



# DUCK HUNTING IN VICTORIA 2020



# Background

---

The *Wildlife (Game) Regulations 2012* provide for an annual duck season running from 3rd Saturday in March until the 2nd Monday in June in each year (80 days in 2020) and a 10 bird bag limit. Section 86 of the Wildlife Act 1975 enables the responsible Ministers to vary these arrangements.

The Game Management Authority (GMA) is an independent statutory authority responsible for the regulation of game hunting in Victoria. Part of their statutory function is to make recommendations to the relevant Ministers (Agriculture and Environment) in relation to open and closed seasons, bag limits and declaring public and private land open or closed for hunting.

A number of factors are reviewed each year to ensure duck hunting remains sustainable, including current and predicted environmental conditions such as habitat extent and duck population distribution, abundance and breeding.

This review however, overlooks several reports and assessments which are intended for use in managing game and hunting which would offer a more complete picture of habitat, population, abundance and breeding, we will attempt to summarise some of these in this submission, these include:

- 2019-20 Annual Waterfowl Quota Report to the Game Licensing Unit, New South Wales Department of Primary Industries
- Assessment of Waterfowl Abundance and Wetland Condition in South-Eastern Australia, South Australian Department for Environment and Water
- Victorian Summer waterbird Count, 2019, Arthur Rylah Institute for Environmental Research

As a key stakeholder representing 17,801<sup>1</sup> members, Field & Game Australia Inc. (FGA) has been invited by GMA to participate in the Stakeholder Meeting and provide information to assist GMA brief the relevant Ministers, FGA thanks GMA for this opportunity.

Duck hunting is regulated to ensure it remains safe, sustainable, humane and equitable.

Decisions applied to game management must be based on facts and data, not instinct, intuition, ideology, or prejudice.

---

<sup>1</sup> Field & Game Australia 2018-2019 Annual Report

# Duck Hunting in Victoria

There are currently 25,154 hunters licensed to hunt duck in Victoria. <sup>2</sup>

This is an increase of 1,438 (or 7%) since the millennium drought, with the La Niña pattern developing during the autumn of 2010, bringing record-breaking rains in the Murray-Darling basin and well above average rainfall across the south-east of Australia.

This number is down slightly (764 or 3%) since 2018 due to a combination of poor seasons, reduced season lengths and bag limits.

We have seen a 9.6% increase in hunters licensed to hunt ducks over the past 25 years, despite having 3 cancelled duck seasons and 14 restricted duck seasons, which have included reduced season lengths, bag limits and species.

Cancelled Duck Seasons: 1995, 2003, 2007, 2008

Modified Duck Seasons: 1998, 2000, 2001, 2002, 2004, 2005, 2006, 2009, 2010, 2015, 2016, 2017, 2018, 2019

Normal Duck Seasons: 1996, 1997, 1999, 2011, 2012, 2013, 2014

Between 1996 and 2018 there was a 78% increase in the total number of game licence holders, a 10% increase in duck licences and a phenomenal 397% increase in deer licences. <sup>3</sup>

The scientific panel formed to review New South Wales open seasons in November 2000 concluded that "All scientific studies available to the review indicate that hunting has no effect on waterfowl populations". <sup>4</sup>



<sup>2</sup> GMA – December 2019

<sup>3</sup> GMA – Game Licence Statistics Summary report – 2018

<sup>4</sup> Scientific panel review of open seasons for waterfowl in New South Wales, R.Kingsford, G.Webb, P.Fullagar, November 2000

# Economic & Social Benefits

---

This submission by FGA reinforces the importance of managing both hunters and habitat, it also recognises the economic and social benefits Victorians derive from hunting.

Victoria also benefits from hunting, the Department of Environment and Primary Industries (DEPI) estimated in 2013 that hunting was worth \$439 million to the Victorian economy<sup>5</sup>, duck hunting accounted for 24% or \$106.3 million of the total Victorian hunting expenditure.

While in 2019 The Commonwealth Department of Health reported the gross contribution from recreational hunting and sport shooting in Australia was \$2.4 billion<sup>6</sup>, Victoria contributed \$638M to this total.

Also, from the same report, hunting and shooting provides opportunities for physical activity, as well as pathways for greater wellbeing through nature connection, self-confidence, social networks, physical activity and nutrition.

Hunters and shooters have:

- Higher physical activity than the general population
- Higher levels of well-being than the general population
- Reasons for hunting and the social benefits are varied. In the 2013 DEPI study, hunters reported the following about their hunting:
  - 70% of hunters hunt to obtain food
  - 92% said hunting helped them spend time outdoors and connecting to nature and special places
  - 87% stated that hunting helped them spend more time outdoors than they would otherwise.
  - 87% said hunting enabled them to spend time with people who have a similar outlook
  - 83% said that it enabled them to spend time with friends
  - 80% said hunting led them to feel more confident (self-confidence is associated with more positive mental health)

---

<sup>5</sup> Department of Environment and Primary Industries 2014

<sup>6</sup> Economic and social impacts of recreational hunting and shooting – Commonwealth Department of Health 2019



