

We must strengthen environmental protections during drought – or face irreversible loss

27 September 2018, by John Woinarski, Chris Dickman, Richard Kingsford And Sarah Legge



The Flock Bronzewing is an inland species that is vulnerable to drought. Those vulnerabilities are heightened in an era of climate change and increased risks from feral predators. Credit: Shutterstock

Australian rural communities face hardships during extended drought, and it is generally appropriate that governments then provide special support for affected landholders and communities.

However, some politicians and commentators have recently claimed that such circumstances should be addressed by circumventing environmental laws or management – by, for example, [reallocating environmental water](#) to grow fodder or opening up conservation reserves for [livestock grazing](#).

But subverting or weakening existing protective conservation management practices and policies will exacerbate the impacts of drought on natural environments and biodiversity.

Drought-related decline in wildlife

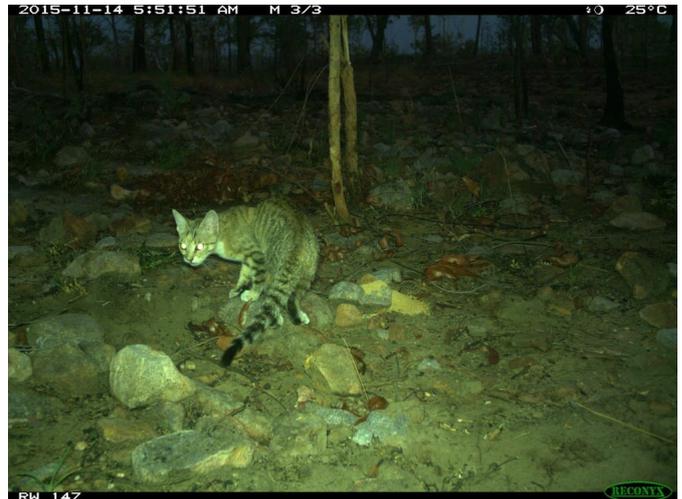
Impacts of severe weather on some natural

systems are obvious and well-recognised. For example, during periods of elevated sea temperature, coral bleaching may conspicuously signal extensive environmental degradation and biodiversity loss.

On land, however, the impacts of comparable extreme climatic events on [natural systems](#) may be less obvious, even if of comparable magnitude.

Nonetheless, the record is clear: drought leads to extensive and severe declines in many wildlife [species](#).

[Early observers](#) in Australia reported the collapse of bird communities ("the bush fell silent") and other wildlife across vast areas during the Federation Drought.



Feral cats and introduced foxes now exist across most of Australia. Drought can increase their hunting success and impact. Credit: AAP Image/NT Department of Land Resource Management

There were [comparable responses](#) during the Millennium Drought.

Unsurprisingly, wetland environments, and species dependent on them, may bear the brunt of impacts. That said, impacts are pervasive across all landscapes exposed to drought.

Drought contributed to the extinction of one of Australia's most beautiful birds, the Paradise Parrot. For example, the pastoralist and zoologist Charles Barnard [noted](#): "Previous to the terrible drought of 1902 it was not uncommon to see a pair of these birds when out mustering ... but since that year not a single specimen has been seen ... For three years... there had been no wet season, and very little grass grew, consequently there was little seed; then the worst year came on, in which no grass grew, so that the birds could not find a living, and ... perished ... they have not found their way back."

After the long droughts break, native plant and animal species may take [many years](#) to recover, and some [never recover](#) or return to their former range.

Threatened plant and [animal species](#) – with an already tenuous toe-hold on existence – are [often](#) the [most affected](#).

Days of extremely hot temperatures also exceed the thermoregulatory tolerance of some species. That means [mass mortality](#) for some animals; and [large numbers](#) of even hardy native trees may be killed by heat and lack of rain across extensive areas.

Furthermore, water sources can disappear from much of the landscape. Organisms dependent on floods are now more vulnerable, given that overallocation of water from rivers has increased drying of wetlands.



Drought contributed to the extinction of one of Australia's most beautiful birds, the Paradise Parrot. Credit: [Wikimedia, CC BY](#)

Drought is not new in Australia, but the stresses are greater now

Of course, drought has long been a recurrent characteristic of Australia. Indeed, many Australian plants and animals are among the most drought-adapted and resilient in the world. But drought impacts on wildlife are now likely to be of unprecedented severity and duration, for several reasons:

1. with global climate change, droughts will be [more severe and frequent](#). There will be less opportunity for wildlife to recover in the reduced interval between drought periods

2. feral cats and introduced foxes now occur across most of Australia. In drought periods, these hunt more effectively because drought reduces the ground-layer vegetation that many native prey species rely upon for shelter. Cats and foxes also congregate and hunt more efficiently as wildlife cluster around the few water sources that are left
3. prior to European settlement, the reduction in vegetation during drought would have been accompanied by natural feedback loops, notably reduction in the density of native herbivores. Now, livestock are often maintained in drought-affected areas, with supplementary food provided, but they also graze on what little native vegetation remains. Now, wildlife must compete with feral goats, camels and rabbits for the last vestiges of vegetation
4. clearing of native vegetation across much of the eastern rangelands means it will now be much harder for species lost from some areas during drought to recolonise their former haunts after drought. The habitat connectivity has been lost
5. many wildlife species could previously endure drought by maintaining a residue of their population in [small refuge areas](#), where nutrients or moisture persisted in an [otherwise hostile landscape](#). Now, livestock, feral herbivores and predators also congregate at these areas, making them less effective as native wildlife refuges
6. in at least woodland and forest habitats, droughts may interact with [other factors](#). Notably, drought increases the likelihood of high intensity and extensive [bushfires](#) that can cause long-lasting damage to [wildlife](#) and environments.

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Our intention here is not to downplay the needs or plight of rural communities affected by drought.

Rather, we seek to bring attention to the other life struggling in that landscape. Australia should bolster, not diminish, conservation efforts during [drought](#) times. If we don't, we will suffer irretrievable losses to our nature.

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