

endangered

by Kellie Mantle



Burrowing crayfish

Burrowing crayfish (*Engaewa* species) are enigmatic crustaceans found only in seasonally inundated freshwater swamps and seepages in the highest rainfall areas of south-western Australia. They hide in extensive underground burrow systems that connect to the water table, providing refuge in drier months.

Burrowing crayfish are small, up to five centimetres, and have reduced eyes, antennae and tail. Their claws, built for digging, are disproportionately large and strikingly coloured—usually vivid purple but some are a dazzling cobalt blue.

Burrowing crayfish were first discovered in the late 1950s and there are now five recognised *Engaewa* species. Three of these are threatened. The Walpole burrowing crayfish (*Engaewa walpolea*) is vulnerable, the Dunsborough burrowing crayfish (*E. reducta*) is endangered and the Margaret River burrowing

crayfish (*E. pseudoreducta*) is critically endangered, with only one known population.

The Dunsborough and Margaret River burrowing crayfish both occur in the Capes region and both are severely threatened due to the removal and drastic alteration of critical habitat for farming, agroforestry and viticulture. Compaction of soil by livestock and changes in hydrology due to the creation of large dams for irrigation, drainage works and the establishment of bluegum hardwood plantations are all impacting on their survival.

Almost nothing is known of the ecology of the burrowing crayfish and they are difficult subjects to find, let alone study. A PhD student from Edith Cowan University is taking on the challenge to investigate aspects of burrowing crayfish distribution and life history, including the burrow structure, reproduction and population dynamics. DNA analyses will also be conducted to help understand

the biogeographical relationship of WA's burrowing crayfish and confirm whether there are any more undiscovered species hiding in those dark burrows.

The information will be crucial for future management of the threatened burrowing crayfish species. In the interim the Department of Environment and Conservation, with funding from the State government's program of biodiversity conservation initiatives, will endeavour to establish stock-proof fencing around critical habitat restricted to private property and prepare a draft recovery plan. The three threatened burrowing crayfish species will also be nominated for listing under the Commonwealth *Environment Protection and Biodiversity Conservation Act (1999)*, which will greatly increase the chances of the recovery actions receiving Natural Resources Management funding.

Photos by Kellie Mantle and Kelly Rogerson

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Publishing credits

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Design and production David Abel, Maria Duthie, Natalie Jolakoski, Tiffany Taylor, Gooitzen van der Meer.

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Prepress and printing Advance Press, Western Australia.

© ISSN 0815 4465

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Published by the Department of Environment and Conservation, 17 Dick Perry Avenue, Kensington, Western Australia.



Department of Environment and Conservation