# Climate

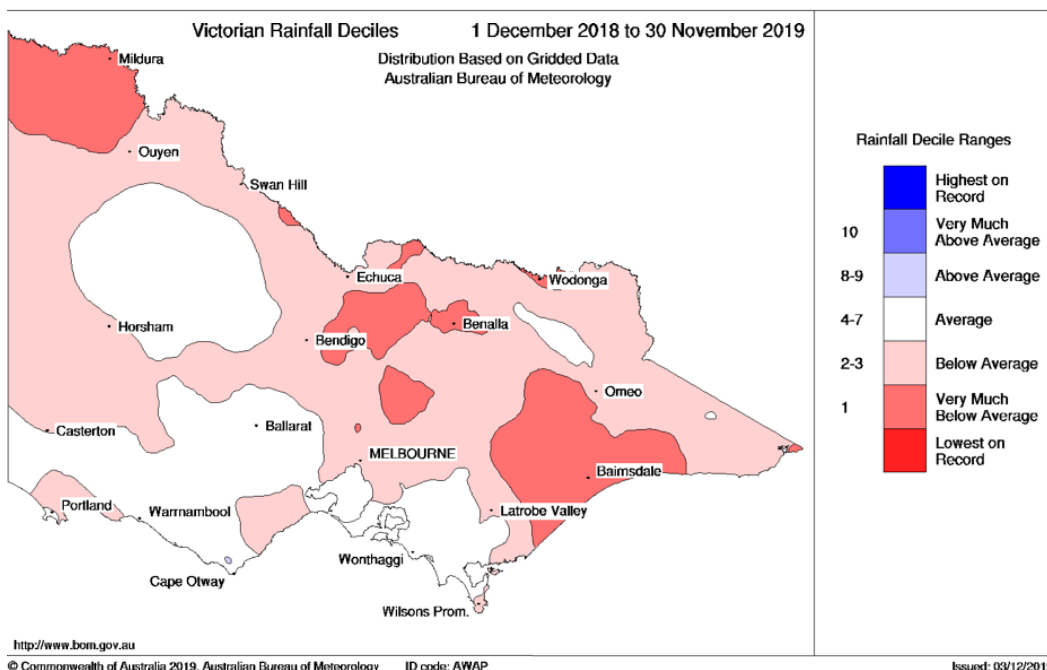
Again in 2019, in the absence of any waterfowl science designed for game management purposes, we are relying on climate data to predict waterfowl abundance, how can we do this without any modelling?

Rainfall averages do not take into account flooding events where 12 months of rainfall can fall in a single event, creating flooding events and filling wetlands, as is currently the case in South West Victoria and Gippsland.

Our position is that duck hunting in Victoria is sustainable, regardless of climatic conditions. We base that position on the fact that there is a vast amount of permanent habitat available, and that much of Australia is essentially a sanctuary.

Compared to other parts of Australia, Victoria has been lucky and received average rainfall over the last 12 months in most of the Glenelg Hopkins, Corangamite and West Gippsland catchments, as well as large parts of the Wimmera Catchment<sup>7</sup>, as witnessed by Dr Richard Kingsford during the Eastern Australian Arial Waterbird Survey (EAAWS).

*"Down here in Victoria was so different to what we have seen elsewhere, over the last three weeks to the north, during our surveys. We could have been in a different country, with the wonderful green carpet of pastures and full dams everywhere. There were some of these dams with black duck and grey teal. This was so different to other parts of the survey. Waterbirds seem to be doing well in this the most southern part of the mainland."<sup>8</sup>*



<sup>7</sup> Australian Bureau of Meteorology, <http://www.bom.gov.au/>

<sup>8</sup> Eastern Australian Waterbird Survey – 2019 Project Logs – Day 11 Sydney to Warrnambool

# Habitat Availability

Waterfowl populations have demonstrated resilience to long-term hunting, they continue to demonstrate their incredible ability to respond to weather through enormous breeding events in response to rainfall. The fundamental requirement for healthy populations of waterfowl is habitat.

*'The survival of many waterbird species in Victoria, despite ongoing reductions in wetland area and quality, and various forms of population harvest and control over the last 100+ years, reflects their high mobility, the fundamental importance of immigration and emigration (to and from wetlands outside of Victoria), and high breeding potential when optimal conditions prevail (inside and/or outside Victoria). From this perspective, most waterfowl species in Victoria are resilient.'*<sup>9</sup>

In the driest inhabited continent on earth, where there is water, life abounds. Wetlands feed and shelter some of Australia's rarest and most vulnerable plants, animals and ecosystems.<sup>10</sup>

## Saline Wetlands

In Victoria it is estimated that approximately one-third of natural wetlands have been lost through drainage since 1835<sup>11</sup>. This loss of natural wetlands is significant for the many species of ducks that use permanent coastal wetlands as refuges during summer, when inland wetlands dry out.<sup>12</sup>

We are lucky that we have coastal areas that support huge numbers of ducks on saline wetlands, ranging from the east: Mallacoota, Bemm River, Orbost/Marlo, Lake Tyers, the Gippsland Lakes system (including Lakes Entrance), Lake King, Jones Bay, Lake Victoria, Lake Wellington, Lake Coleman and Lake Reeve; through to Port Phillip Bay and surrounding wetlands including the Eastern Treatment Plant, the Ramsar-listed Western Treatment Plant and Lake Borrie, Limeburner's Lagoon, Swan Bay, Lake Connemara and the Lower Barwon River, Reedy Lake, and Hospital Swamp. In the west: Aire River, Curdies Inlet, Hopkins River, Lake Yambuk, and the many associated wetlands and estuary systems. In total Victoria has 120 estuary systems, 83 of which exceed 1 km in length.

Permanent saline wetlands support a greater abundance of total ducks than all other wetland types except waste stabilisation ponds (WSPs). The density is significantly greater on WSPs than all other wetland types.<sup>13</sup>

---

<sup>9</sup> *Developing a sustainable harvest model for Victorian Waterfowl*, D.S.L. Ramsay, D.M. Forsyth, M.J. Conroy, G. Hall, R.T. Kingsford, G. Mitchell, D.A. Roshier, C.J. Vellman, G. Webb, and B. Wintle, 2009.

