Security classification: Public | March 2017

Groundwater dependent ecosystem pictorial conceptual model 'inland sand ridges'

Version 1.5

Inland sand ridges

Inland sand ridges, composed largely of unconsolidated to semi-consolidated sand, are fluvial in origin with most exhibiting evidence of aeolian re-working (Galloway et al. 1972). Generally linear, these inland sand ridges vary in size with widths from tens of metres to hundreds of metres and lengths exceeding 20 kilometres (Galloway et al. 1974). These inland sand ridges are no longer active and some store groundwater in perched aquifers above layers of clay dominated geological material. Possible recharge mechanisms for these perched groundwater aquifers include direct infiltration of rainfall and recharge through the flood contact zone of the inland sand ridges. *Callitris* sp. (cypress pine) is commonly associated with inland sand ridges in southern Queensland; however the presence of *Corymbia tessellaris* and *Eucalyptus interexta* may be associated with perched aquifers and indicative of groundwater dependent ecosystems (Halloway et al. 2013). Vegetation located on these inland sand ridges may depend on the subsurface presence of perched groundwater to meet some or all of their water requirements.





Geology legend



Alluvia Unconsolidated sand, clay and gravel



. . .

Sand

Groundwater hydrology legend



Clay

Basement of the model



Terrestrial GDEs Regional eccsystems and riverine wetlands may depend on the subsurface presence of groundwater within the capillary zone for some or all of their water requirements. Subterranean GDEs Aquifer and cave subterranean wetlands may depend on the subterranean presence or expression of groundwater for some or all of their water requirements.

Citation

Queensland Government (2015) *Groundwater dependent ecosystem pictorial conceptual model 'inland sand ridges': version 1.5*, Queensland Government, Brisbane.

References

Galloway, R.W., Gunn, R.H., Pedley, L., Cocks, K.D., and Kalma, J.D. 1972, Lands of the Balonne-Maranoa Area, Queensland. Land Research Series. 34. CSIRO, Canberra.

Holloway, D., Biggs, A., Marshall, J.C. and McGregor, G.B. 2013, Watering requirements of floodplain vegetation asset species of the Lower Balonne River Floodplain: Review of scientific understanding and identification of knowledge gaps for asset species of the northern Murray–Darling Basin. Department of Science, Information Technology, Innovation and the Arts, Brisbane.