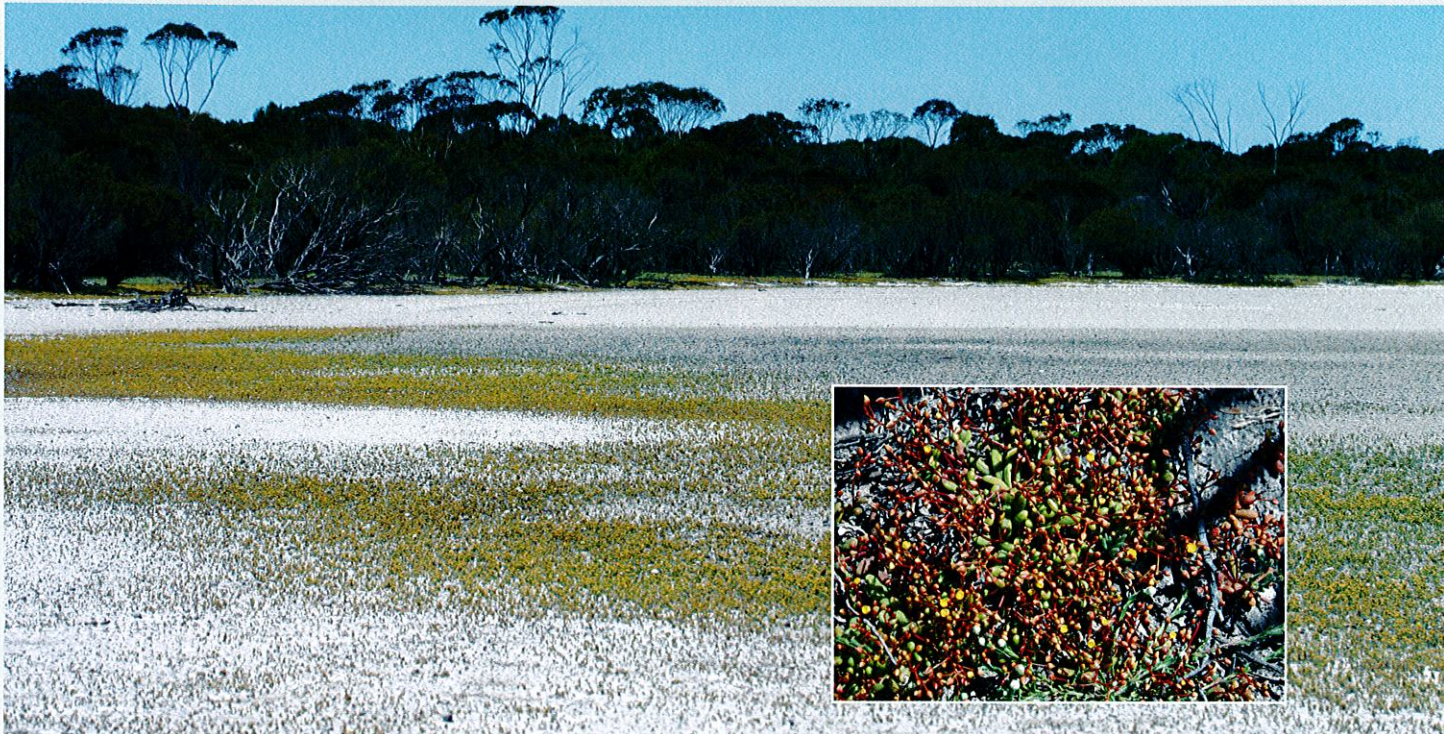


endangered

by Wendy Chow



Bentonite lakes

A series of seasonal freshwater, winter-filled lakes in the Watheroo-Marchagee area, about 200 kilometres north of Perth, contain a very absorbent clay called bentonite. The plant community on these lake beds is very distinctive and mainly consists of herbs such as daisies that grow across the lakes after rain, then die off. Although many of the herb species that inhabit the bentonite lake beds are known from other areas, the combination of species that makes up the plant community on these lake beds is rare, and differs from those on other types of lakes, probably due to the presence of the bentonite. These lakes therefore contain a listed threatened ecological community called 'Herbaceous plant assemblages on bentonite lakes', ranked endangered. All occurrences of this community are located in the Watheroo-Marchagee area immediately south and east of Lake Pinjarrega, including some areas on private property. The community is known only from a total of about 118 hectares.

The lakes are dominated by a combination of prickly arrowgrass (*Triglochin mucronata*), the daisies *Trichanthodium exile* and *Asteridea athrixioides*, and marsh grass (*Puccinellia stricta*) on the beds, and a combination of wiry podolepis (*Podolepis capillaris*), camel-grass (*Angianthus tomentosus*) and the daisy *Pogonolepis stricta* on the margins. In 2008, a priority one species of purslane, *Calandrinia aperta*, was discovered growing on one of the lakes. This species is known only from two areas—the other being in salt pans near Shark Bay. While most bentonite lakes are covered by herbs, there are a number that have swamp sheoak (*Casuarina obesa*) trees, and shrubs of gorada (*Melaleuca lateriflora* subsp. *lateriflora*) and a wattle, *Acacia ligustrina*.

The annual flowering herbs are dependent on fresh water in the lakes followed by drying of the clay bed, sealing moisture within the pores of the clay. This promotes germination of the herbs and usually occurs a few weeks after rain. The requirements for the seeds to germinate are not

fully understood, however, and monitoring is being undertaken to help determine links between water levels and quality and the germination of the lake-bed plants. Water monitoring is also being carried out around the lake fringes to determine groundwater levels and salinity trends as areas close by are becoming saline.

Threats to this community type include mining for bentonite, drying climate, salinisation and grazing. Bentonite is used in several commercial industries, in horticulture as a soil-wetting agent, and in beauty products, cement, adhesives, ceramics, and kitty litter. Some occurrences have been previously mined and some lakes have mineral tenements over them.

The Department of Parks and Wildlife is seeking to conserve this threatened ecological community, mainly with further monitoring to guide future management and by investigating the purchase of lands that contain this threatened community for conservation.

Photos by Wendy Chow

- 49 Saving streams of the south-west forests
A study into the aquatic fauna of south-west streams highlights species at risk from a drying climate.
- 53 Lucky escapes in Torndirrup National Park
A firsthand account of the perils of underestimating the power of Southern Ocean swells.
- 57 Termite mounds: more than just termites
Termite mounds on Barrow Island harbour a host of creatures.

Regulars

- 3 Contributors and Guest columnist
- 52 Bookmarks
Australian lizards: a natural history
Eucalypts: a celebration
Common birds in the backyard
- 40 Feature park
Coalseam Conservation Park
- 61 Endangered
Bentonite lakes
- 62 Urban Antics
Ladybirds

Publishing credits

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Phone (08) 9219 8000.

Prepress and printing Advance Press, Western Australia.

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August 2013

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Maps should be used as a guide only and not for navigational purposes.

ISSN 0815-4465

Please do not send unsolicited material, but feel free to contact the editors.

Published by the Department of Parks and Wildlife (DPaW), 17 Dick Perry Avenue, Kensington, Western Australia.

Visit DPaW online at www.dpaw.wa.gov.au.



Department of
Parks and Wildlife