<sup>10</sup> *Wetlands Australia National wetlands update issue 27*, Australian Government Department of the Environment, August 2015.

<sup>11</sup> *Wetlands of Victoria I. Wetlands and waterbirds of the Snowy River and Gippsland Lakes catchments*, Proceedings of the Royal Society of Victoria, A.H. Corrick and F.I. Norman, 1980.

<sup>12</sup> *Waterfowl in Australia*, 2nd edn, H.J. Frith, Angus and Robertson, Sydney, 1982.

<sup>13</sup> *What can a database compiled over 22 years tell us about the use of different types of wetlands by waterfowl in south-eastern Australian summers?*, C.G. Murray et al, 2012.

## Wastewater Treatment Plants

The significance of wastewater treatment plants and their stabilisation ponds to ducks has been well documented<sup>14</sup>, including in Victoria<sup>15 16</sup>. The importance of artificial wetlands to ducks has increased as a result of the loss of natural wetlands. Stabilisation ponds have been found to support significantly greater species richness, abundance and density of many waterfowl species, as well as a different waterfowl community to other wetlands (deep marsh, open water, permanently saline and semi-permanent saline wetlands)<sup>17</sup>.

Victoria has 198 wastewater treatment plants<sup>18</sup>, representing 4,875 ha of permanent wetlands habitat dispersed evenly throughout Victoria, where no hunting is allowed. These provide thousands of waterfowl important refuge.

Wastewater treatment plants have the capacity to hold large numbers of waterfowl. This has been documented in the ARI report *Waterbird monitoring at the Western Treatment Plant 2000-12, 2014*, which contains a 12-year data set, with a mean average of 33,500 game species. This year's Summer Waterfowl Count recorded 140,861<sup>19</sup> game species on the Western Treatment Plant. The Western Treatment Plant has regularly constituted more than half the birds counted during SWC, particularly in some recent years when fewer wetlands were surveyed state-wide. In 2019 78% of Australian Shelduck (51,672), 75% of Australasian (Blue-winged) Shoveler (10,437), 68% of Hardhead and Pink-eared Duck (11,511 and 36,089) and 65% of Pacific Black Duck (2,765) were counted<sup>20</sup>.

## Dams and Water Storages

Victoria has approximately 450,000 dams. The sizes of our dams range from major storages such as Dartmouth dam (about 4,000,000 ML), Lake Eildon (about 3,300,000 ML) and the Thomson dam (about 1,070,000 ML) to small swimming pool-sized dams on farms or lifestyle properties<sup>21</sup>. These smaller, privately-owned dams are the most common type of dam in Victoria. There seems to be a direct relationship between the number of farm dams and the number and broods of Wood Ducks<sup>22</sup>. The vast number of farm dams in Australia represents a considerable increase in habitat for Wood Ducks since European colonisation and resulting agricultural expansion. Since farm dams continue to be established, populations of Wood Ducks should continue to increase<sup>23</sup>.

---

<sup>14</sup> See *Perspectives on wastewater treatment wetlands and waterbird conservation*, Journal of Applied Ecology, C.G. Murray and A.J. Hamilton, 2010

<sup>15</sup> *Distribution of foraging waterbirds throughout the Lake Borrie ponds at the Western Treatment Plant, Victoria (Australia)*, The Victorian Naturalist, A.J. Hamilton and I.R. Taylor, 2005.

<sup>16</sup> *Balancing wastewater treatment objectives and waterbird conservation objectives and waterbird conservation at a major sewage treatment plant*, W.K. Steele, A.J. Hamilton, I.R. Taylor and R.H. Loyn, 5th World Water Congress, 10–14 September 2006. IWA Publishing, London, Beijing

<sup>17</sup> *Ibid* 10.

<sup>18</sup> Department of Environment, Land, Water & Planning website, accessed December 8, 2015.

<sup>19</sup> Victorian Summer Waterbird Count, 2019, P.Menkhorst, K.Stamaton and G.Brown, June 2019

<sup>20</sup> *Victorian Summer Waterbird Count, 2019*, P.Menkhorst, K.Stamaton and G.Brown, June 2019, ARI.

<sup>21</sup> <https://www.water.vic.gov.au/managing-dams-and-water-emergencies/dams> - Department of Environment Land Water and Planning

<sup>22</sup> *Farm dams*, B.V. Timms, 1980, in *An Ecological Basis for Water Resource Management*, ed. W.D. Williams, Australian National University Press, Canberra.

<sup>23</sup> *Managed Ducks and Farm Dams: a Success Story*, R.T. Kingsford, 1992, Emu 92, 163–169.

Together, Victoria's dams have a total storage capacity of about 13,400,000 ML.

Victoria's water storage levels are currently at 50%, down 10% on 2018 and they are well above levels seen during the Millennium Drought 1990–2010. Melbourne Water storage levels are at 64%, up 1% on 2018 and well up from their 2009 low of 26%.<sup>24</sup>

These water storage levels can also be an indicator of water that is available to the Victorian Environmental Water Holder (VEWH) for environmental entitlements and to Catchment Management Authorities (CMA) deliver environmental water.

As the dams become shallower, they also become functionally more like natural wetlands<sup>25</sup>. The shallower water providing excellent habitat for all waterbirds including ducks.

