



BIRDS SA CONSERVATION STATEMENT

Overview

In 1983 The South Australian Ornithological Association Incorporated (SAOA) produced a series of supplements to the SAOA Newsletter that addressed issues affecting the conservation of South Australian birds. This was prompted by a concern that much of the Association's work on conservation issues had been fragmented and reactive, and that most members did not appreciate that the main long-term threat facing our birds is habitat change rather than loss of individuals by pollution, hunting etc.

Conservation aims to minimize the detrimental effects on natural populations of human-induced changes to the environment. Birds SA believes that a primary conservation objective is the survival of all native bird species in South Australia. Although many species are now more common or widely distributed interstate, their extinction would be a significant loss to South Australia, especially as many are represented here as outlying populations (some as subspecies) with local variation. Recent research has concluded that it is important to conserve species across their ranges, so we also advocate conservation of species at the regional level.

Given the alarming decline of our birdlife in recent years, the Birds SA Committee considers it expedient to review the conservation issues affecting South Australian birds.

Current status of our birdlife

Our longer-term members have noticed significant changes to our birdlife over the last thirty years. This is supported by data collected by Birds SA members for various state and national projects. A quick comparison of the two national and two Adelaide region bird atlas surveys conducted during that period reveal changes in both distribution and abundance (reported numbers) of many species. The same trend is evident in our third Adelaide region atlas currently in progress. At the local level, most of our national parks no longer support the variety of birds they once did.

In the Adelaide–Mount Lofty Ranges region several woodland birds have largely disappeared in recent years; namely Jacky Winter, Restless Flycatcher, Diamond Firetail, Hooded Robin, Zebra Finch, Brown Treecreeper, Black-chinned Honeyeater and Southern Whiteface. This rate of decline is most alarming. Thirty years ago, most of these species were regarded as common. These losses are additional to earlier regional extinctions of Azure Kingfisher, Ground Parrot, King Quail, Regent Honeyeater, Little Lorikeet, Spotted Quailthrush and Rufous Fieldwren. This is the worst avian extinction rate of any region in Australia.

Conservation issues

Human-induced changes to natural environments are many and varied, and can influence our birdlife directly and indirectly. The following discussion is in order of priority and focuses on our land-birds because these have been most impacted. However, because we are now also witnessing severe declines in some of our water and seabirds, such as Fairy Tern and Little Penguin, their conservation issues will no doubt acquire greater priority in future.

Habitat loss and change

Destruction and modification of habitat are universally regarded as the primary reasons for the decline of bird populations. Conservation of individual species depends on preserving the habitat of each species. Habitat is the environment that a species needs to survive and breed, which includes food, nesting sites and shelter.

Clearance of native vegetation leads to a decrease in and loss of birds that live in natural habitats, especially our unique species. Contrary to popular belief, when an area is cleared, displaced birds are unable to simply move to a new area of similar habitat if adult birds of that species already saturate it. Ubiquitous birds adapted to open grasslands, such as Galahs, Magpies and Ravens, commonly colonise when an area is cleared. These are conspicuous species that leave the lay person with the impression that our birdlife is thriving.

Vegetation clearance and degradation can be obvious such as bulldozing for agriculture or housing developments, or insidious such as removal of understorey plants by livestock, introduced animals (e.g. rabbits,

feral deer) and weed invasion, or dieback of paddock trees through age and exposure.

Because most of the natural environments have been cleared in the southern part - the agricultural regions - of South Australia, loss of habitat has become a more critical issue here than in other states. The agricultural regions contain 90% of the State's native bird species, 28% exclusively. Within this region those environments most favoured for agriculture are those most impacted. Temperate woodlands have been most affected, with very little (<1%) remaining today. Research over the last thirty years has reinforced that many of our land birds move widely across the landscape in response to the seasonal availability of food. It has therefore become apparent that conservation of species requires that habitats be protected throughout a species' distribution. Recent studies on migratory waders have also emphasised the importance of protecting habitats throughout the whole of a species' range, even outside of Australia.

Theory also predicts that a given area of remaining habitat can only support a certain number of species, so that future species loss without active management and revegetation programs is inevitable. For example, Ford and Howe (1980) predicted the loss of 35-50 breeding species from the Mount Lofty Ranges based on the amount of native vegetation that remained in 1980. Their prediction is now proving alarmingly accurate. Genetic research has also shown that bird populations that have become isolated within patches of native vegetation surrounded by cleared land are further endangered by the effects of inbreeding.

