



## Contribution of native fauna to primary production

By maintaining biodiversity in the landscape we can benefit from the numerous ecosystem services that nature provides free of charge. These services provide substantial savings on the costs of production, either directly or indirectly, and help maintain healthy and productive agricultural enterprises.

### What roles do native animals play in production landscapes?

MAMMALS	
Microbats - insect eating bats	Most microbats eat 50% or more of their own body weight in insects every night (200 x 10g bats can eat 1 kg or more of insects per night!)
	Microbat diets consist mainly of moths, beetles and bugs, with some species also consuming spiders, mosquitoes, grasshoppers and crickets
	The diet of bats in agricultural landscapes may comprise up to 80% pest insects.
	In south-western USA, bats are major predators of cotton bollworm moths, saving several sprays per season. Recent research in Australia showed bats foraging extensively over cotton and other summer crops.
Megabats - flying foxes	Grey-headed and little red flying-foxes forage mainly on nectar and pollen from native trees.
	Flying foxes are the primary pollinators of eucalypt forests, our most valuable hardwood resource.
	Little-red flying-foxes pollinate bottlebrush, red-gum and other trees in riverine areas, contributing significantly to the regeneration of riparian vegetation.
Marsupials	A single sugar glider will eat about 3.25 kilograms of insects per year.
	Sugar gliders can consume up to 18,000 scarab beetles per hectare per season.
	The feathertail glider performs a pollination service as it feeds on nectar and pollen of native trees and shrubs.
	Bettongs ("rat-kangaroos") and bandicoots contribute to soil structure and nutrient cycling as they dig in the soil for their food of roots, tubers, fungi and insect larvae.
	Dasyurids ("marsupial mice") are carnivorous and prey on insects, such as grasshoppers and locusts, and even feral mice.

REPTILES	
Snakes and lizards	Large snakes, such as the eastern and king browns, play an important role in controlling feral mice populations.
	Pythons and goannas prey on rabbits, particularly kittens in the burrow, and contribute significantly to rabbit population control.



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BIRDS	
<b>Insect eaters</b> e.g. magpies, wrens, ibis, robins, song-larks, thornbills, honeyeaters	Control insect pests in crops and pastures... <ul style="list-style-type: none"> <li>• A single magpie will consume up to 40 scarab larvae per day.</li> <li>• 100 Straw-necked Ibis consume up to 25,000 insects per day, many of which are locusts and grasshoppers.</li> </ul>
	Eat sap-sucking and leaf-eating bugs, which cause dieback in rural trees.
	Birds such as wrens and thornbills often keep pests in check in home-gardens.
<b>Nectar and pollen eaters</b> e.g. honeyeaters, spinebills	Assist forest and woodland regeneration by pollinating native trees and shrubs.
	Pollinate many garden plants, particularly native, but also exotic species.
<b>Fruit and seed eaters</b> e.g. finches, quails, pigeons, doves, figbirds, silvereyes	Assist pasture regeneration and diversity by spreading seeds of pasture grasses.
	Assist forest and woodland regeneration by dispersing seeds of native trees and shrubs.
<b>Raptors (birds of prey)</b> e.g. eagles, hawks, falcons, kites, harriers, owls	Wedge-tailed eagles perform a vital pest control service... <ul style="list-style-type: none"> <li>• 80 to 90 per cent of their diet consists of ground-dwelling animals.</li> <li>• Rabbits, wallabies and small kangaroos form the main part of their diet.</li> <li>• They also eat foxes and feral cats.</li> <li>• Research has shown less than 10% of their diet being sheep, and virtually all of that is from sheep that were already dead or dying (e.g. road kill, lambs killed by foxes and pigs, injured and diseased animals)</li> </ul>
	Black-shouldered kites and kestrels control insect pests of pasture and crops, such as locusts and grasshoppers.
	Some raptors (e.g. barn owls) contribute substantially to the control of mice in cropping areas.

INVERTEBRATES	
<b>Insects, spiders and other invertebrates</b>	Native bees and butterflies pollinate crop and pasture plants.
	Predatory beetles, spiders and ants control insect pests of crops and pastures.
	Parasitic insects prey on crop pests (e.g. cotton bollworm).
	Dung beetles, termites and worms recycle nutrients in the soil.
	Earthworms, burrowing beetles and insect larvae improve soil structure, increasing water infiltration and soil water retention.