## Waterways

Victoria has 3,820 named waterways that total over 85,000 km. The top ten river systems by average flow are the Murray, Goulburn, Snowy, Ovens, Thompson, Yarra, Latrobe, Mitchell, Glenelg and Kiewa systems. These rivers provide ideal habitat for waterbirds, with many of them feeding extensive wetland networks.

Goulburn-Murray Water has 6,300 kms of channels, while not ideal habitat for all waterbirds when full, they become ideal habitat when the water level drops. All Victorian game species have been observed using the channel network, although they are a favourite of Pacific Black Duck and Australian Wood Duck.

## Natural Wetlands

Over 23,000 natural wetlands exist across Victoria. Wetlands are still water environments, usually occurring where water collects in depressions in the landscape from either surface water or groundwater and can include swamps and lakes. Some wetlands are dependent on groundwater for their existence; others rely on surface water run-off or large floods from adjacent rivers.

The 2013 inventory of Victorian wetlands<sup>26</sup> recorded 23,739 natural wetlands covering 604,322 ha, and 11,060 artificial wetlands covering 170,613 ha.

Some wetlands naturally have water in them all the time, while others naturally dry out for short or long periods of time.<sup>27</sup>

Victoria's Ramsar Wetlands:

- Barmah Forest – 28,515 ha.
- Corner Inlet – 67,192 ha.
- Edithvale-Seaford Wetlands – 261 ha.
- Gippsland Lakes – 60,015 ha.
- Gunbower Forest – 19,931 ha.

---

<sup>24</sup> Bureau of Meteorology

<sup>25</sup> *Prioritizing Wetlands for Waterbirds in a Boom and Bust System: Waterbird Refugia and Breeding in the Murray-Darling Basin*, G. Bino, R.T. Kingsford, and J. Porter, 2015.

<sup>26</sup> Victorian Wetland Inventory - <https://discover.data.vic.gov.au/dataset/victorian-wetland-inventory-current>

<sup>27</sup> Department of Environment, Land, Water & Planning.



- Hattah-Kulkyne Lakes – 955 ha.
- Kerang Wetlands – 9,419 ha.
- Lake Albacutya – 5,731 ha.
- Port Phillip Bay (Western Shoreline) and Bellarine Peninsula – 22,645 ha.
- Western District Lakes – 32,898 ha.
- Western Port – 59,297 ha.
- Total Ramsar Wetlands - 306,859 ha.

In summary, there are vast areas of wetland and suitable habitat within Victoria and across the country. Given the nomadic nature of Australian waterbirds, and the abundant habitat and refuge found within areas such as wastewater treatment plants, the evidence suggests that habitat availability, distribution and extent is far greater than estimated.

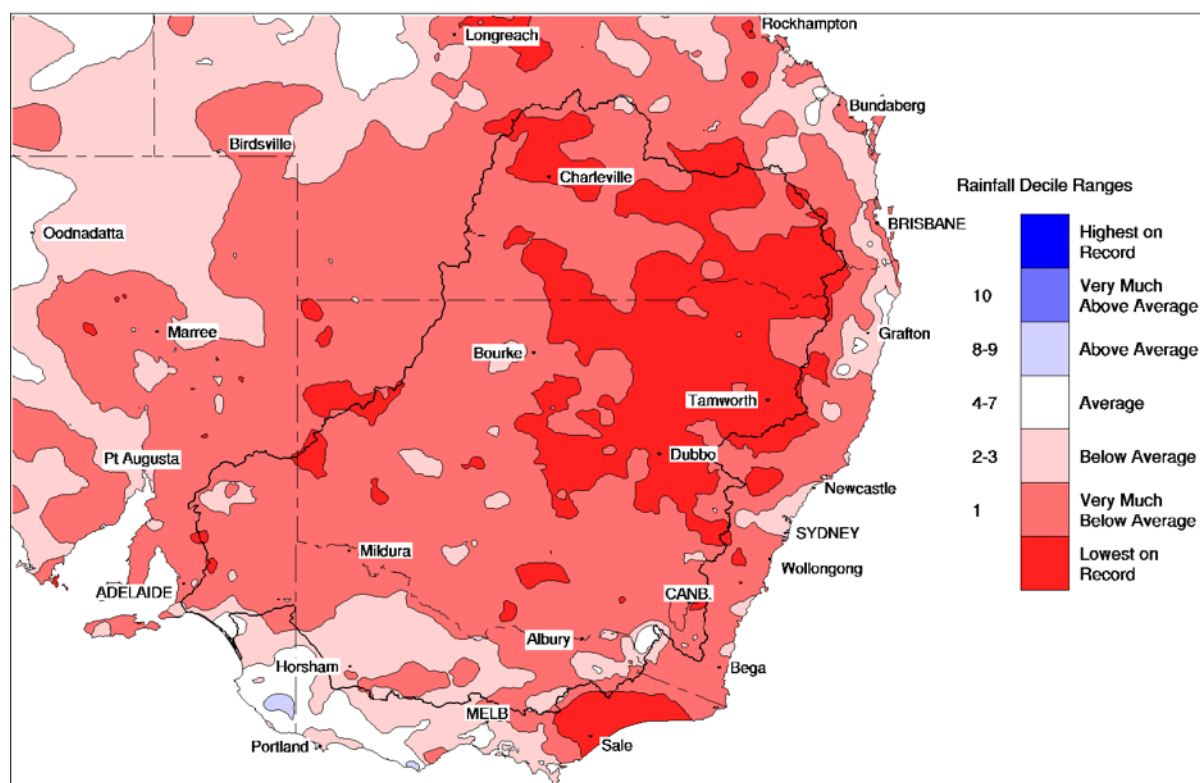
# 2019-2020 Annual Waterfowl Quota Report

## New South Wales – Department Of Primary Industries

In 2019 the NSW DPI conducted surveys of waterfowl within the Riverina region of NSW. Drones were used to survey larger irrigation dams, wastewater treatment ponds and lakes, a helicopter was used to survey small farm dams in. The numbers of waterfowl observed from the sample of waterbodies was extrapolated to the Riverina region to establish an estimate of abundance for each species for the region<sup>29</sup>.

