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## **Select Committee Inquiry into the Hunting of Native Birds**

### **Birds SA Submission – May 2023**

#### **Introduction**

Birds SA is the operating name of the South Australian Ornithological Association, which is the longest running ornithological association in Australia, having been established in 1899. The Association currently has approximately 1,000 members with new memberships growing strongly. Birds SA is affiliated with the national bird conservation organisation, BirdLife Australia.

Primary objectives of Birds SA include:

- to promote public understanding of the importance of South Australian birds and their natural habitats;
- to support the conservation of Australian birds and their natural habitats;
- to take action, including advocacy, to maintain, protect or enhance the conservation of South Australian birds and their natural habitats;

Further information about Birds SA can be found at: <https://birdssa.asn.au/>

Birds SA welcomes the opportunity to contribute to this Inquiry.

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## Executive Summary

Recreational hunting of native birds is inhumane, indiscriminate, poorly regulated, unsustainable, and opposed by a majority of South Australians. This archaic activity should cease. The evidence in support of this is overwhelming.

### Hunting of Ducks and Stubble Quail

#### Inhumane

Ducks and Stubble Quail are not killed humanely. Shotgun pellets often do not kill the bird outright. Hunters of ducks who retrieve downed but still alive birds, regularly kill them by crudely wringing their necks.



Photograph: Doug Gimesy

Crippled birds that are downed but not retrieved suffer an agonising death. Birds that are wounded but still able to fly may suffer for a long time before they succumb to their shotgun pellet wounds.

#### Indiscriminate – illegally shooting protected species

Hunters admit that non-target species are shot. There is abundant evidence that this is a regular occurrence. The Freckled Duck, Australia's rarest duck species, has suffered at the hands of indiscriminate shooters. At one Victorian site 104 Freckled Duck were shot in one day.



## Executive Summary (cont'd)

### Indiscriminate – illegally shooting protected species



Illegally shot Freckled Ducks – Photograph: Coalition Against Duck Shooting



Illegally shot White-necked Heron – Photograph: Animals Australia

The most infamous example occurred at Bool Lagoon in SA in 1980 when at least 790 Freckled Duck were shot illegally.

On the opening weekend of the 2023 South Australia duck hunting season a small group of observers at Lake George recorded a hunter attempting to hide a downed non-target bird. The dead bird was recovered. X-ray inspection revealed a shotgun pellet lodged in the bird's neck.

Stubble Quail are very similar in appearance to other quail species such as Brown Quail and Painted Button-quail. Because hunters make a split-second decision whether or not to shoot there is a high likelihood of the non-target species being shot in error.

## Executive Summary (cont'd)

### Unsustainable

Two major long-term surveys, both receiving support from the SA Government, show that duck abundance is in continual decline. On these measures alone, duck hunting should cease.

The SA Wetland and Waterfowl Survey, conducted annually by the SA Dept for Environment and Water since 2003 showed the 2022 **total duck abundance to be only 19% of the long-term average**.

The Eastern Australia Aerial Waterbird Survey (EAWS) covering a major area of eastern Australia and west as far as Lake Eyre has been conducted since 1983. The 2022 survey recorded **total duck abundance to be only 25% of the long-term average**.

Over the 40 years of the EAWS survey, wetland area surveyed has declined by approximately 200,000 ha (57%) due to climate change and economic and agricultural development.

The table below shows the number of ducks and quail taken by hunters in SA and Victoria. These figures do not take into account the thousands of birds that are crippled or wounded and not retrieved.

Ducks and Quail Taken Annually by Hunting in SA and Victoria		
State	Ducks	Stubble Quail
SA	12,000 – 80,000	4,000-6,000
Victoria	350,000	170,000
	<b>Total</b> 362,000 – 430,000	<b>Total</b> 174,000 – 176,000
<ul style="list-style-type: none"> <li>Based upon data provided to the SA Minister by DEW prior to the announcement of the 2023 open season for ducks &amp; quail.</li> <li>Based upon SA duck seasons from 2015 to 2021 and quail seasons 2017 to 2019.</li> <li>Numbers of birds taken extrapolated from hunter survey data.</li> </ul>		

These sobering statistics make it clear that duck hunting cannot be justified.

## Executive Summary (cont'd)

### Poorly Regulated

The regulations attempting to ‘civilise’ duck hunting are poorly enforced so have little effect. The SA Government clearly has insufficient staff to monitor and police breaches of the relevant Acts and regulations across the approximately three months of both duck and quail hunting open seasons and in the multitude of wetlands and properties where hunting is permitted.

As many ducks are wounded, hunters are required by the SA Code of Practice to kill the wounded bird quickly with a 2nd shot or by blow to the head. There is evidence that this stipulation is commonly ignored. The crude “twirling” technique is instead commonly employed. Veterinarians state this method is likely to prolong the bird’s suffering prior to death.

Despite the significant evidence that breaches of the Code of Practice are commonplace, we are only aware of one prosecution in SA in the past 5 years of a hunter for breaching animal welfare regulations. That prosecution resulted from evidence gathered by an animal welfare body, not the SA Government.

A ban on hunting would enable the scarce resources of the Department for Environment and Water, currently engaged in hunting related matters, to be diverted to far more useful conservation and recovery activities.

### Outdated, Out of Step and Lacking Public Support

Recreational killing of animals is an outdated activity, out of step with modern society.

At the 1900 Paris Olympics, competitors shot live pigeons. That event shocked the world and was never repeated at the Olympics. However, 123 years later South Australia still allows recreational killing of birds.

Duck hunting has long been banned in much of Australia. It has been banned in WA since 1990, in NSW since 1995 and Queensland since 2005.

Surveys consistently show that a large majority of South Australians (up to 83%) support a ban on duck and quail hunting.

Based on permits issued to South Australian duck and quail hunters in 2022, **hunters represent just 0.06% of the SA population** yet their impact on birdlife is inordinate. Continuation of hunting cannot be justified.

## Executive Summary (cont'd)

### Encouraging Children to Kill Native Birds

The Modern Hunting Guide for SA, jointly published by the Govt of South Australia and CHASA (Conservation and Hunting Alliance SA), defines two types of junior permits:

- o Junior Basic Hunting (14 years to under 18 years of age) and
- o Sub-Junior Basic Hunting (under 14 years of age).

It is astounding that children under 14 years of age would be encouraged to assist in the killing of our native birds. It is even more astounding that the SA Government is supporting the transference to children of the callous disrespect shown by many adult hunters to our native birds.

### Nil Economic Benefits

Positive economic benefits of hunting cannot be justified by independent studies or even using the questionable results of studies where the hunters have provided the input data on expenditure.

The strong evidence is that hunters would engage in other activities such as camping, fishing, boating, target shooting and four-wheel driving should hunting be banned.

Avi-tourism (birdwatching and bird photography) presents a far more ethically sound and environmentally responsible way of boosting the SA economy.

The National Visitor Survey, conducted by Commonwealth Government body, Tourism Research Australia, reported the following results for their 2022 survey.

Overnight Trips – 2022 - Birdwatching			
Visitors (000s)	Expenditure (AUD)	Ave Spend/Trip (AUD)	AVE Spend/Night (AUD)
447	\$337M	\$755	\$183

South Australia has many attractive birdwatching opportunities and should be taking advantage of this growing market.

## Executive Summary (cont'd)

### Hunting of Unprotected Native Bird Species

It is permissible in SA to hunt a range of unprotected native bird species, the only requirement being the purchase of a basic hunting permit. Birds which can be shot include Zebra Finches, Budgerigars, Grey-backed Silvereyes, Red Wattlebirds, Galahs and Corellas.

Birds SA urges the SA Govt to end the hunting of these unprotected native birds immediately and that the conditions under which permits are issued to destroy native birds be urgently reviewed to provide greater protection for these species. The previously mentioned animal welfare issues plus the conservation of these species demand this action.

## END EXECUTIVE SUMMARY

Following is a summary of Birds SA's position with respect to the hunting of native birds. This is followed with detailed information on why we have adopted this position. Included are comments on the hunting of unprotected native bird species. An addendum is provided with greater detail on animal welfare issues.



## Birds SA Position Statement

1. Birds SA is opposed to the hunting of native ducks and Stubble Quail as currently permitted by the National Parks and Wildlife Act (1972).
2. Birds SA is of the view that hunting of native ducks and quail with shotguns or any other means should cease in all States of Australia where such bans are not already in place.
3. Should such a ban be introduced in SA it should be State-wide and implemented with no exceptions so that there is no chance of hunting continuing through some legal or regulatory loophole.
4. Birds SA urges the SA Govt to immediately end the hunting of unprotected native birds such as Zebra Finches and Budgerigars.
5. Birds SA can see no justification for recreational hunting of any bird species. Such activity is out of step with the expectations of modern society with respect to animal welfare and conservation.

