FAUNA

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plants, the microalgae. In some of the highly saline lakes, benthic mats, which are mostly bacteria and cyanobacteria, produce the food. In some less saline lakes, seagrasses like *Ruppia* and *Lamprothamium* will form the base of the food chain.

If you look closely at a salt lake or use a small net to scoop a sample, you will find an abundance of small shelled animals. These are the crustaceans and they dominate the fauna in both abundance and variety of species because they are superbly adapted to the specific characteristics of these harsh environments. The extent and the range of lakes mean that there is a rich diversity of crustaceans.

Crustaceans feed on planktonic microalgae and bacteria. Their faeces settle to the bottom of the lakes and are processed by bacteria and subsequently re-enter the food chain when consumed by bottom-feeding animals. The ecology of these lakes is intimately dependant on, and regulated by, both the feeding animals and the activities of the microorganisms. Serious disruption of these cycles of feeding and recycling can occur through the spread of exotic animals, including farmed fish, or through changes to the hydrology of the lakes.

The crustacea of ephemeral lakes also cope with the drying up of the lake by producing eggs, known as cysts, which survive desiccation and exposure. When the lakes fill, the dried eggs absorb water and the embryo develops very rapidly and emerges as a small larva, less than 0.5mm long. These larvae grow rapidly. The adults may produce live young early during the season but as the season progresses they switch to the production of cysts. After laying their cysts the adults die, their bodies decompose and the released nutrients are made available for the natural functioning of the lake in the coming season.

Although these salt lakes may only exist seasonally or even very sporadically, they are important habitats for a range of waterfowl. Birds are highly mobile animals and can migrate from permanent coastal swamps and inlets to the highly productive inland lakes when these are full. Indeed large inland lakes such as Lake Ballard are vital breeding grounds for the banded stilt, which only breeds when the lakes fill with cyclonic rains. Prolific populations of the brine shrimp *Parartemia* emerge and supply an abundant food source, enabling the chicks to grow quickly. When the lakes dry and the young birds mature, the flocks migrate back to the coast. Other birds including Australian shelducks, avocets, gulls and dotterels also use the salt lakes as essential habitats.

Saline lakes are ancient natural ecosystems, and are the major wetlands of inland arid Australia. Despite their superficial appearance of sterility they are important habitats for a wide range of living organisms. Many of these are endemic to small regions of WA. They are a significant part of our biodiversity and are fine examples of adaptation to the seasonal, extreme and unpredictable environment which characterises arid inland Australia. These organisms are threatened by excessive salinisation and by some of our attempts to address this through drainage. However, because of their adaptations to salinity and to extreme environments, they may be the genetic resource which contains some of the solutions to this ecological and economic crisis. We need to understand and protect this resource that we have, both for its inherent values and for the potential genetic resource that it contains.

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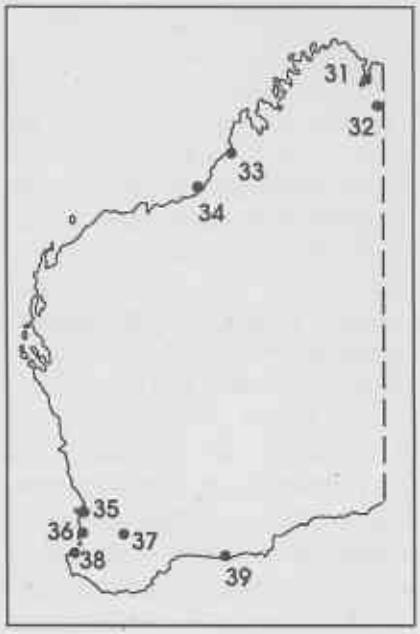
RAMSAR SITES

In 1971, a number of nations signed the Convention on Wetlands of International Importance. Australia has listed 53 wetlands under this Convention, nine in WA. The Convention was held at Ramsar, in Iran, and so the sites are popularly known as 'Ramsar Sites'.

Areas listed under this Convention need to be managed to ensure the special ecological values of the site will be maintained or improved. Australia uses a range of mechanisms to do this, including the creation of wetland legislation and policy, the development and implimentation of site management plans and running education and community awareness programmes.

RAMSAR SITES IN WA



LEGEND

31 Ord River Floodplain
32 Lakes Argyle and Kununurra
33 Roebuck Bay
34 Eighty-mile Beach
35 Forrestdale and Thompson Lakes
36 Peel-Yalgorup System
37 Lake Toolibin
38 Vasse-Wonnerup System
39 Lake Warden System