The NSW Riverina is situated in the heart of the Murray Darling Basin, while being a critical area for waterfowl production it has experienced a prolonged period of drought.

Murray-Darling Rainfall Deciles 1 December 2016 to 30 November 2019  
Distribution Based on Gridded Data  
Australian Bureau of Meteorology



<http://www.bom.gov.au>

© Commonwealth of Australia 2019, Australian Bureau of Meteorology ID code: AWAP

Issued: 03/12/2019

<sup>29</sup> 2019-2020 Annual Waterfowl Quota Report to the Game Licensing Unit, NSW Department Primary Industries

All waterbodies and dams within the Riverina region were mapped and categorised by size (small, medium and extra-large) and combined with mapping layers for wastewater treatment ponds, natural lakes and wetlands

### **Estimating Waterfowl Abundance**

To estimate total abundance for all waterfowl species, the observed numbers of waterfowl collected during the surveys are extrapolated to a known number of dams in the Riverina region (minus the estimated proportions of dry dams).

#### **Small Dams**

- 45,065 small dams were mapped
- 1252 were surveyed from a helicopter
- 16.8% were dry
- 44.6% of dams with water were occupied by at least one duck

#### **Medium Dams**

- 193 medium dams were mapped
- 18 were surveyed with a drone
- 69% were dry
- 100% of dams with water were occupied by at least one duck

#### **Large Dams**

- 168 large irrigation dams were mapped
- 16 were surveyed with a drone
- 72% were dry
- 98% of dams that had water and were occupied by at least one duck

#### **Extra-large Dams**

- 41 extra-large irrigation dams were mapped
- 5 were surveyed with a drone
- 78% were dry
- 100% of dams with water and were occupied by at least one duck.

#### **Wastewater treatment ponds**

- 39 wastewater treatment ponds were mapped
- 19 were surveyed with a drone

## Results

Species	Estimated abundance in the Riverina region	Quota for 2019-2020 (assuming 10% harvest rate)
Grey Teal	172,292	17,229
Australian Wood Duck	72,816	7,282
Pacific Black Duck	110,051	11,005
Hardhead	3,656	366
Pink-eared Duck <sup>†</sup>	3,498	350*
Blue-winged Shoveler <sup>†</sup>	4,379	438*
Australian Shelduck <sup>†</sup>	7,143	714*
Chestnut Teal <sup>†</sup>	1,216	122*
Plumed Whistling-Duck <sup>†</sup>	22,260	2,226*

Despite the prolonged period of drought, the Estimated Abundance in the Riverina Region totalled 397,311 game birds.

## Conclusion

Although the report contains the following statement, "The low numbers of ducks is likely due to the reduced availability of standing water across the Riverina region this year. The extensive irrigation channel network was not surveyed in 2019, incorporating the irrigation channel network will improve confidence in the estimated numbers", the number of gamebirds estimated is more than the average harvest of 373,229 in Victoria and much larger than the 118,761 counted during the EAAWS.

The results of the survey data indicated that common species such as Pacific Black Duck, Grey Teal and Australian Wood Duck were most likely to be found on small dams. These three species make up nearly 90% of the total number of waterfowl species that were surveyed in the Riverina, they also make up 88% of the annual harvest in Victoria.

All of these game birds, mostly on man-made waterbodies during a time of prolonged drought, what implications does that have for waterfowl management in Victoria?

## Considerations

The NSW DPI survey looks at waterfowl numbers in the NSW Riverina, a small part of the Murray Darling Basin.

When we relate this to the estimated 450,000 dams in Victoria the numbers increase exponentially.



We believe that this critical information needed to be included in the "Considerations for the 2020 duck season" pack supplied to stakeholders, as it is designed for game management purposes.

Our position is that the GMA needs to consider this relationship with regards to potential numbers of ducks in the Murray Darling Basin and across the rest of the state of Victoria.

# Eyre Basin

Two heavy rainfall events across the upper-Diamantina and Georgina River catchments from late January to March 2019 generated notable runoff in the Lake Eyre Basin. Over eight Sydney Harbours worth of water passed through Birdsville between the start of February and the end of June. Water first reached Kati Thanda–Lake Eyre in mid-March, with inflows peaking later in March and early June, before slowly receding.

The Lake Eyre Basin is one of the world's larger internally draining river systems, covering approximately 1.2 million square kilometres across South Australia, the Northern Territory and Queensland.



The Lake Eyre Basin contains large areas where river flow is unregulated. The creeks and rivers only flow for short periods following significant rainfall.

There are many areas of high conservation importance in the Lake Eyre Basin. Following inflows, many waterbirds flock to the lakes and rivers to feed and breed.

Flooded waterways support aquatic invertebrates, fish populations, a diverse frog community and rare plants. Some wetlands in the Lake Eyre Basin support fish known to reach 80 years old.

In 2018, annual rainfall was below average across much of the Basin and in parts of the south rainfall totals were in the lowest 1% on record.

Although 2018 was generally very dry across most of the Lake Eyre Basin the Diamantina River did flow and result in inflow to the lake.