## Our Reasons

1. Birds SA has based its stance on the overwhelming evidence of animal cruelty and threat to the sustainability of these species posed by hunting with shotguns.
2. Breaches of Codes of Conduct and regulations governing hunting of native birds are common.
3. Non-target bird species are regularly shot in error by hunters as well as being disturbed and traumatised by the presence of hunters.
4. Avi-tourism provides a far more ethically sound and environmentally responsible alternative to duck and quail hunting and presents far greater potential for a boost to the SA economy than hunting.
5. A majority of the population is opposed to the hunting of native ducks and quail and there is strong evidence of support for politicians who will pursue the banning of hunting these birds.
6. The Australian Veterinary Association opposes the hunting of waterfowl with shotguns.
7. The RSPCA opposes the shooting of ducks and quail with shotguns.
8. Birds SA strongly opposes the recruitment of children to hunting organisations where they are encouraged to assist with killing native birds.
9. Currently, native birds such as Budgerigars, Zebra Finches and Grey-backed Silvereyes can be hunted in SA with just a basic hunting permit all that is required. This activity is unacceptable from the viewpoint of animal welfare and conservation. Its continuance appears to be an unjustified hangover from a bygone era.
10. Two long-term surveys, both supported by the Government of South Australia, show a continual long-term decline in the abundance of ducks despite temporary partial recoveries following favourable weather conditions. On this basis alone, duck hunting should cease. The two surveys are:
  - The SA Wetland and Waterfowl Survey conducted by DEW and
  - The Eastern Australian Waterbird Aerial Survey (EAWS), conducted by UNSW.

## Animal Welfare Issues

- The hunting of native ducks and quail using shotguns results in inevitable wounding with many birds suffering a slow, painful death. Large numbers of crippled and wounded birds are not recovered by hunters.
- The principles of shotgun dynamics were worked out by shotgun and ammunition maker Winchester during the 1960s. A shotgun used for duck and quail hunting fires a cluster of around 200 pellets which spreads out as it travels through the air. Winchester confirmed the statistical distribution of those pellets.
- As part of their research in the 1970s they also hung up thousands of live ducks on special trolleys so they could flap their wings and then shot them with highly accurate electrically controlled shotguns. They counted the dead and kept the injured in pens and measured how long it took them to die. It was a truly cruel and callous investigation and illustrated how little concern shooters have for the suffering of these gentle animals.
- Bird rescue teams in Australia, operating during hunting open seasons, have recovered thousands of downed birds which were not retrieved by hunters. Clearly there would be many more thousands of downed birds and injured birds still able to fly that the rescuers would be unable to retrieve.
- Wounded birds are frequently not being killed by the SA Code of Practice's permitted methods (1), i.e. a second shot, or a blow with a heavy instrument to the rear of the skull, whilst restrained/immobile. Instead, shooters are frequently twirling injured birds in the air whilst holding them by the head, an unreliable killing method not endorsed by the Code. Veterinarians state this method is likely to prolong the bird's suffering prior to death. Video evidence has been gained of such behaviour on the opening weekend of the SA 2023 open season.
- The Australian Veterinary Association opposes the hunting of waterfowl with shotguns on animal welfare grounds. (2)
- The RSPCA is opposed to recreational duck and quail hunting, stating "wounding is inevitable, causing birds to suffer pain and distress." (3) Refer to the following link: [The cruelty of recreational duck shooting - YouTube](#)

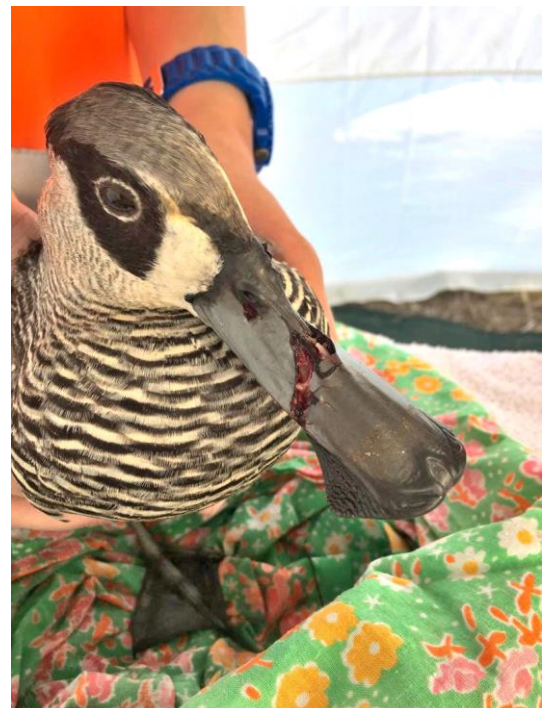
**Addendum 1** provides greater detail on **Animal Welfare** issues.



**Above:** Hunter attempting to kill a bird using the twirling method.  
(photograph: Doug Gimesy)



**Above:** a healthy Pink-eared Duck  
(photograph: Ian Wilson)

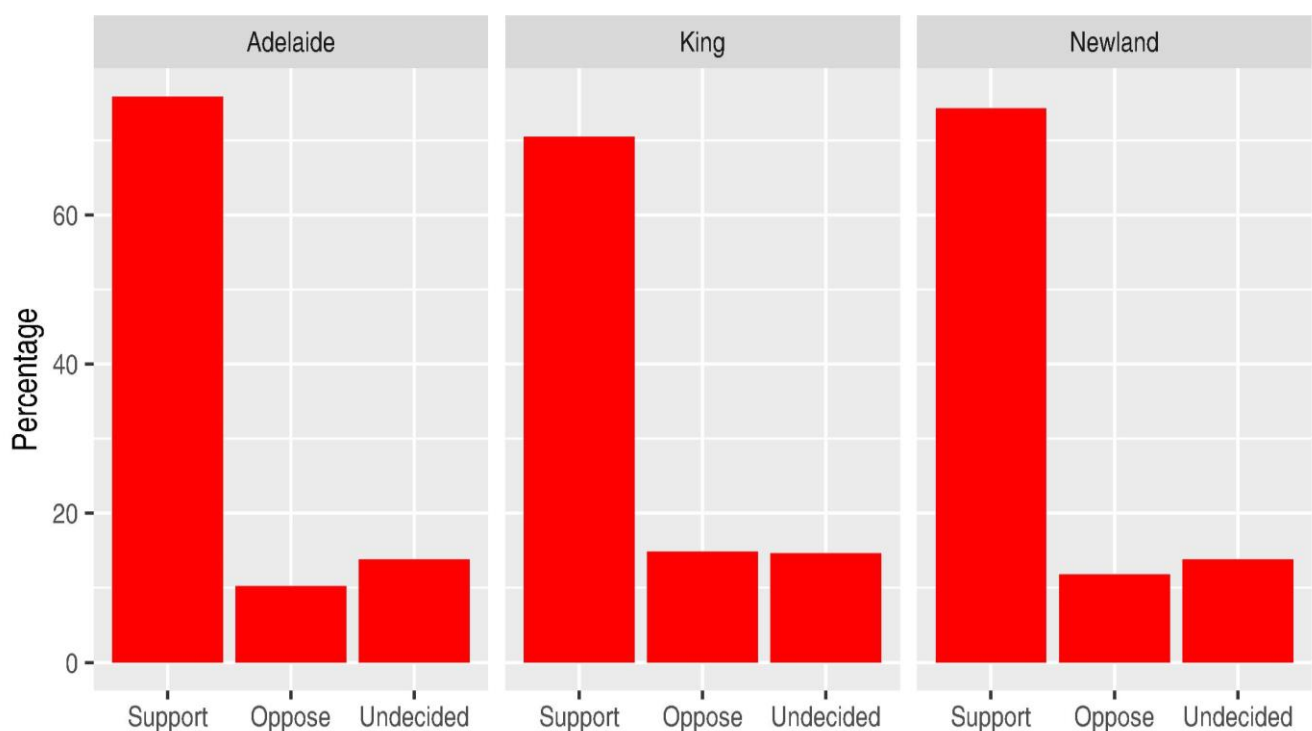


**Above:** Rescued Pink-eared Duck with  
severe gunshot wound to the bill.



## Community Values and Perspective

- An SA survey revealed that 83% of respondents were opposed to shooting native ducks and quail. The number opposed rose from 61% to 83% once respondents were aware that some birds were wounded or maimed. (4)
- In 1998, a petition with over 52,000 signatures was presented to the South Australian Parliament demanding an end to duck shooting.
- A significant proportion of the population is unaware that shooting of ducks and quail is permissible in South Australia.
- Surveys conducted in South Australia and Victoria have consistently shown that a majority of the public is opposed to duck and quail hunting with shotguns.
- In a ReachTel 2020 poll conducted with 1,015 respondents in three SA State electorates, respondents were asked whether they would support politicians who would work towards banning recreational duck shooting. The results were as follows:



**Figure 1** Support for politicians working to ban recreational duck shooting (ReachTel Poll – March 2020)



## Community Values and Perspective (cont'd)

- The ReachTel poll was prompted by the then SA Premier, Steven Marshall, expressing a desire to obtain information on the public attitude to the hunting of native birds. Steven Marshall had previously expressed his dislike of duck hunting. In 2011 Mr Marshall stated in Parliament “This issue is one that many South Australians are concerned about. I have been contacted by more than 800 Norwood constituents, checked against the roll, who regard duck hunting as a breach of the Animal Welfare Act, making this a very, very significant issue in my electorate.”
- When addressing the General Meeting of Birds SA on 31 May 2019 the current SA Opposition Leader, David Speirs, stated: “I am no fan of duck or quail hunting. We have tried to curtail the length of the season and align the South Australian season with the Victorian season. Many people would know that the Premier has made known his dislike of this activity.”
- In a 2018 survey of regional Victorian communities (5) on their attitudes to duck hunting some key findings were:
  - Over 80% had concerns for safety
  - Over 90% did not believe duck shooting benefited their community
  - Over 30% reported Issues with illegal trespass, removing habitat, leaving rubbish, fires unattended