The devastating 1983 bushfires in South Australia and subsequently in other states has also led to a public call for controlled burning of all native vegetation, particularly in areas reserved specifically for wildlife conservation. Although our bushland depends on occasional fires to regenerate plant species, too frequent burning has encouraged the growth of exotic plants that are more flammable than the native plants that they have replaced. Too frequent burning also has the potential to eliminate native plants that are slow to produce much viable seed. Conversely, effective control burning may prevent whole reserves being burnt in one fire, or protect significant and susceptible habitats such as old hollow trees.

Our waterbirds are also susceptible to habitat loss through lack of water, altered flooding regimes and increasing salinity. On a positive note, examples such as Greenfields at Salisbury and Laratinga at Mount Barker demonstrate that constructed wetlands can attract a variety of waterbirds.

In the northern pastoral districts loss of native vegetation is not as obvious or severe in the short term, but widespread grazing of domestic and introduced animals prevents the regeneration of the more palatable understorey plants and long-lived perennials.

Hence, a prerequisite for conserving birds in South Australia is to slow down the rate of native vegetation clearance and degradation. In May 1983 the South Australian government led the nation by introducing controls to clearance of native vegetation. In 1985 this was replaced by the Native Vegetation Management Act (which enabled payments to landowners totalling \$100 million over six years for retaining areas uncleared) and in 1991 the Native Vegetation Act. The Native Vegetation Act allows an independent council (the Native Vegetation Council) to approve minor clearances subject to either the long-term conservation of alternative areas to provide a significant offset, or payment into an offset fund specifically for on ground works. Concurrent with the clearance controls is the Heritage Agreement scheme, which formally conserves native vegetation on private land through a contract between the landowner and Minister for Environment lodged with the land title. This Act has so far protected over 1500 areas totalling 650,000 ha of native vegetation on private land across the State.

While the public may generally believe that vegetation clearance in South Australia has ceased and is therefore no longer a conservation issue, the Native Vegetation Act applies only to direct clearance. Significant loss of habitat continues through exemptions, such as for fire control, mining, housing subdivisions etc.

In 1999 the Commonwealth government also introduced the Environmental Protection and Biodiversity Conservation (EPBC) Act to protect birds of national significance and their habitats. While this Act has been applied to relatively few proposed developments in South Australia, it has provided an assessment independent of state bias.

It is imperative that the State Government maintains its support for the Native Vegetation Act to ensure that the Act is properly administered. It is also critical that the Heritage Agreement scheme be expanded to cover clearance offsets and revegetation areas to provide long-term protection of native vegetation on private land. It is also suggested that better use be made of the offset fund established under the Native Vegetation Act to purchase additional land for National Parks and revegetate specific areas.

It is also imperative that the State Government specifies targets for its funding to National Parks and Wildlife agencies so that conservation management is not abandoned at the expense of indiscriminate recreational and

economic uses or fuel reduction programs.

Interspecific competition

When a species colonises a new area the factors controlling its numbers (e.g. predators, disease) may be reduced or absent. Its numbers may then expand rapidly and impact on the wildlife that already occurs in the area. This often happens when an exotic species is introduced into Australia. For example, European Rabbits rapidly became abundant and widespread when introduced to Australia in the 1800s, with consequent loss of understorey vegetation that provides habitat for many smaller land birds. The Red Fox is an abundant and indiscriminate predator of birds throughout southern Australia. Its proficiency as a predator in South Australia is demonstrated by the widespread loss of some ground-nesting species (e.g. Bush Stonecurlew) except in areas that lack foxes such as Kangaroo Island. Feral cats are effective ambush hunters, particularly at waterholes and on islands. Black Rats often predate eggs of seabirds and waterbirds.

The Common Starling and Feral Honeybee are well-known competitors for tree hollows needed as nesting sites for many species of native birds, especially in woodlands where habitat is already limited. Another consequence of exotic introductions is interbreeding between closely related species (e.g. Mallard and Pacific Black Duck), that may eliminate the native species as a genetic identity.

Given the widespread and significant impacts of foxes and rabbits it is imperative that State and Commonwealth governments continue to support existing and investigate additional possibilities.

It is hoped that careful monitoring, control and prohibition of new exotics by agricultural authorities will prevent introduced pests establishing in future. However in 1983, our Association notified wildlife authorities of a person buying Barbary Doves from pet shops and then releasing them in an attempt to establish a wild population. Streptopelia doves are very invasive and Barbary Doves are now widely distributed in Adelaide suburbs, with outlying reports from Coober Pedy and Murray Bridge. Past lessons have also not prevented the widespread liberation of various species of deer in recent years.