### Summer monsoon (1st Flood Event)

An active monsoon trough and a slow-moving low-pressure system caused heavy rainfall over the northern area of the Lake Eyre Basin between 29 January and 8 February.

Much of the northern parts of the Diamantina and Georgina catchments received more than 300 mm of rainfall during these eleven days. The rain gauge at Trepell Airport, located in the north of the Georgina River catchment, recorded 448 mm during this period.

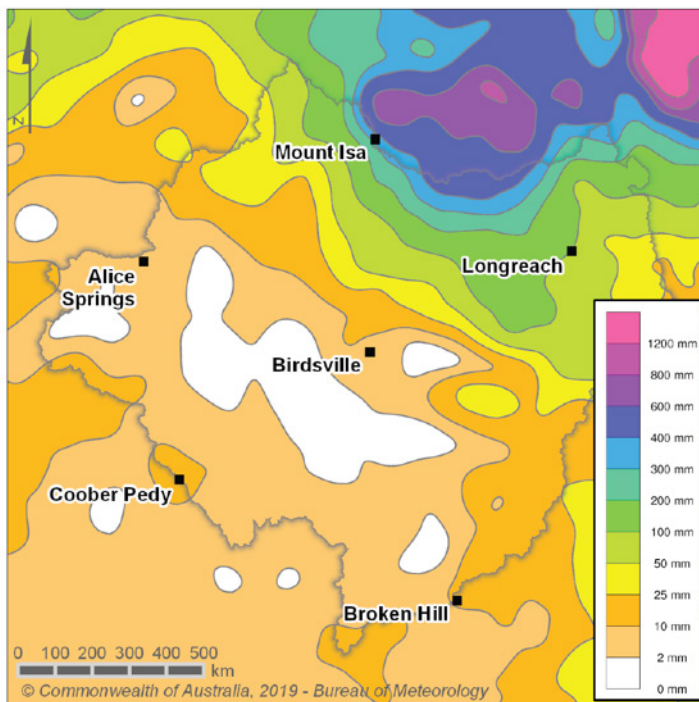


Figure 3. Total rainfall (mm) in the Lake Eyre Basin in January and February, 2019

On 15 February, the first of the flood water from the summer monsoon event reached Birdsville on the Diamantina River.

The Diamantina River at Birdsville Police Station gauge has a major flood level of 8 metres and the river level exceeded this from 20 February to 3 March.

On 22 February the Diamantina River gauge at Birdsville peaked at 8.15m, with a peak flow estimated of over 2000 cubic metres per second, surpassing the peak river heights of significant floods in 1999, 2000 and 2009—but falling short of the major flood of 1974 where it peaked at 9.45 m.

There is a less than 10 per cent chance of a flow like this occurring in any year. It was half of the largest flood (total volume) on record in 1974.

On 5 March, the start of the flow reached Poothapoota Waterhole. The flow peaked there on 9 March.

On 15 March, the first flows reached the northern tip of Kati Thanda–Lake Eyre.

This flow took 15 days to travel from the Diamantina Lakes to Birdsville, 12 days from Birdsville to Poothapoota and around 10 days from Poothapoota to Kati Thanda–Lake Eyre.

By late March, the water had receded in the Diamantina between Birdsville and the Goyder Lagoon, and the vast flood plain was 'greening', following the inundation of the preceding weeks.

### Ex-Tropical Cyclone Trevor (2nd Flood Event)

During the last week of March, ex-Tropical Cyclone Trevor delivered a second wave of rainfall over a larger area to the north and east of the Lake Eyre Basin.

Over four days (26–29 March) Trepell Airport received 211 mm, Urandangi Airport received 165mm and Winton Airport received 153mm.

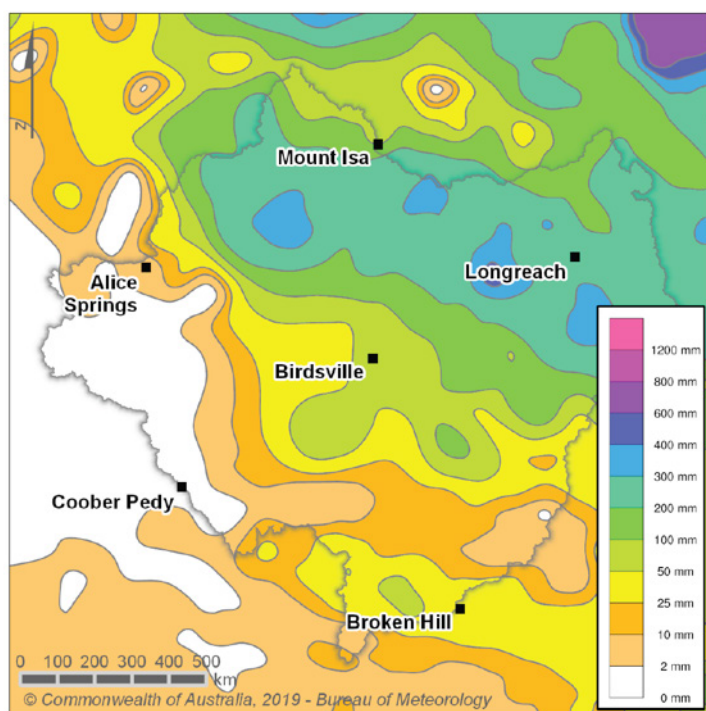


Figure 4. Total rainfall (mm) in the Lake Eyre Basin in March, 2019

In this flow, there was a greater contribution from the Georgina River and lesser from the Diamantina River compared with the first flow. Flow from both of these rivers ceased in July.