## Community Values and Perspective (cont'd)

### What Community Leaders Say

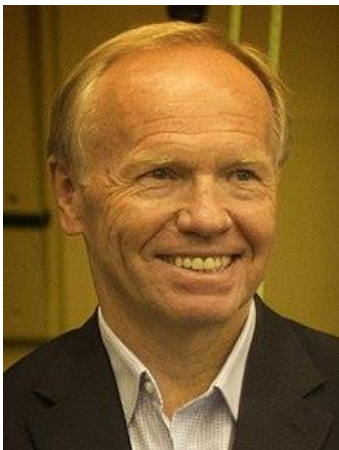
The comments on native bird hunting, with particular reference to duck hunting, from State Premiers who have ended this recreational activity are of note:

#### **Carmen Lawrence – Western Australia -1990**



"I have made no secret of my opposition to shooting ducks for recreation," Dr Lawrence said. "Duck shooting runs counter to the environmental sensitivity to which our community increasingly aspires. **There is widespread opposition throughout the community to the cruelty and environmental damage caused by shooters. Evidence from previous seasons shows that injured ducks have been left to die, protected species have been shot and fragile wetlands have been polluted by lead and cartridges. Our community has reached a stage of enlightenment where it can no longer accept the institutionalised killing of native birds for recreation.**"

#### **Peter Beattie – Queensland**



On 10 August 2005, Queensland committed to ban the shooting of native waterbirds with Peter Beattie, the Premier at the time, stating **"this is not an appropriate activity in contemporary life in the smart state."**

On 1 November 2006, the Government officially passed the law and Queensland became the third state, behind Western Australia in 1990 and New South Wales in 1995, to ban the recreational shooting of native ducks and quail.

#### **Bob Carr – NSW**



Mr Carr banned duck hunting in his first months as NSW Premier in 1995 and said there was "no negative response".

In a 2019 letter to Victorian Premier, Daniel Andrews, he encouraged Andrews to ban duck hunting for good. He wrote that **duck shooting was "not a sport and the slaying of waterfowl is not a measure of human skill".**

Mr Carr was reported as saying: "I'd strongly support him. And the message I've got is that he loses nothing politically by doing it."

## Sustainability and Environmental Aspects

### Wetland habitat and duck populations under enormous stress

- Wetland area reduced by 57%
- Duck abundance in long-term decline

The annual Eastern Australian Waterbird Aerial Survey (EAWS), conducted by UNSW, began in 1983 to monitor annual continental scale changes in the distribution and abundance of waterbirds and their breeding, as well as the extent of wetland habitats over time. The 2022 annual summary report (6) shows the stark decline in wetland habitat and duck numbers that have occurred across eastern Australia in the past 40 years.

An area of 2,697,000 km<sup>2</sup> is systematically sampled with ten survey bands 30 km in width, spaced every 2° of latitude from 38°30'S to 20°30'S. Waterbirds are counted on all waterbodies (river and wetlands) larger than 1 ha within survey bands; additional counts are made on an ad-hoc basis of wetlands smaller than 1 ha. This ensures information is collected across a representative sample of waterbodies (wetlands, dams, lakes, estuaries and rivers).




The EAWS Annual Summary Report (6), published in October 2022, included the following:

14. “Most game species of ducks had abundances well below long term averages, **in some cases by an order of magnitude**; six out of eight species continued to show significant long-term declines (OLS regression at  $p=0.05$ ; variables 4th root or log transformed where appropriate Table 3). Grey Teal declined from the previous year. Australian Wood Duck was the only species above (slightly) the long-term average (Fig. 19). Some duck species declined in abundance compared to 2021 – Grey Teal, Pink-eared Duck and Hardhead.”

The trends in abundances of specific game species from the EAWS over the period 1983-2022 are shown in **Table 1**.

Even after major breeding events, duck numbers do not recover for long. Typically, a major increase in duck numbers will crash to below the long-term mean within 1 – 3 years (Fig 3, EAWS 2022).

## Sustainability and Environmental Aspects (cont'd)

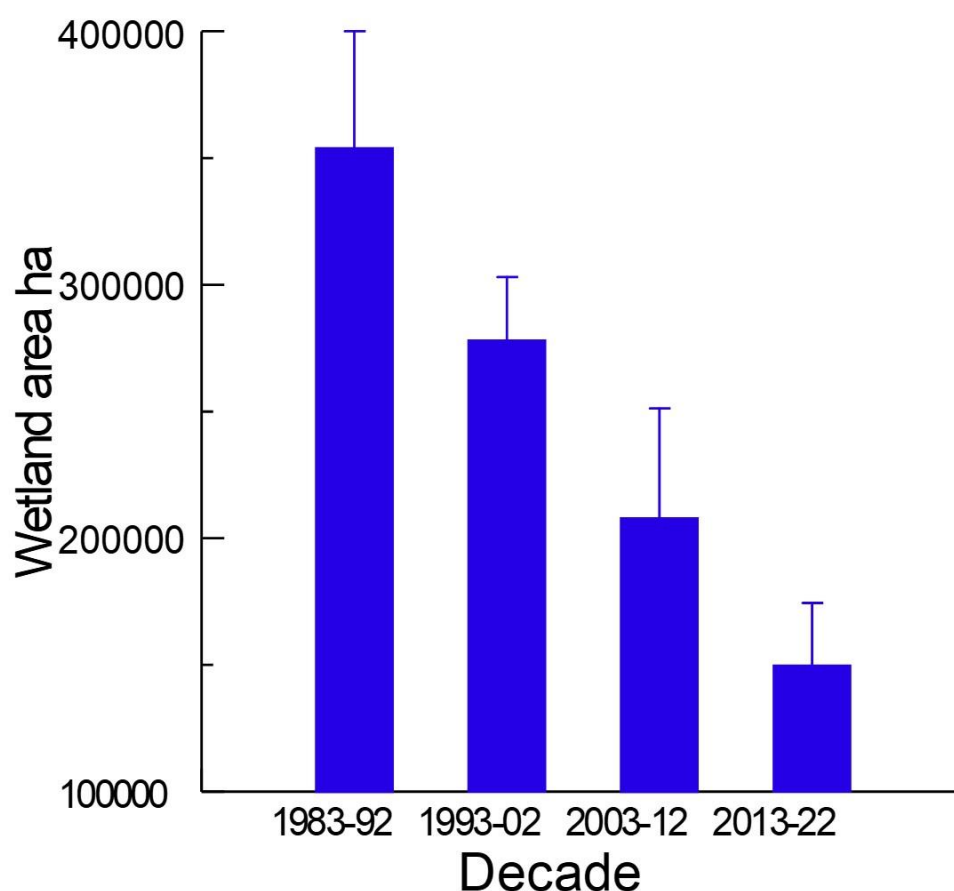
Species	Trend in Abundance
Pacific Black Duck	decline 
Australasian Shoveler	decline 
Chestnut Teal	decline 
Grey Teal	decline 
Hardhead	No trend
Mountain Duck (Aust Shelduck)	decline 
Pink-eared Duck	No trend
Aust Wood Duck	decline 

**Table 1** Trends in abundance of game species from the Eastern Australian Waterbird Aerial Survey (1983-2022)

**Figure 2** shows the steep and continuous decline of wetland area recorded by the surveys since 1983. The decade 2013-22 shows that mean wetland area recorded was about 43% of the area recorded in the 1983 – 1992 decade. This represents a loss of over 200,000 ha of wetland habitat in the survey area in the last 40 years.

Furthermore, there is concern that climate change will increasingly impact duck numbers in Eastern Australia. Modelling by Bino et al., (7) suggest that in the Murray-Darling Basin “under near future climate change projections, waterbird numbers will likely continue to decline, and remain below restoration targets set for the Basin.” Duck hunting in South Australia therefore undermines the Government's commitments to maintaining the health of the Murray-Darling Basin.

## Sustainability and Environmental Aspects (cont'd)



**Figure 2** Decrease in wetland area over the four decades of the EAWS

In determining the conduct of duck and quail hunting open seasons every year the SA Government relies heavily upon the data from two major longitudinal surveys. These are:

- the South Australian Wetland & Waterfowl survey, conducted since 2003 by the SA Department for Environment and Water and
- the previously mentioned Eastern Australian Waterbird Aerial Survey (EAWS) conducted by the Centre for Ecosystem Science at the University of NSW since 1983. (Supported by the Govt of South Australia)

These surveys are intended to highlight trends in waterbird (including waterfowl) abundances. The data for 2022 for ducks are shown in **Table 2**.



