampy areas, with restricted drainage, moderately deep to deep (>100 cm), very poorly drained Redoxic and Oxyaquic Hydrosols (Alluvial soils and Grey Clays) have been observed.
Type Profile(s)	Oxyaquic Hydrosol (GSG not recorded): ACT Soil Landscapes (1005287) profile 45 (Master Type Profile) Redoxic Hydrosol (Alluvial Soil): ACT Soil Landscapes (1005287) profile 75 (Associated Type Profile) Brown Chromosol (Brown Podzolic Soil): ACT Soil Landscapes (1005287) profile 49 (Associated Type Profile)
HGL Reference	Typically corresponds with: HGL 17 (Orroral) MA 9 and MA10, HGL 19 (Picadilly) MA 9/10, HGL 16 (Namadgi) MA 9/10 and HGL 2 (Boboyan) MA 9/10.



Schematic cross-section of the Orroral (orx) soil landscape, showing facets and soil types

REFERENCES

DMR 2002. New South Wales Statewide Geology coverage – 1:250 000 scale. Department of Mineral Resources, Sydney.

Office of Environment and Heritage (2011) Plant Communities of the South Eastern Highlands and Australian Alps within the Murrumbidgee Catchment of New South Wales.Version 1.1.Technical Report. A Report to Catchment Action NSW.NSW Office of Environment and Heritage; Department of Premier and Cabinet, Queanbeyan.

NOTES

(1) This report describes reconnaissance soil landscape information mapped at 1:100,000 scale and does not negate the need for site assessment at a scale suitable to the land use or development under consideration.

(2) 'Not observed' means unlikely to be found. 'Localised' means observed to a level considered significant for land management. 'Widespread' means prevalent and significant over most of the landscape. 'None recorded' means no occurrence has been recorded. 'Not assessed' means no result has been recorded for this attribute and it may or may not be present in the soil landscape.