The problem of interspecific competition is not confined to exotic species. Native species have been released into regions where they did not naturally occur, sometimes for conservation reasons (e.g. on Kangaroo Island). Native species have also spread naturally into the new grassed habitats created following clearance of native vegetation, where they may compete with nesting sites with local species (e.g. Galah). Noisy Miners are an aggressive native species that have also spread widely throughout temperate woodlands. Their ability to exclude other native birds, particularly insectivores, has been well demonstrated in the eastern states.

Interaction with humans

a. Pests

Several Australian birds have become significant agricultural pests (e.g. Adelaide Rosellas, Rainbow & Musk Lorikeets), especially to the fruit-growing and viticultural industries. Numbers of Little Corellas have also increased greatly in southern regions over the last 20 years, causing substantial damage to municipal trees and infrastructure. Birds may also be a hazard to aircraft at airports. Short-term control (e.g. shooting) has proved ineffective and has been largely replaced by netting, decoy crops and scaring devices. Scientific research has also provided innovative solutions.

b. Hunting

Recreational hunting of native species has been considered acceptable provided the game species can sustain harvesting and other species are not impacted. In South Australia several duck species and Stubble Quail are hunted, with seasons and bag limits managed under the National Parks and Wildlife Act. Hunters and conservationists have many aims in common, including the protection of nesting and feeding wetland habitat for both game and off-target species. Regional hunting groups have been instrumental in the formal protection of many of our most important wetlands.

Birds SA has adopted a policy (appended) that opposes hunting of native species, largely due to concerns over animal welfare and inadequate monitoring of game species.

c. Trapping

The trapping and trafficking of birds and eggs occur on an international scale and focuses on the rarest species, such as black cockatoos. At the local level some species have been trapped for the aviculture trade. In general however, aviculture (the keeping of birds in aviaries) is positive for bird conservation because it provides opportunities to enjoy and study birds at close range. Good co-operation between aviculture associations and wildlife authorities has been achieved but relies upon properly funded and skilled enforcement staff authorised under the National Parks and Wildlife Act. This Act controls the keeping of native species but does not apply to exotics. The keeping of exotics has several inherent threats to native species, namely competition or

hybridisation with natives by escapees, and introduction of diseases and parasites.

Better controls on the keeping and sale of exotic birds in South Australia are required.

d. Recreation

Increased leisure time has led to more inadvertent impacts on birdlife. Birds that feed or nest on the ground (e.g. Hooded Plover and Fairy Tern on beaches, White-bellied Sea Eagle on cliffs) are disturbed by increasing numbers of walkers, dogs, off-road vehicles, boats etc. Disturbance reduces the time that birds are able to feed and incubate. Waders are also particularly susceptible, especially when fattening up prior to migration and on return. The increasing recreational harvesting of intertidal mudflats north of Adelaide is of particular concern.

Increased recreation promoted in our national parks needs to be re-assessed so that park assets, including birds, are not degraded.

e. Accidents

Every year large numbers of birds are killed or injured on our roads. This problem is exacerbated because our road reserves support the only remnant native vegetation in many districts.

Collisions with windfarm turbines and powerlines have also been documented as an important conservation issue overseas, particular with raptors. Unfortunately monitoring and reporting is not obligatory in South Australia, so the extent of the problem here is unknown. Planning authorities should therefore require that the affects of windfarms and other developments on birds are properly studied.

Recent dramatic declines in albatross populations have resulted from long-line fishing (drowning) and trawling (collisions with cables).

Some tailings ponds associated with mines are highly toxic to birds, either due to pollutants or high acidity. In arid regions waterbirds such as Banded Stilts are particularly vulnerable.

f. Collecting for scientific purposes

Conservation is based on the correct identification and thorough understanding of the biology of a species. Collecting specimens may occasionally be needed as part of a scientific study, and requires a permit under the National Parks and Wildlife Act. Specimens collected must be lodged at an institution such as the South Australian Museum, where they are available for study by researchers throughout the world.

Because our knowledge of taxonomy is relatively thorough, few birds are now collected for scientific purposes. However in order to supplement collections, members are encouraged to retrieve any dead birds they may find and forward them, with details (date, locality etc), to the South Australian Museum. In South Australia no permit is required for this purpose. It is surprising how many common species are poorly represented.

g. Disease

Because of its isolation and strict quarantine regulations, Australia has avoided many serious diseases that affect wildlife overseas (e.g. rabies).