## Sustainability and Environmental Aspects (cont'd)

<b>Table 2 - 2022 Duck Abundances Compared with Long-term Averages</b>						
	South Aust Wetland & Waterfowl Surveys			Eastern Aust Waterbird Aerial Survey		
	2022	Dataset average (2003-2022)	2022 as % of dataset average	2022	Dataset average (1983-2022)	2022 as % of dataset average
Grey Teal	4,703	40,505	12	19,538	106,297	18
Chestnut Teal	1,193	3,625	33	38	1,263	3
Black Duck	2,268	2,803	81	9,015	17,065	53
Wood Duck	841	816	103	12,711	12,682	100
Aust Shelduck	2,876	4,652	62	4,201	7,509	56
Blue-winged Shoveler	7	1,501	<1	509	2,079	24
Hardhead	21	4,660	<1	1,957	16,003	12
Pink-eared Duck	119	4,095	3	779	35,589	2
<b>Totals</b>	12,028	62,656	19	48,748	198,491	25

- The figures highlighted in yellow in **Table 2** are of great concern. SA hunters claimed in 2021 that duck numbers would be high in 2022 because of the two preceding years of La Nina conditions. This claim proved to be unfounded.
- The claim by the hunters that the ducks had migrated elsewhere was also proven to be unfounded as the EAWS survey also showed very low

## Sustainability and Environmental Aspects (cont'd)

abundances for six duck species. The EAWS survey covers a massive area of eastern Australia from North Qld to southern Victoria and west to Lake Eyre.

- **Table 3** shows the annual take of ducks and Stubble Quail in SA and Victoria in recent years. These data were provided to the SA Minister responsible for approving the 2023 open seasons for ducks and quail. These are staggering numbers of which the general public is largely unaware. With these figures and the survey results available to the Minister, knowing the negative impact of habitat loss and climate change on birdlife, it is incredible that the SA Government would continue to allow duck and quail hunting to continue.

<b>Table 3 - Ducks and Quail Taken Annually by Hunting in SA and Victoria</b>		
<b>State</b>	<b>Ducks</b>	<b>Stubble Quail</b>
SA	12,000 – 80,000	4,000-6,000
Victoria	350,000	170,000
	<b>Total</b> 362,000 – 430,000	<b>Total</b> 174,000 – 176,000
<ul style="list-style-type: none"> <li>• Based upon data provided to the SA Minister by DEW prior to the announcement of the 2023 open season for ducks &amp; quail.</li> <li>• Based upon SA duck seasons from 2015 to 2021 and quail seasons 2017 to 2019.</li> <li>• Numbers of birds taken extrapolated from hunter survey data.</li> </ul>		

## Acting Too Late

It is pertinent in this context to consider two examples of species where controls on their hunting were implemented far too late to prevent their extinction. These are the Thylacine (Tasmanian Tiger) in Australia and the Passenger Pigeon in North America. The following accounts are provided by the National Museum of Australia and the American Bird Conservancy.

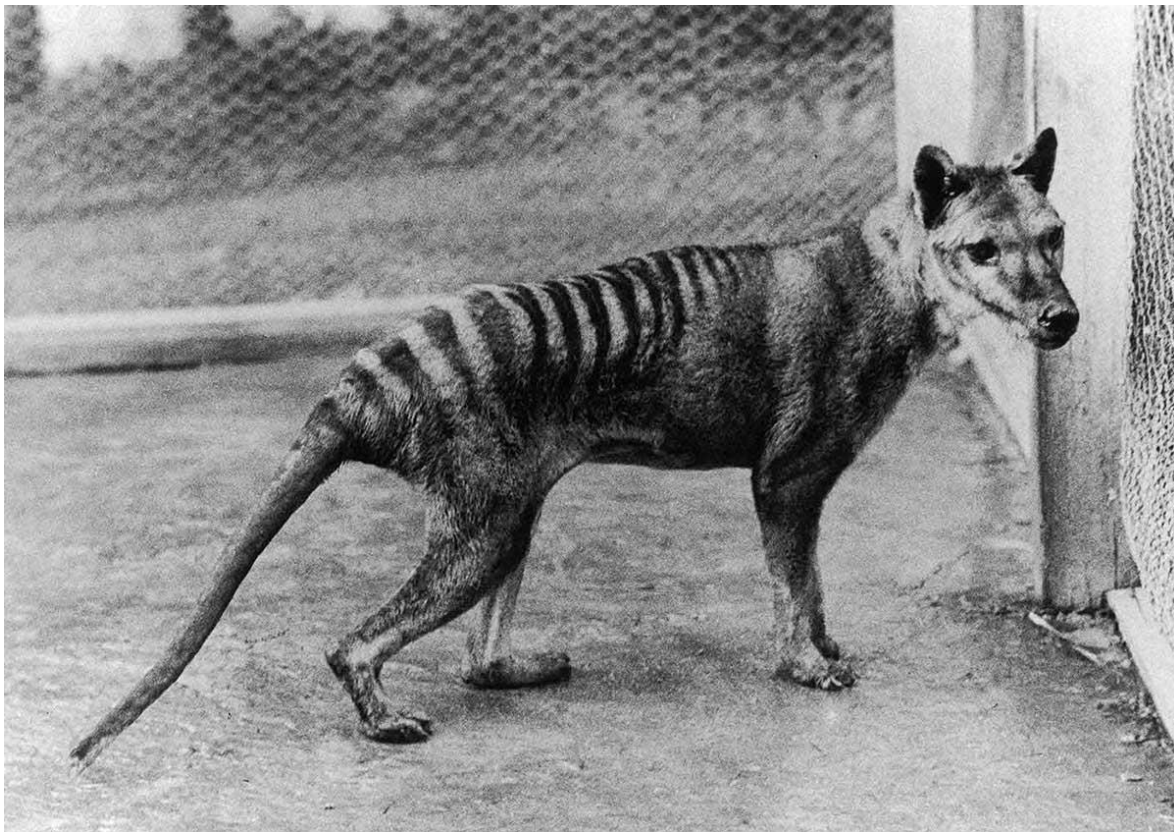
## Sustainability and Environmental Aspects (cont'd)

### Thylacine Extinction (National Museum of Australia)

“It is estimated that at least 3,500 thylacines were killed through human hunting between 1830 and the 1920s.

The last known shooting of a wild thylacine took place in 1930, and by the mid part of that decade sightings in the wild were extremely rare. Authorities from scientific and zoological communities became concerned about the state of the decimated thylacine population and pushed for preservation measures to be undertaken.

However, a shift in public opinion and the start of conservation action came too late. The species was granted protected status just 59 days before the death of the last known thylacine, which died in Hobart's Beaumaris Zoo from suspected neglect on 7 September 1936.”



Thylacine in captivity at Beaumaris Zoo, Hobart, about 1936.

## Sustainability and Environmental Aspects (cont'd)

### Why the Passenger Pigeon Went Extinct (American Bird Conservancy)

“September 1, 2014 marked 100 years since the last known Passenger Pigeon, known as Martha, died at the Cincinnati Zoo. It's hard to imagine now, but **at one time this species was believed to be the most numerous bird on earth, with a population of 3 to 5 billion birds.**”

These seemingly numberless flocks were considered an infinite resource and exploited so drastically that the species was driven to extinction in mere decades.

Passenger Pigeons were highly social, living in colonies that covered hundreds of square miles and breeding communally, with up to a hundred nests in a single tree. Unfortunately, these large flocks and communal roosts made the species very easy to hunt.

Unchecked hunting, combined with ongoing habitat loss, caused Passenger Pigeon populations to dip below the threshold necessary for the species to breed successfully in the wild.

**The story of the Passenger Pigeon is a poignant reminder of the need for effective conservation. The 100th anniversary of the species' disappearance reminds legislators and people everywhere of the importance of protecting endangered wildlife—before it's too late.”**



Passenger Pigeon – photograph: American Bird Conservancy

With Australian native ducks facing the massive challenges of climate change and loss of wetland habitat, the shooting of approximately 400,000 ducks per annum in South Australia and Victoria (combined) is unconscionable given the known decline in abundance over the last 40 years.

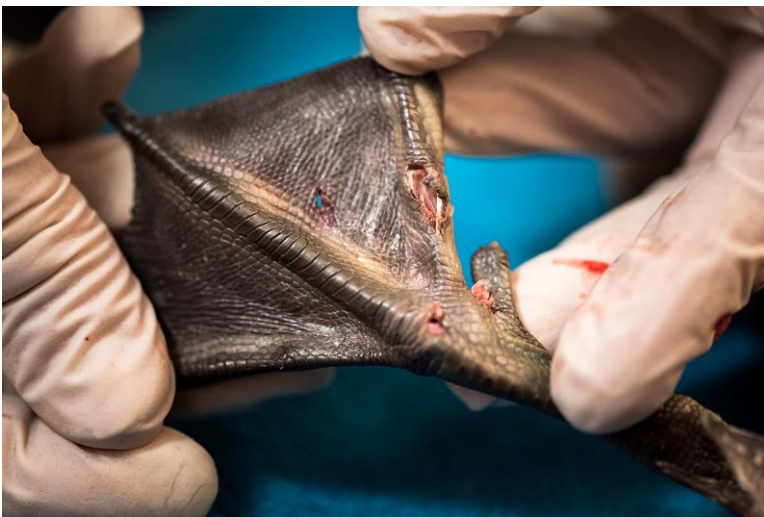
(Note that the 400,000 number does not include the many thousands of birds wounded or crippled and not retrieved).



