

Discovering the hidden secrets of the cryptic burrowing crayfish

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Ecologists engage a range of stakeholders to learn more and raise awareness about some of Victoria's least known wetland species.

Ecologists at Nature Glenelg Trust have been working with community groups, landholders and regional schools to unlock some of the mysteries surrounding two of western Victoria's least known wetland species, the hairy burrowing crayfish (*Engaeus sericatus*) and the Portland burrowing crayfish (*Engaeus strictifrons*). While both species are listed as vulnerable in Victoria, very little is currently known of their ecology.

To address this large knowledge gap, the Trust was awarded grant funding by the Victorian Department of Environment and Primary Industries and Glenelg Hopkins Catchment Management Authority to determine the current distribution, threats and habitat requirements of these species and increase community awareness on the importance of their conservation. While these critters are known to play vital roles in ecosystems through aerating soils and recycling nutrients, their trademark burrows also provide a window into past and present wetland extents and areas of groundwater interaction.

Over the wetter periods, crayfish are busy maintaining their intricate underground homes. Like engineering masters, they bring soil pellets to the surface of their burrows and form 'chimney-like' structures, which can be visible along roadsides drains or in low-lying pastoral or wetland areas. These damp habitats allow crayfish to burrow down to the water table (sometimes up to 2 metres below ground).



The hairy claw of the hairy burrowing cray (Engaeus sericatus) (© Copyright, David Mossop)



Hairy burrowing crays (Engaeus sericatus) can burrow up to 2 metres below the ground (© Copyright, Lachlan Farrington)



Students from Port Fairy Consolidated School in Victoria get involved in crayfish surveys at a local freshwater wetland
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The Trust has been working with students at Hawkesdale P-12 College, who have been keeping a watchful eye on a colony of crayfish burrows spotted along a nearby creek. Students at Port Fairy Consolidated School have also been actively taking part in surveys along a freshwater wetland on a nearby private property. These students have become citizen scientists by recording the location and number of crayfish burrows they see along their bus routes, taking notes on adjacent land-use and helping to formulate ideas on threats and threat management.

While previous monitoring has used sampling methods that have either been inefficient or destructive, the Trust has recently teamed up with researchers at La Trobe University to explore alternative methods to extract DNA from soil samples collected from burrows. These new techniques offer great potential for determining if a crayfish is present, and indeed which species it belongs to, without the need for capture. This will make monitoring easier and ultimately improve our understanding of these lesser known but fascinating wetland species.

For further information on the project, please visit the Nature Glenelg Trust's website: natureglenelg.org.au.