Some diseases and parasites found in birds in captivity, both native and exotic, have the potential to affect wild birds.

h. Pollution

Birds may be impacted through human use of chemicals that pollute the natural environment. Fortunately, Australia has escaped many of the pollutants that have impacted on birds in other countries. For example, use of DDT pesticides up to the 1980s caused thinning of eggshells in raptors, thus reducing nesting success. Since DDT pesticides were banned in Australia chemical pollution is no longer a significant issue, although ongoing monitoring is needed to detect future problems that may arise with other agricultural chemicals.

Extensive industrial use and limited water circulation within the South Australian gulfs renders them susceptible to the accumulation of oil and other pollutants. Spills in the gulfs have the potential to kill large numbers of migratory and other waterbirds that feed on the intertidal flats or breed in the surrounding mangroves. It is therefore important that a government strategy is developed and, in the event of a spill, properly trained and skilled personnel are on hand.

Marine environments are also accumulating plastics that are frequently ingested by seabirds. Their impact on seabird numbers is uncertain and requires further research.

Tailings dams associated with mining activities kill waterbirds, especially where such dams are located in arid areas, have extensive shallows and are highly acid or alkaline. The uncovered tailings at Olympic Dam are highly toxic to waterbirds, and cause a particular threat to Banded Stilts where a risk assessment has identified that 15% total population could perish in a single event.

i. Climate change

Climate change resulting from carbon dioxide emitted into the atmosphere has become a global issue over the last thirty years. Although the potential impacts on local climate and native vegetation are unclear, wildlife populations isolated within wetter areas have been identified as most at risk. In South Australia this applies particularly to birds isolated within native vegetation in the Mount Lofty Ranges, parts of the Flinders Ranges and on southern Eyre Peninsula. Predicted sea-level rise will impact beach-nesting birds while more frequent heat-waves and associated fires may affect mallee birds such as Mallee Emu-wren.

Wildlife corridors have been proposed to mitigate loss of species, although it is likely that habitats will be severely degraded unless atmospheric carbon is significantly reduced.

Summary

South Australia is losing much of its bird diversity, particularly among land-birds in the agricultural regions. Our national parks have proven inadequate to conserve our birds and government funding for our wildlife agencies continues to decline. The Adelaide-Mount Lofty Ranges has the worst avian extinction record of any region in Australia, with no signs of improvement in the near future. Extinction rates are a key indicator of ecological degradation and a degraded environment not only affects biodiversity but also our economy. For example, promoting South Australian primary produce as environmentally sound will become increasingly difficult to sustain.

We owe it to our future members and the public generally to reverse this trend and provide the same opportunity to gain pleasure from watching our birdlife as we have enjoyed.

Habitat loss and degradation remain the greatest conservation issues facing our birdlife. Bird populations much reduced by loss and degradation of habitat are further at risk from secondary factors such as introduced predators, competition with new species, etc.

It is our responsibility to ensure that governments adequately fund our National Parks and Wildlife agencies, and that their conservation policies are based on facts rather than emotion. Our Conservation Subcommittee spends a great deal of time lobbying governments on issues such as vegetation clearance, threatened species, hunting etc and associated legislation that is based on rigorous scientific data on our birds. Members are kept informed of these activities through the Newsletter and website, but it is difficult to ensure that the general public is aware of or understands the need for effective wildlife legislation. It is all very well to have wildlife conservation legislation, but it is useless unless properly administered. Most of our members are aware of environmental issues. Hopefully, with the aid of this document, they will share their knowledge with the less well informed.

Local councils are increasingly involved with land management decisions, so conservation effort at this level from associations such as Birds SA can also play an important part. Local councillors are often ignorant of environmental issues rather than unsympathetic. They need information presented factually and logically to aid in making decisions.

Birds SA members can assist our conservation aims by collecting, recording and publishing information on all aspects of bird biology such as diet, nesting and habitat use. These can either be part of organised projects (e.g. Newsletter bird notes, Adelaide region bird atlas) or individual studies. The South Australian Ornithologist provides a medium for publishing research, and the Committee provides encouragement and support to members to report their studies. Members are also encouraged to lobby governments and assist other organisations with conservation efforts such as buying and revegetating land.

Non-government agencies are also becoming increasingly involved in land conservation, and Birds SA has recently provided significant funds to help purchase land at Buckland Park. It anticipates becoming more actively involved in such management in future.

Reference:

Ford, H. A. & Howe, R. W. (1980). The future of birds in the Mount Lofty Ranges. South Australian Ornithologist 28, 85-89.