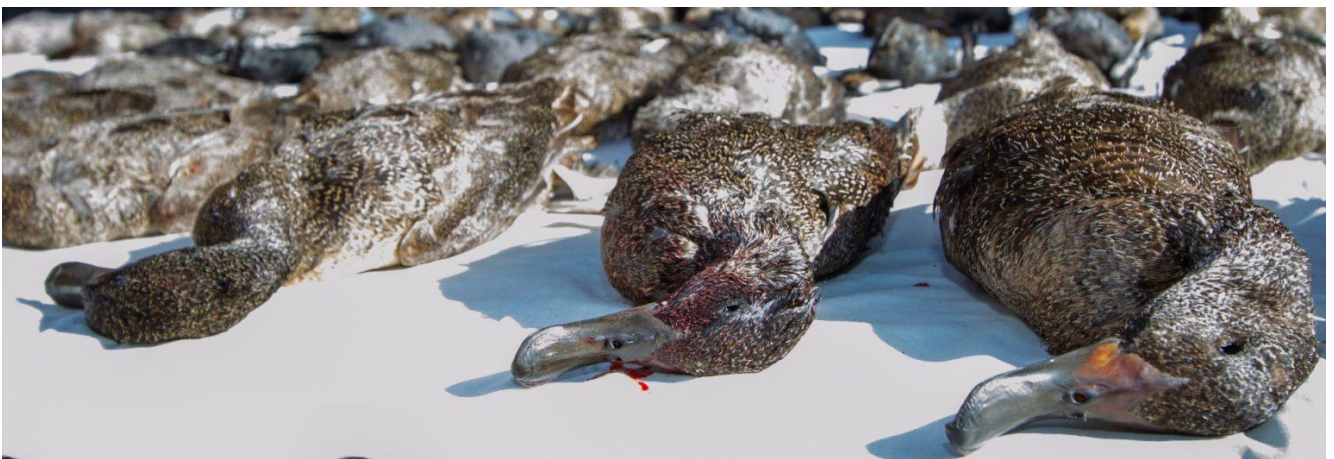
## Sustainability and Environmental Aspects (cont'd)

### Non-target Species Killed

- Hunters admit that non-target species of bird are shot in error.
- There is abundant evidence from duck rescue organisations that shooting of non-target species is a common occurrence.
- An infamous example of the shooting of non-target species occurred near Boort in Victoria in 2013 when at least 104 Freckled Duck were killed. The Freckled Duck is Australia's rarest duck with its status in Victoria listed as 'Threatened' and in South Australia 'Vulnerable'. It is not plausible that these 104 birds were shot in error.



Damaged foot of a Freckled Duck being examined by a veterinarian  
(Photograph: Doug Gimesy)



Illegally shot Freckled Ducks - Victoria  
(Photograph: Coalition Against Duck Shooting)



## Sustainability and Environmental Aspects (cont'd)

### Non-target Species Killed

- Perhaps the most infamous example of the shooting of non-target species occurred at Bool Lagoon in the SE of South Australia in 1980 with the shooting of at least 790 Freckled Duck. The SA Museum received 164 of the confiscated carcasses, many of which it still retains. A contributor to the Bird Observer in May 1980 stated: *“No-one has ever recorded a concentration of Freckled Duck the size of the Bool Lagoon flock before. Perhaps no-one ever will again.....”*



Freckled Duck carcasses from the Bool Lagoon massacre at the SA Museum  
(Photograph: Philippa Horton)

## Sustainability and Environmental Aspects (cont'd)

### Non-target Species Killed



Illegally shot Blue-billed Duck (Conservation status - Vulnerable)  
(Photograph: Regional Victorians Opposed to Duck Shooting)



Illegally shot juvenile White-necked Heron (Victoria 2017 - Animals Australia)

## Sustainability and Environmental Aspects (cont'd)

### Non-target Species Killed

- An April 2016 report in The Age newspaper stated: "The Andrews government is headed for a showdown in the courts over the illegal shooting of dozens of rare and endangered birds during the opening of duck season. Animal activists took legal action after 66 protected birds were killed at Lake Toolondo when the season opened two weeks ago – including the shooting of at least 21 freckled ducks, Australia's rarest water bird."
- Many of the numerous reports highlighting bad behaviour by hunters are from Victoria which has far more duck and quail hunters than SA. Evidence gathered over many years indicates similar breaches occur in SA.
- As recently as the opening weekend of the duck open season in SA in 2023 an example of a non-target species killed by a hunter was seen by a small team of observers at SA's Lake George. The hunter tried to stomp the bird into the mud underfoot. It was subsequently recovered by the observers and x-ray inspection showed a pellet lodged in the neck of the bird. This matter has been referred to the Department for Environment and Water.

### Stubble Quail

- The hunting of Stubble Quail is highly subject to the risk of shooting non-target species. Factors leading to this are:
  - the fact that the shooter has to make a split-second decision whether or not to shoot;
  - the similarity in appearance of Stubble Quail to Brown Quail and several Button-quail species, particularly the Painted Button-quail and Little Button-quail;
  - the very large areas of overlap in the ranges of these species.
- Another potential risk for quail hunters is the accidental shooting of a quail-like bird, the Plains-wanderer, classified as 'Endangered' in South Australia.

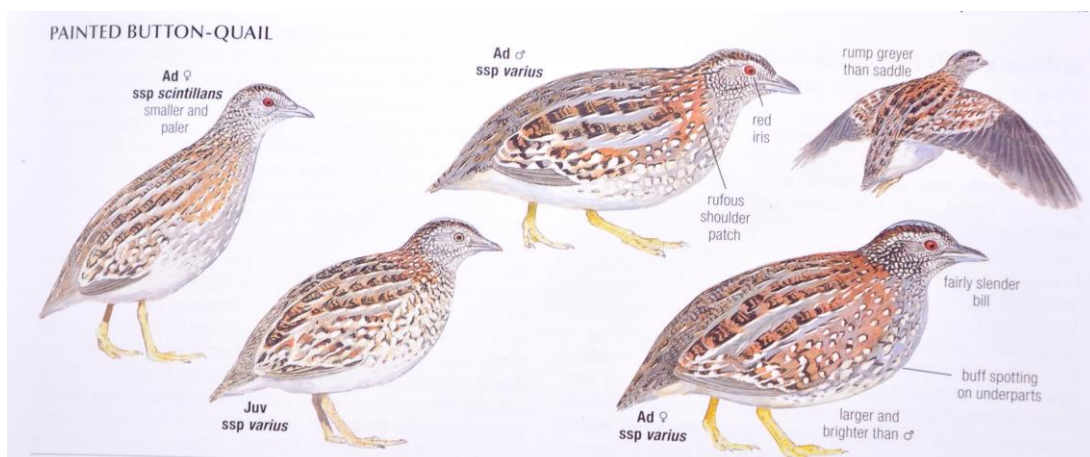


## Sustainability and Environmental Aspects (cont'd)

### Stubble Quail



**Above:** Stubble Quail and Brown Quail (CSIRO Australian Bird Guide)



**Above:** Painted Button-quail (CSIRO Australian Bird Guide)

## Sustainability and Environmental Aspects (cont'd)

### Stubble Quail Extinction in Tasmania

- The extinction of the Stubble Quail in Tasmania needs to be given careful consideration when examining the sustainability of shooting this species on the mainland. Hunting lobbyists have contended that Stubble Quail were never found in significant numbers in Tasmania. The records show otherwise. What has occurred in Tasmania should be a clear warning that the viability of a species can change very rapidly. The two following references are of note:
- *In the early 20th century, Stubble Quail were common in Tasmania, more so than the Brown Quail. By the mid-20th century, the Stubble Quail had almost disappeared and was granted full protection, although this decline largely has been forgotten. It is possible that Stubble Quail became extinct in Tasmania, and the rare sightings now are of stragglers from either the Australian mainland or King Island. (Donnelly – Aust Field Ornithology March 2014)*
- *However the species has suffered marked declines on Tasmania and other islands owing to habitat degradation and over-hunting. Agricultural machinery is responsible for destroying eggs and nests throughout its range (del Hoyo et al. 1994, reported by BirdLife International).*
- A Sporting Shooters Association of Australia survey in South Australia in 2021 and Game Management Authority survey in Victoria in 2022 concluded that Stubble Quail abundance in these states is in the many millions so that shooting approximately 175,000 of these birds every year presents no threat. Bear in mind that this annual take does not include the birds that were downed or wounded and not retrieved. Whilst one can understand the commitment and motivation of both the SSAA and GMA for conducting these surveys, the survey methodologies employed had major flaws which render the surveys of little value in truly understanding the conservation status of Stubble Quail. In addition, one could justifiably question the objectivity of these surveys given that both organisations are supporters of recreational shooting of native birds.
- Recent experience with the Duck and Quail Open Season Reference Panel meeting, conducted annually by DEW, indicates that there are conflicting views within hunting organisations as to the extent to which Stubble Quail and their nests are destroyed by agricultural machinery during harvesting operations.
- Stubble Quail are highly nomadic, occurring over a very large range. Gaining a reliable estimate of abundance continues to elude independent researchers.



