

Wetlands not 'wetting' enough for invertebrates

August 29 2014, by Kerry Faulkner



The Australian spotted crake (*Porzana fluminea*) can be found foraging for invertebrates at the wetlands in and around Thomson's Lake. Credit: Wayne Butterworth

Perth's southern wetlands are steadily drying and prolonged dry spells in the future will threaten the survival of their invertebrate fauna populations, research suggests.

Researchers have been collecting data about fauna across the series of

lakes and swamps on Jandakot Water Mound since 1996, making it one of the longest data sets in WA.

Initially sampling was done twice yearly in spring and summer across 10 [wetlands](#). That's been reduced to once yearly across three of the most significant wetlands, including Thomson's and Forestdale lakes, which are covered by international care agreements.

The wetlands are 'expressions' of groundwater; areas where the groundwater has risen to the surface. As such, drawing on groundwater for domestic use as an alternative to dam water, has a direct impact on water level.

The lakes' cyclic wetting and drying is critical to the lifecycle of some species and this seasonality produces greater numbers of invertebrates than in permanently wet lakes.

But the rewetting is becoming less frequent; Lake Banganup for example has been dry for a decade, which scientists say may be too long for some eggs to have survived and if it were to fill again, invertebrate richness will likely be decreased.

Murdoch University's Karin Strehlow says researchers use scoop nets and timed sweeps through different [lake](#) habitats like sedges and open water to maximise samples of species diversity.

She says while invertebrates tolerate some level of extended climatic drying and the Jandakot wetland invertebrate fauna is very resilient, once they cross a hydrological threshold that prevents lakes and swamps from filling in successive years, invertebrate communities may never be able to recover.

"The drying-out seems to restart the life cycle," Dr Strehlow says.

"Wetlands are now staying drier for longer and when wet, tend to be shallower than in the past.

"As the cycle is shorter, those who need water for longer can't finish their life cycle—they may still hatch but they need more time to breed.

"And some of them are not hatching because the [water](#) is not deep enough to create the environmental conditions for that to occur."

The proximity of the Swan Coastal Plain lakes and swamps to one another is critically important for invertebrate species, which are often good indicators for trends which may be replicated in more complex life like birds and fish.

Water in Thomson's Lake has been supplemented over a number of years because of its importance to migratory birds breeding.

Dr Strehlow says in the face of lakes drying and animal habitats being lost, it is vitally important that conservation strategies take into account the interdependence of the lake system.

Provided by Science Network WA

Citation: Wetlands not 'wetting' enough for invertebrates (2014, August 29) retrieved 19 April 2024 from <https://phys.org/news/2014-08-wetlands-invertebrates.html>

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