The Cooper also flowed in both flow events but did not contribute to Kati Thanda–Lake Eyre inflow.

The water level at Birdsville measured 2.4 m on 18 April and rose steadily to peak at 7.7 m on 29 April.

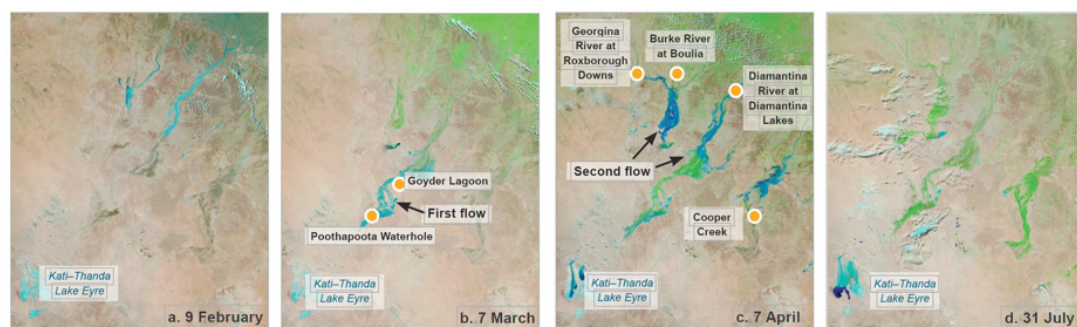


Figure 7. Flood waters in the Lake Eyre Basin from NASA Worldview (<https://worldview.earthdata.nasa.gov/>)



## **Georgina River and Eyre Creek catchments**

The catchment drains an area of over 200 000 sq km. It rises to the northwest of Mt Isa with three main tributaries, the Buckley, James and Ranken rivers. Further inflow enters the system from numerous creeks and rivers, the two main tributaries being the Burke and Hamilton rivers. The Burke River drains the area to the north of Boulia and enters the Georgina River about 20 km upstream of Marion Downs, while the Hamilton rises to the northeast of Boulia and enters the Georgina River below Marion Downs.

The final gauge for this river system is at Glengyle Station. From there it's over 300 km (as the crow flies) to the Goyder Lagoon.

The January/February rain resulted in water level at Glengyle reaching about 3.5 m in the latter part of February. However, water didn't progress far past Glengyle. The rain from ex-tropical cyclone Trevor was much more significant here with the water level reaching 4.9 m early in March. The flow then tracked through the dry desert areas, finally reaching the Goyder Lagoon in early May.

## **Goyder Lagoon**

Goyder Lagoon is located within an area of 2,684 square kilometres which has been identified by BirdLife International as an Important Bird Area (IBA) principally because, when flooded, it supports large numbers of waterbirds, with a total of 170,000 estimated from aerial surveys in 2002 and 420,00 in 2009.<sup>33</sup>

## **Lake Eyre Basin**

Floodwaters drained through the Goyder Lagoon, part of the Lake Eyre Basin. Water flows from the lagoon into the Warburton River on its way to Kati Thanda-Lake Eyre—one of the largest saltwater lakes in the world.

The Lake Eyre Basin region covers approximately 1.2 million sq km of arid and semi-arid central Australia. That's 17 per cent of the continent—nearly five times the size of the UK! It stretches, north to south, from just below Mount Isa in Queensland to Marree in South Australia. From west to east, it extends from Alice Springs in the Northern Territory to Longreach and Blackall in central Queensland. This is the world's largest internally draining system.

## **A 'green lining'**

While Kati Thanda-Lake Eyre didn't completely fill, this amount of water creates a desert oasis for a variety of birdlife, which breed on its islands and shoreline.

The floodplains of the Diamantina River and other channels in central Australia are also rejuvenated after years of drought.<sup>31 32</sup>

---

<sup>31</sup> BOM - Queensland floods: the water journey to Kati Thanda-Lake Eyre - March 2019

<sup>32</sup> BOM - Flows into Kati Thanda-Lake Eyre, Water Focus Report - Autumn 2019

<sup>33</sup> BOM - Flows into Kati Thanda-Lake Eyre, Water Focus Report - Autumn 2019

Much of this habitat, including Goyder Lagoon are not covered by the Eastern Australia Waterbird Survey as it is outside of band 7.

Here is some of what the EAWS did find in the northern Eyre Basin:

### **Band 6**

Lake Machattie (>18,000ha)

"A spectacular site, supporting thousands of waterbirds including Grey teal, pink eared duck, black duck, freckled duck, herons cormorants ibis and spoonbills, terns, black tailed native hens, pelicans and migratory waders."

Lakes Torquinnie and Mumbleberry

"They also supporting thousands of waterbirds – but not as densely distributed as on the Georgina river wetlands. We find moderate numbers of grey teal pink eared ducks, black ducks freckled ducks, migratory waders, egrets, herons, brolgas and avocets."

### **Band 7**

"Our first target on survey band 7 is the Diamantina again – and there are several large claypans holding water, including Lake Uloowarranie. It's a shallow productive habitat and we find thousands of waterbirds – mainly pink eared duck, grey teal, wood duck, spoonbills and stilts."<sup>34</sup>

As these Channel Country wetlands inevitably dry out again, these birds – the adults that bred, and their surviving progeny – have to disperse out of the region.

In 2009 surveys performed by the Australian National University, University of New South Wales and Wetlands International confirmed and further quantified an emerging understanding of the role of Channel Country wetlands in sustaining waterbirds in Australia and in the flyway. These wetlands continue to provide extensive feeding and breeding opportunities sufficient to make a significant contribution to whole populations of many waterbird species.