## Sustainability and Environmental Aspects (cont'd)

### The Use of Lead Shot

- In spite of the known serious health implications of lead for both birds and humans it is still permissible to use lead shot for hunting of Stubble Quail in SA and Victoria. What is very concerning is that quail are often shot in paddocks used for production of crops that ultimately end up in our food.
- The use of lead shot is not permitted for duck shooting but as recently as 2022 hunters have been penalised in Victoria for possessing toxic shot in their ammunition.
- The research paper, accessible at the link below, published in 2022, characterised lead shot in harvested Stubble Quail and concluded:  
*The quantity and characteristics of lead ammunition residues found suggest that predatory and scavenging wildlife and some groups of human consumers will be at risk of negative health impacts.*

[Lead ammunition residues in a hunted Australian grassland bird, the stubble quail \(\*Coturnix pectoralis\*\): Implications for human and wildlife health | PLOS ONE](#)

Raptors such as Wedge-tailed Eagles are particularly at risk.

- In 2022 it was reported that high levels of lead in native ducks examined in 2018 and 2020 had been identified by the EPA in Victoria. Freedom of Information documents revealed that lead levels in ducks were "well above" food safety standards at four Victorian duck-hunting waterways.
- Lethal amounts of lead have been found in protected species in Victoria, according to Jordan Hampton from the University of Melbourne's Faculty of Veterinary and Agricultural Sciences. "Concerningly, the birds of prey with by far the highest levels of lead exposure detected in Australia, have been wedge-tailed eagles from Victoria," he said. "If the shot animal is left where it lies, lead fragments become a threat to any scavenging wildlife. Lead doesn't go away, lead ammunition fired today will be in our environment for decades to come."
- The irreversible damage caused by lead shot is nowhere more evident than at Bool Lagoon in South Australia where lead poisoning was identified in Swans, Magpie Geese and waterfowl, first in Magpie Geese in 1985. In a 1989 survey, following concerns over high numbers of Magpie Geese deaths, a concentration of up to one million pellets of lead per hectare was uncovered in parts of Bool Lagoon. (8)

## Sustainability and Environmental Aspects (cont'd)

### The Use of Lead Shot

- Wildlife Victoria CEO Lisa Palma has stated that lead poisoning was an insidious way for ducks, swans and wedge-tailed eagles to die. "They suffer a horrifically slow death, both if they are wounded or feed on carcasses with lead in them," she said. "They present with neurological and paralysis symptoms, are sluggish, unable to eat and slowly die of starvation."
- In 1987, lead shot was banned from Bool Lagoon and, in 1992, from all game reserves in SA. The ban extended to duck hunting, State-wide, in 1994. This unfortunately does not help the bottom feeding birds at Bool Lagoon and the other wetlands that were subject to many years of hunting with lead shot prior to the bans.

### Disturbance to Non-target Species

- There is unquestionably disturbance to non-target bird species caused by the presence of hunters and hunting activities. Whilst the impact of this is difficult to quantify, bird rescue groups report instances regularly during hunting open seasons. Disturbance due to the sound of gunshots is obvious. Added to that is the movement of hunters through the habitat of the many non-target species.
- A typical example of disturbance was reported at Lake Bael Bael, near Kerang in Victoria in March 2022. At least six Black Swan nests were abandoned due to the presence of hunters, the adult birds leaving the eggs behind.
- A report entitled *Assessing Waterbird Susceptibility to Disturbance by Duck Hunters in Victoria* by P W Menkhorst was published by the Arthur Rylah Institute in Sept 2019. The fact that this assessment was conducted indicates that disturbance is an issue of concern. The report contained rankings for the susceptibility of a large number of non-target bird species to disturbance by hunters. The author then arbitrarily applied a trigger abundance figure for each species at which point management actions should be applied. In spite of a number of methodological shortcomings, this study at least highlighted the fact that hunting of native birds has a much broader impact than just disturbance of the target species.

## Economic Considerations

There are three studies of which Birds SA is aware that have tried to estimate the economic impact of recreational hunting. They are:

**1. Out for a duck**

An analysis of the impact of duck hunting in Victoria

Published by The Australia Institute – December 2012

**2. Economic and social impacts of recreational hunting and shooting**

Published by RMCG Business Management Consultants in September 2019

Commissioned by the Commonwealth Department of Health

**3. Economic contribution of recreational hunting in Victoria**

Prepared by RMCG Business Management Consultants, June 2020

Commissioned by the Victorian Department of Jobs, Precincts and Regions

All of these studies relied upon surveys. The Australia Institute studied a cross-section of all Victorians, whilst the other two studies only surveyed licenced hunters and shooters. The **Economic and social impacts of recreational hunting and shooting** was conducted nation-wide and contains some data specific to South Australia.

Following are some findings of note from each of these studies followed by some brief analysis by Birds SA.

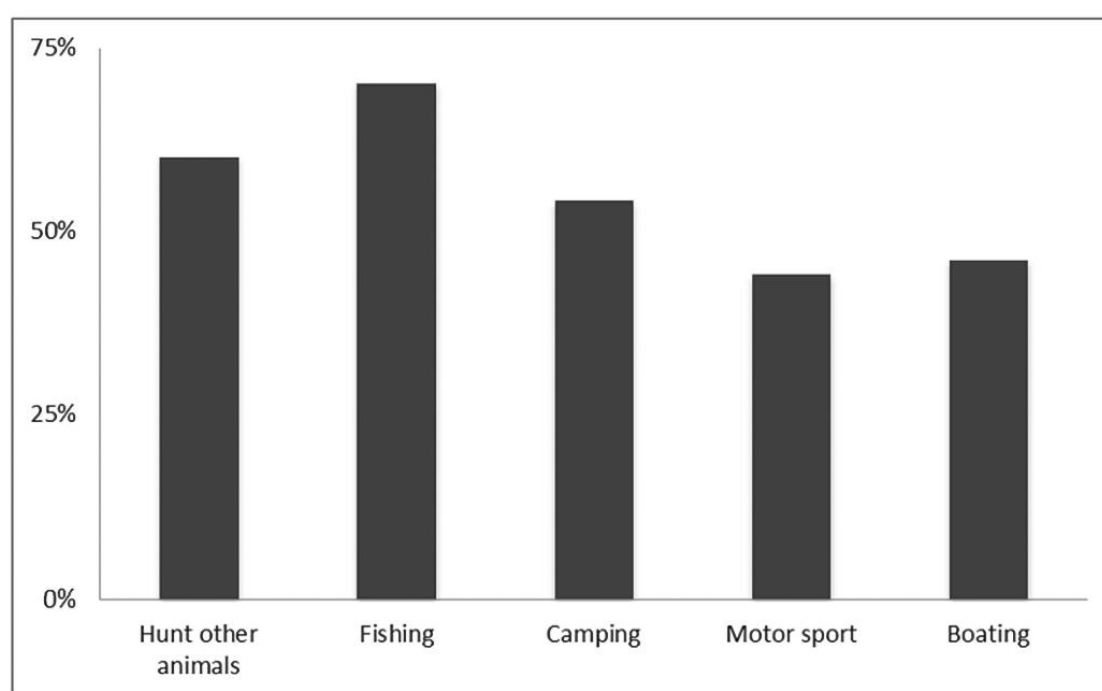
### **Out for a duck (2012) – Australia Institute Conclusions**

- *Less than half of one per cent of Victorians are active duck hunters, while 87 per cent support a ban on duck hunting.*
- *Claims that duck hunting – or any recreational hunting – contributes significantly to the economy of Victoria are false. They assume that without hunting any related expenditure would be lost to Victoria. On the contrary, our survey shows that if duck hunters were prevented from hunting ducks they would go fishing, hunt other species, or go camping. There would be no impact on expenditure in Victoria from a duck hunting ban.*
- *Revenue from non-hunting tourism is far more important to Victoria's economy. In fact, more than half of survey respondents would be less likely to holiday in an area with duck hunting.*
- *The non-monetary benefits of ending duck hunting and the improvement in welfare of the non-duck hunting public, are far greater than the non-monetary losses that hunters would incur from a ban. We estimate this benefit of banning duck hunting at around \$60 million per year.*

## Economic Considerations (cont'd)

### Australia Institute Conclusions (cont'd)

- While duck hunters are a small and declining proportion of Victoria's population, the economic significance of duck hunting expenditure, regardless of which estimate is most accurate, accounts for a trivially small proportion of Victoria's \$323 billion Gross State Product (GSP). Significantly, however, if duck hunting were banned in Victoria, the current level of expenditure by duck hunters would not be 'lost' to the Victorian economy. Rather, as is shown below, it would simply be spent on substitute activities such as fishing and camping. Only two per cent of duck hunters claimed that they would not substitute another activity for duck hunting if it were banned.



