
RE: RE: RECOMMENDATION TO VARY THE 2021 DUCK SEASON ARRANGEMENTS

Core message

The GMA has received a report evaluating the pilot game duck abundance and distribution aerial survey conducted in November 2020. The report is presented to you for information. In light of the findings and estimates of total abundance of game ducks in Victoria, the GMA Board recommends that the arrangements for the 2021 duck season be varied to increase the daily bag limit from two to five birds and remove the geographical restriction on the hunting of Grey and Chestnut Teal to allow them to be hunted throughout the state. The GMA intends to publicly release the evaluation report on Thursday 15 April 2021. A communications plan has been prepared to support its release that includes direct consultation with key stakeholders.

As advised Minister, I would be very pleased to meet with you at any suitable time to discuss this briefing.

Timing

Due	23 April 2021
Explanation	So as the necessary legal instruments can be implemented prior to the commencement of the season and sufficient notice can be given to stakeholders and government agencies to allow for planning.

Recommendation

That you:

1. approve the recommendation to increase the daily bag limit from two to five game ducks
2. approve the recommendation to remove the restriction on hunting teal species north of the Princes Highway / Freeway
3. approve the recommendation to leave all other arrangements unchanged
4. note the GMA intends to publicly release the evaluation report on Thursday 15 April 2021.

Recommendation 1 Approved Not approved Noted Returned for review

Recommendation 2 Approved Not approved Noted Returned for review

Recommendation 3 Approved Not approved Noted Returned for review

Recommendation 4 Approved Not approved Noted Returned for review

Minister's Comments

Signed

Mary-Anne Thomas MP
Minister for Agriculture

Date

To: Minister for Agriculture



Approved by

Removed

Date

8 April 2021

Brian Hine, Chair Game Management Authority

Endorsed by: Graeme Ford, CEO Game Management Authority

Prepared by:

From	GAME MANAGEMENT AUTHORITY	Ref
Title	RECOMMENDATION TO VARY THE 2021 DUCK SEASON ARRANGEMENTS	File
		Due 23 April 2021

1. Key Information

The Arthur Rylah Institute for Environmental Research (ARI) has prepared a report (Attachment 1) which evaluates the performance of a pilot game duck monitoring program and presents total abundance estimates derived from the November 2020 aerial survey.

A review of the survey methodology and approach to data treatment conducted by an expert who works in this field commends its design, analysis and interpretation of results (see Attachment 2). In his review, Dr Steve McLeod, Senior Research Scientist, New South Wales Department of Primary Industries, stated “The analysis of monitoring design is a benchmark for other wildlife monitoring studies. I have no reservation is commending the approach that Ramsey has taken, and the expertise demonstrated in the analysis and interpretation of results. The analysis of survey data adds some important improvements to the similar analysis currently used to estimate waterfowl abundance in the Riverina region of NSW.”

Pilot to trial monitoring program design

The Game Management Authority (GMA) commissioned development of a game duck monitoring program that would collect rigorous data on game duck abundance and was suitable to model population responses to environmental drivers and any impacts of harvesting. A report was released in June 2020.

The monitoring program was theoretical and used an historic data set in its design. The approach proposed the use of cutting-edge techniques to determine game duck abundance, with broad-scale helicopter surveys at randomly selected farm dams, sewerage ponds and natural wetlands throughout the state to determine game duck density, and satellite imagery to detect the extent of water in the Victorian landscape. Once the extent of water was determined, extrapolations could be made to estimate the total abundance of game ducks in Victoria.

To test the rigor of the monitoring program under real world conditions, a pilot helicopter survey was conducted by the GMA in November 2020 and data was analysed by ARI in the following months. As this was a new approach for Victoria to determine absolute abundance, there was the possibility that there could be some problems in data collection, analysis or the program design itself. There were some challenges in organising the data into a useable form and satellite imagery assessments had to be refined. These challenges caused some delay in processing the data and abundance estimates were not available at the time that the GMA provided advice to you on the possible arrangements for the 2021 duck season. These challenges were resolved and a final evaluation report with recommendations for improvement was received from ARI on 7 April 2021.

Total abundance estimates

The pilot aerial survey has provided the first robust estimates of the total game duck abundance in Victoria. The survey estimated there were more than 2.45 million game ducks in Victoria in November 2020. This comprised an estimated 981,000 Grey and Chestnut Teal (these species were grouped as it was not possible to distinguish female Chestnut Teal from Grey Teal during the aerial survey), 328,000 Black Duck and 690,000 Wood Duck. These species routinely make up 90 per cent of the annual game duck harvest in Victoria. Other species' abundances were 407,000 Mountain Duck and 55,000 Hardhead. Too few Blue-winged Shoveler and Pink-eared Duck were detected to reliably estimate total abundance.

The total abundance estimate is likely to be an underestimate as creeks, rivers and irrigation channels were not included in the sampled areas. Sewerage ponds were excluded from the analysis as the sample size was too small.