These findings demonstrate the importance of widespread networks of inland wetlands, comprising complementary wetland types across multiple river systems. The role played by flood events in intermittently connecting these widely spaced and diverse arrays of important wetlands is a significant part of these critical ecosystems.<sup>35</sup>

---

<sup>34</sup> Eastern Australian Waterbird Survey – 2019 Project Logs

<sup>35</sup> Waterbird surveys in the Channel Country floodplain wetlands, autumn 2009, Australian Government Department of Environment, Water, Heritage and the Arts J. Reid, R. Kingsford and R. Jaensch February 2010

# Sustainable Hunting Action Plan (SHAP)

---

Hunting organisations welcomed the launch of the Sustainable Hunting Action Plan (SHAP) 2016. While momentum with delivery of the SHAP has taken some time to build, the four objectives and underlying actions comprise a long list to deliver in four years. The value of the SHAP as an initiative not only provides clearly defined deliverables, it is an important mechanism for Government to mobilise and coordinate efforts across multiple agencies. It is a clear public statement of the Government's commitment to sustainable hunting in Victoria.

The role of Government in establishing this important initiative is acknowledged, and we thank all those involved with delivering the completed Actions, and for the progress on the Actions that are underway.

It is our firm position that the objectives of the SHAP delivers not only for sustainable hunting, but importantly for improved habitat through the series of practical, on-ground projects. We know these outcomes are sought by everyone with a genuine interest in healthy wetlands.

There is more to be done, that goes without question. We are concerned the continuous debate on waterfowl numbers takes away from the critical issues - being habitat, water, and the collection of meaningful data. There is a clear and common message about the declining and critical state of our wetlands, this is highlighted in the audit of State Game Reserves<sup>36</sup>.

The SHAP doesn't solve the issues with the health of our wetlands, but it does define critical areas for focus, which provide practical outcomes that will improve our wetlands.

More is required to complete the delivery of the SHAP as we enter the fourth and final year. A number of Actions still remain to be completed to fulfil the objectives. History will judge whether the SHAP was overly optimistic, much has been achieved, momentum has been created and many great outcomes are evident.

Two key areas have been identified:

**4.1.1 Undertake research, monitoring and evaluation** — by developing a game species research strategy to better understand the distribution, abundance and recruitment of game species and the impact of hunting activity.

---

<sup>36</sup> An audit of Victoria's State Game Reserves, Game Management Authority May 2016

The Game Management Research Strategy sets the strategic framework, based on research, that is critical for effective game management. The ability to deliver a Game Management Research strategy is essential to drive investment and guide research programs in Victoria. Research required now and the longer this is delayed it will only add to the current debate. This is contrary to the expectations of the Government to move to take the politics out of game management decisions.

**4.1.5 Undertake research, monitoring and evaluation** — by implementing the Waterfowl Conservation Harvest Model (WCHM) to ensure the sustainable management of game ducks

The Conservation Harvest Model (WCHM) is an Adaptive Harvest Management (AHM) framework used for the management of waterfowl hunting. AHM has been used in North America since 1995. Best practice has recently been observed by FGA, and can contribute to the development of the AHM in the Australian context. It's acknowledged that AHM assumes a level of risk, however the critical risk is the detrimental effects on waterfowl population from overharvest.

A key requirement AHM is that stakeholders (including Ministers) must have confidence in the approach and its recommendations regarding season lengths and bag limits. The commitment to the WCHM made in 2018 by the Victorian State Government demonstrates they have confidence and commitment in AHM (Letter dd 14 November 2018).

These two Actions require urgent attention, as the approach to setting duck seasons we are faced with only serves to reinforce that action is needed to improve the process.

The momentum developed with the 2016-2020 SHAP provides the platform for the next version for 2021-2025. Learnings from the pilots and test projects already offer ways to enhance the development, design and delivery of the 2021-25 SHAP.

This progress must be applauded by all stakeholders with a genuine interest in the improvement and the health of our wetlands and season setting processes.



# Recommendations

---

1. Implementation of the legislated hunting season with restrictions for 2020,
  - Season Opening: Saturday 4th April 2020 (modified)
  - Season Closing: Monday 8th June 2020 (modified)
  - Season Length: 66 days (modified)
  - Opening Times: Saturday 8:00am (ADST)  
Sunday 7:00am (AEST) (due to daylight savings)  
30 minutes before sunrise (all other times)
  - Bag Limit: Six (6) birds (modified)
2. Implementation of the Waterfowl Conservation Harvest Model (WCHM) using scientifically robust climate, abundance and harvest data from New South Wales, South Australia and Victoria as the key inputs.  
**(Sustainable Hunting Action Plan Objective 4.1)**
3. Improved monitoring of waterfowl abundance in Victoria using all available methods including aerial (UAV and Helicopter) and ground-based techniques.  
**(Sustainable Hunting Action Plan Objective 4.1)**
4. Tagging, banding and monitoring programs to better understand waterfowl movements and breeding cycles.  
**(Sustainable Hunting Action Plan Objective 4.1)**
5. Commitment to improving wetland habitat for waterfowl across the state of Victoria.  
**(Sustainable Hunting Action Plan Objective 4.2)**

# Conclusion

---

Decisions applied to game management must be based on facts and data, not instinct, intuition, ideology, or prejudice.

Since 1958 FGA has worked collaboratively with government agencies and continues to strive for the development and implementation of a robust and effective management model for the harvest of ducks.

Field & Game Australia look forward to working with government agencies on the development and implementation of the Waterfowl Conservation Harvest Model.