Substitute activities for duck hunting – Australia Institute

### Economic and social impacts of recreational hunting and shooting (2019)

- This study only surveyed hunters.
- The study reported the Australian economy is \$335M and 3,300 jobs larger as a result of the contribution of recreational hunting and sports shooting.
- The respondents were those licenced firearm holders with recreational hunting or sport shooting as genuine reasons for holding the licence. The other respondents were those recreational hunters who only hunt without a gun.
- There were 1,113 respondents from South Australia.

## Economic Considerations (cont'd)

- Firearm hunting accounted for 87.9% of the SA recreational hunting and sport shooting population.
- Sport shooting accounted for 4.7% of the SA recreational hunting and sport shooting population.
- The total firearm hunting population in SA was estimated to be 56,264.
- 96% of survey respondents across Australia were men.
- The gross expenditure for hunting trips was reported to be \$59M for South Australia. Around one-quarter of this expenditure was for fuel and one-fifth on groceries. The gross expenditure for hunting trip related items in SA was reported to be \$110M, half of which was on firearms, other firearm equipment and ammunition. The other most significant related expenditures were on vehicles/motorbikes/boats (purchased with hunting in mind).
- The following activities were rated by respondents as of moderate or high importance after recreational hunting/sports shooting:
  - Camping 86.4%
  - Fishing 76.7%
  - Four wheel driving or dirt biking 68.8%
  - Other outdoor or sports activities 65.3%

## Birds SA Comments on this study

- This report to a large extent corroborates the “Out for a Duck” study on alternative activities such as fishing, camping and other outdoor pursuits.
- The total firearm hunting population of 56,264 for SA appears to be grossly overstated when considered in the context of the number of duck hunting and quail hunting permits issued in 2019. In that year there were 1,679 duck permits and 150 quail permits issued in SA. Presumably there are many with firearm licences who are inactive. It is highly unlikely that other forms of hunting would account for this disparity.
- If the total claimed expenditure is averaged across the total firearm and non-firearm hunting population claimed for SA, each hunter expended an average of \$2,770.
- Using the figures provided by DEW for total ducks and quail bagged by hunters in 2019, each duck permit holder bagged an average of 27.19 ducks and each quail permit holder bagged an average of 28.52 quail. This equates to each duck costing \$101.87 and each quail costing \$97.12. With hunters claiming that providing food for the table is a primary motivator, *the extraordinary cost of this food throws considerable doubt upon the validity of this report.*
- One could also justifiably question the validity of including hunting related expenses such as firearms, ammunition, motorbikes and vehicles which are mostly imported into Australia.



## Economic Considerations (cont'd)

### *Economic contribution of recreational hunting in Victoria (2019)*

- This study used a similar methodology to the national assessment mentioned previously and surveyed Victorian game licence holders.
- There were 1,671 completed responses.
- The economic contribution was stated to be a gross contribution of \$356M and 3,138 jobs.
- The most important reasons for recreational hunting indicated by respondents were:
 

○ to spend time in places that are special to me	74%
○ to spend time in the outdoors	62%
○ to meet new people	44%
○ to spend time with friends	43%
- Other activities that hunters enjoyed were:
 

○ camping	79%
○ recreational target shooting	60%
○ fishing	54%
○ four-wheel driving	53%

### **Birds SA Comments on all three of these studies**

- The fact that the survey, confined to Victoria, arrived at a jobs contribution of 3,138 jobs throws considerable doubt on the methodology as this figure is very close to the figure of 3,300 jobs in the similar survey by the same organisation which covered the whole of Australia.
- Requesting hunters to provide input data for the RMCG-conducted studies carries considerable risk as there is a vested interest in ensuring the contribution is as optimistic as possible.
- The apparently large proportion of firearm licence holders who are inactive hunters places great doubt upon the validity of the contribution figures.
- It was notable that the four most important reasons for recreational hunting in the Victorian study did not mention hunting at all.
- It appears highly likely that the other activities enjoyed by hunters would still be undertaken should hunting be banned.
- Perhaps a more reliable assessment of the economic impact of hunting would be gained by speaking to the States that have banned duck & quail hunting (WA, NSW & Qld) for their views on the economic impact of the ban. The former NSW Premier, Bob Carr, in advising Victorian Premier Daniel Andrews, said there was “no negative response” when duck hunting was banned in NSW in 1995.

## Economic Considerations (cont'd)

### Avi-tourism

- Avi-tourism is a rapidly growing industry segment comprised mainly of birdwatching and bird photography activities. The National Visitor Survey (NVS) conducted by Tourism Research Australia, the Commonwealth government-based research body that monitors tourism trends, has included birdwatching as one of the activities it monitors since 2019 (9). The NVS surveys the domestic population annually, with a total annual sample size of 120,000 people 15 years old and over. In its domestic national visitor survey for 2019 it listed the following results for birdwatching day trips and overnight stays incorporated in tourism activities.

Daytrips - 2019				Overnight Trips - 2019			
Activity	Visitors (000s)	Expenditure (AUD)	Ave Spend/Trip (AUD)	Visitors (000s)	Expenditure (AUD)	Ave Spend/Trip (AUD)	Ave Spend/Night (AUD)
Birdwatching	516	\$46M	\$89	331	\$237M	\$717	\$181

- The NVS survey for the year ending Dec 2022 reported that visitors on overnight trips had risen to 447,000 compared with 331,000 in 2019. Results for overnight trips in 2022 were:

Overnight Trips – 2022 - Birdwatching			
Visitors (000s)	Expenditure (AUD)	Ave Spend/Trip (AUD)	AVE Spend/Night (AUD)
447	\$337M	\$755	\$183

- Avi-tourism presents a much greater economic opportunity for South Australia compared with duck & quail hunting. It is environmentally and ethically far more acceptable and appeals to a much greater population base which includes interstate and overseas visitors.
- Birds SA understands that the SA Tourism Commission has not researched birdwatching tourism opportunities since the last report on this was published in April 2001. It is strongly recommended that new research be conducted.

## Cultural, Social and Recreational Aspects

### Wild Food

- Claims hunting organisations use to justify hunting are purported animal welfare benefits that ducks and quail receive in their natural environment compared with poultry grown for commercial purposes. The claims are also made that food harvested using the SA Modern Hunting Guide (10) is “healthy, fresh, free from growth hormones, preservatives and human processing.”
- It should be noted that growth hormones have not been used in chickens since the 1960's. Currently between 70 – 80% of Australia's meat chickens come from farms that are accredited under the RSPCA Approved Farming Scheme. Between 18 – 20% of Australia's chicken meat comes from farms that are accredited by Free Range Egg and Poultry Australia. In excess of 80% are accredited to one or both of the above schemes. The remainder (less than 20%) are not accredited under either of these schemes. (11)
- It is undeniable that poultry grown for meat under the accreditation schemes are treated far more humanely than the ducks and quail shot by hunters, some retrieved by dogs while still alive, some suffering crippling injuries, some escaping with debilitating wounds to then endure a slow and painful death.
- It also should be noted that there is very little meat to be taken from native ducks. They are far smaller than farmed ducks. Grey Teal weigh between 600 and 700 grams including their long neck. They are typically killed for around 100g of breast meat with the rest discarded.

### Children Encouraged to Kill Native Birds

- The Modern Hunting Guide for SA, jointly published by the Govt of South Australia and CHASA (Conservation and Hunting Alliance SA), defines two types of junior permits:
  - Junior Basic Hunting (14 years to under 18 years of age) and
  - Sub-Junior Basic Hunting (under 14 years of age).It is astounding that children under 14 years of age would be encouraged to assist in the killing of our native birds. It is even more astounding that the SA Government is supporting the transference to children of the callous disrespect shown by many adult hunters to our native birds.
- An example of the results of this appalling policy was recorded on the opening day of the SA duck open season on March 18, 2023 at Lake George where a child was handed a downed but still alive duck and proceeded to attempt to kill it using the non-approved twirling method. The adult present showed no interest in the welfare of the bird. The details of this incident were provided to RSPCA and DEW.

## Hunting of Unprotected Native Bird Species

Schedule 10 of the National Parks and Wildlife Act (1972) lists unprotected native bird species. These are:

Zebra Finch (*Poephila guttata*)  
Budgerigah (*Melopsittacus undulatus*)  
Red Wattlebird (*Anthochaera carunculata*)  
Grey-backed Silvereye (*Zosterops lateralis halmaturina*)  
Galah (*Cacatua roseicapilla*)  
Little Corella (*Cacatua sanguinea*)  
Australian Raven (*Corvus coronoides*)  
Little Crow (*Corvus bennetti*)  
Australian Crow (*Corvus orru ceciliae*)  
Little Raven (*Corvus mellori*)

The Modern Hunting in SA Guide (10), jointly published by CHASA and the SA Government, indicates that these birds may be hunted at any time, with the requirement that a basic hunting permit is required unless:

- The person carrying out the destruction of unprotected native animals is the landowner, a member of their household, or an employee or agent of the landowner, and
- The unprotected native animals are causing damage to crops, stock or other property.

The 'Code of practice for the humane destruction of birds by shooting in South Australia' (1) lists the recommended shotgun specification and shot size for the destruction of these birds.

It is incomprehensible to Birds SA that these birds can be hunted with just a basic hunting permit the only requirement. Of particular concern are the small birds, the Zebra Finch, the Budgerigar and the Grey-backed Silvereye. The continuance of this hunting appears to be an unjustified hangover from a bygone era.

**Birds SA urges the SA Govt to end the hunting of these unprotected native birds immediately and that the conditions under which permits are issued to destroy native birds be urgently reviewed to provide greater protection for these species. The previously mentioned animal welfare issues plus the conservation of these species demand this action.**

It is pertinent to note the following from the Code of practice:

*“Shooting is time consuming and in isolation not considered an effective method for large-scale control of wildlife causing impacts. To achieve a reduction in impacts being sustained an integrated management approach should be taken and would include a range of non-lethal methods.”*

## References

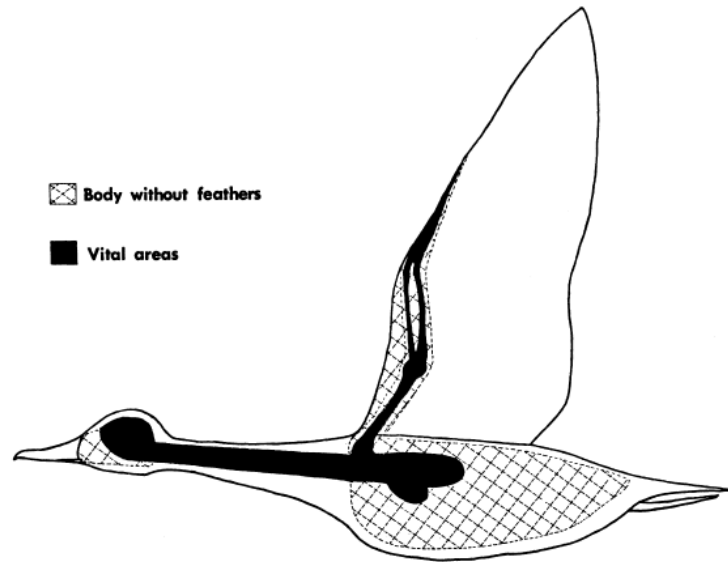
- (1) [Code of Practice for the Humane Destruction of Birds](#)
- (2) [AVA Policy Waterfowl Hunting](#)
- (3) [What is the RSPCA's view on duck hunting? – RSPCA Knowledgebase](#)
- (4) Recreational Shooting of Native Ducks and Quail March 2011 McGregor  
Tan Household Omnibus Survey
- (5) [Regional Victorians OTDS](#)
- (6) [EAWS Oct 2022 Summary Report](#)
- (7) [Bino et al Setting Restoration Targets for Waterbirds in the Murray-Darling  
Basin Under Climate Change](#)
- (8) LEAD Action News vol 4 no 3 Winter ISSN 1324-6011
- (9) Domestic National Visitor Survey Activities 2019 – Tourism Research  
Australia
- (10) [modern-hunting-in-sa.pdf \(environment.sa.gov.au\)](#)
- (11) [Chicken-meat-production accreditation](#)
- (12) [SSAA-crippling-and-wounding-rates-in-waterfowl-in-australia T Sharley](#)



## Addendum 1 – Shotgun Dynamics and Animal Welfare

### Shotgun Pellets

- Pellets from a shotgun exhibit a random pattern that spreads out the further they travel from the gun. Pellets come in different sizes, but in the case of #4 steel, used for ducks at shorter ranges, there are over 200 pellets in each plastic cartridge. Pellet diameter is 3.25mm.



**Diagram 1 \_ - Duck Vital Areas**  
Cochrane (1976)

- Diagram 1** shows the vital areas of the bird including the brain, spinal column, heart/lungs and wing bone. A bird hit in one of these areas will likely be downed but will not necessarily be dead.
- Because the vital areas of the bird are relatively small in area and the shotgun pellets are expelled in an expanding spray there is a high likelihood that the bird will be crippled, ie downed but not retrieved or wounded. If wounded, the bird may still be able to fly to escape but have pellets embedded in non-vital areas or vital areas or both.

## Shotgun Dynamics and Animal Welfare (cont'd)

### Wounding Rates and Crippling Rates

- There is considerable dispute between hunting groups and animal welfare groups on the level of crippling and wounding when hunting birds with shotguns. T Sharley of CHASA, in an article published by The Sporting Shooters Association of Australia in 2011, stated (12):
  - “Published scientific research in Australia confirms that that wounding rates in waterfowl in heavily hunted areas between 1957 and 1985 ranged from 6 to 19% in the most common game species (Norman 1976) and crippling rates ranged from 9.9% (Briggs et al. 1985) to 20% (Norman and Powell 1981)”.
  - “Furthermore, the personal observations of experienced hunters and hunting organisations indicate that less than 5% of birds are crippled or wounded around frequently hunted local wetlands.”
- Let us assume that the 5% figure is correct, highly debatable though this may be and consider this scenario: You are at your local park which has a large pond. There are 20 Pacific Black Ducks there, some in the water, some on the shore. Suddenly a man arrives with a large stick with which he attacks one of the ducks, breaking a wing and lacerating its bill. The man then leaves, the injured duck remaining where it was attacked, unable to fly away. This behaviour is effectively what the duck and quail shooters are saying is acceptable. Shooters know that crippling (birds downed and not retrieved) and wounding (birds with embedded shot but able to escape) is inevitable. The difference is that crippling and wounding with shotguns takes place largely out of sight of the public.
- Testing (largely in the United States) in controlled conditions has been used in the past to arrive at verifiable estimates for the prevalence of crippling and wounding. Following is one example of this highly cruel experimentation:

Winchester, in the early 1970s conducted tests to establish the efficiency of different types of shot. The design of the experiment eliminated human shooting error by mechanising the shooting process. Ducks were suspended on a trolley by straps around their wings, so that they could still flap their wings. The trolley traversed the shooting area at a constant speed. A shotgun was mounted at set distances from the trolley and was triggered automatically when the bird was in position.

## Wounding Rates and Crippling Rates (cont'd)

Ducks were checked for signs of life 5 minutes after being shot.

- If they were still alive, they were attached to a cord by one leg and thrown into the air to see if they were co-ordinated or not.
- They were then placed in an aviary for 10 days with food and water.
- Those still alive after 10 days were then again thrown into the air to test their ability to fly.

Results for six shooting distances were reported by Kozicky & Madson (1973) as shown in **Table 1**. One hundred mallard ducks were shot at each distance.

Range	Dead 5 mins	Dead 10 days	Fail flying test	Pass flying test
30 yards 27.5m	91	6	1	2
40 yards 36.6m	69	26	3	2
50 yards 45.7m	32	27	14	27
60 yards 56.5m	10	23	25	42
70 yards 64m	4	9	29	58
80 yards 73.1m	1	3	10	86

**Table 1** – Crippling and wounding at different shooting distances

Kozicky, E. & Madson, J. (1973). Nilo shotshell efficiency test on experimental mallard ducks 1972-1973. International Association of Game, Fish and Conservation Commissioners annual meeting, Disney World, Florida

It can be seen that even in controlled conditions such as this, shotguns fail to kill all birds instantly. In the field, with all the added variables that this introduces, it is clear that wounding and crippling rates are significant.

## Crippling rates at varying distances

Ducks are less likely to be wounded when they are closer to the shooter. This has led to a recommendation by the Game Management Authority (GMA) in Victoria to only shoot at ducks within a 30m range. Research carried out in the US comparing lead vs steel shot in the 1970s yielded the following results:

	10-30 yards (up to 27.5m)	30-45 yards (up to 41.5m)	45 yards + (41.5m+)
Number unretrieved	18	17	7
% unretrieved	14%	15%	23%

Mikula, E., Martz, G. & Ryel, L. (1977). A comparison of lead and steel shot for waterfowl hunting. *Wildlife Society Bulletin*

Similar research in the 1980s in the US yielded the following results:

	Bagged	Crippled	Total hit	% Crippled
≤ 32m	728	269	997	27%
> 32m	258	167	425	39%

Hebert, C., Wright, V., Zwank, P., Newsom, J. & Kasul, R. (1984). Hunter performance using steel and lead loads for hunting ducks in coastal Louisiana.

It is clear that even when shooting at close range the crippling rate is far higher than that claimed by Australian shooting organisations.

## Crippling rates for quail

Birds SA is unaware of any Australian published research for crippling rates for Stubble Quail hunted with shotguns. There are many studies that have been conducted for Northern Bobwhites in North America that provide some valuable insight. The Northern Bobwhite, also known as the Virginia Quail, is similar in shape but slightly larger than the Australian Stubble Quail.



Northern Bobwhite (American Bird Conservancy)

A study “A Review of Crippling Loss for Northern Bobwhites” by Haines, Hernandez, Henke & Bingham of Texas A&M University (2006) summarised the results of published studies of reported crippling rates for Northern Bobwhites across the Southeast, Mid-west and Southwest USA.

For the sixteen studies quoted where there was a reasonable sample size:

- “Crippling loss” as a percentage of retrieved harvest ranged from 5.3% to 31.4%.
- For the sixteen studies quoted, average “crippling loss” as a percentage of the retrieved harvest was 18.0%.

It would be reasonable to expect that crippling rates for Stubble Quail hunted in Australia would be similar to these figures.

END