This is the first total abundance estimate of its type in Victoria. There are no previous figures to compare it with to determine whether this is a high, medium, or low abundance or whether populations are stable, increasing or decreasing. However, the Eastern Australian Waterbird Survey shows game duck abundance indices throughout eastern Australia are below the historical long-term average.

Seasonal harvest arrangements

The report also provides combinations of season lengths and daily bag limits that would achieve a conservative recreational harvest offtake of 10% of the estimated total game duck population in Victoria. The report notes that there is a level of uncertainty around the strength of the relationship between regulations and harvest due to limited historic data.

The 10% harvest total of 245,200 birds is below the average seasonal harvest of approximately 350,000 birds and none of the recommended combinations equate to those prescribed for a full season. The following combinations are contained in the report:

Season length (days)	Daily bag limit
30-50	8
50-70	6
70-90	5
90-120	4

Report recommendations

The evaluation report provides several recommendations on how the monitoring program can be refined. The key recommendations were:

- increase the number of sampled waterbodies
- implement alternative sampling methods for waterbodies where it is not feasible to conduct aerial surveys with a helicopter
- include waterways (i.e. rivers, large streams and irrigation channels) into the survey.

Integrity of the monitoring program and future monitoring activities

The evaluation report (Attachment 1), together with the expert assessment of the survey design and approach to data analysis (Attachment 2), provides the GMA with confidence in the proposed monitoring program, while noting recommendations to improve precision.

The approach provides estimates of game ducks across Victoria which can be further improved and expanded interstate in collaboration with other agencies and will be essential in delivering on the government's commitment in 2016 as part of the governments Sustainable Hunting Action Plan to implement adaptive harvest management (AHM) as the basis for maintaining the sustainability of recreational ducking hunting in the future. AHM has been used throughout North America since 1995 and was implemented in several Scandinavian countries in 2014-15. The GMA has done much to assist government in delivering AHM, including reviewing the original approach in 2017, designing a monitoring program to inform AHM in 2020 and now trialling the monitoring program to test its rigor and suitability. Currently, the monitoring program is unfunded and resources are required to implement the evaluation report recommendations and undertake future surveys.

The GMA is currently exploring opportunities with conservation and hunting organisations to assist with data collection where the use of helicopters is not possible due to safety hazards or restricted airspace.

Implications and recommendations

While the GMA acknowledges that the data contained in the report does not support a full duck season in 2021 based on Victorian game duck abundance alone, the abundance estimates highlight that the current duck season arrangements are conservative and that it would be appropriate to allow for a greater offtake without any threat to game duck sustainability in what is a recovery year following four years of dry conditions. The abundance estimates also do not consider the abundance of those highly mobile game duck species which were in other parts of eastern Australia during the time of the helicopter surveys in November 2020.

Also, teal species (Grey and Chestnut Teal) were found to be the most numerous and widespread species in the state and were common in low numbers on many farm dams. While Grey Teal in particular have been shown to be in decline at the eastern Australian continental scale, numbers detected in the pilot surveys show that teal species are sufficiently abundant so as not to require special restrictions on harvest.

In the above context, the GMA recommends:

- increasing the daily bag limit from two birds to five birds
- removing the restriction on hunting the teal species north of the Princes Highway / Freeway.

Climatic conditions have eased since you were previously briefed on duck season arrangements. At that time, predicted above-average rainfall associated with a La Nina weather pattern had not eventuated. Since that time, large parts of New South Wales and Victoria Australia have received above average rainfall in the last three months.

It would not be logistically possible to increase the length of the season. This is due to the five-week period required for DELWP to lead priority waterbird counts to detect wetlands requiring closure or

further regulation, consult with stakeholders and implement any changes through legal instruments approved by both responsible Ministers. The current prohibition on the hunting of Blue-winged Shoveler for the 2021 duck season should remain in place.

Social and economic impacts

Increasing the daily bag limit to five birds and removing the restriction on teal may encourage more hunter participation and generate greater economic benefit to regional and rural communities. This would also provide increased social benefits for hunters.

If the season length is not increased, those who are negatively impacted by duck hunting will not be affected by a longer period of hunting, however, there may be increased hunting activity on hunting days as more birds would be allowed to be taken. This may impact on amenity and disturbance. If the recommendations presented here are accepted, the season length will be the shortest season conducted in Victoria in recent memory with a daily bag limit reduced by half. The net impact on those who are disturbed or inconvenienced by duck hunting therefore, will be less than under the seasonal arrangements as regulated.

Communications

The GMA intends to publicly release the report on Thursday 15 April 2021. A communications plan has been prepared to support its release.

2. Context

In 2016, government committed to implementing adaptive harvest management for duck hunting in Victoria as a key action under the Sustainable Hunting Action Plan. The aim of the 2020 November pilot survey was to:

- determine whether the data were suitable for providing robust estimates of the abundance of game ducks
- evaluate the survey results to identify possible improvements to the survey design to increase confidence in the results, and
- investigate the use of the abundance estimates for setting seasonal duck hunting arrangements.

On 6-18 November 2020, helicopter aerial surveys of game ducks were undertaken at randomly selected wetlands and waterbodies throughout Victoria, including farm dams, sewerage ponds and natural wetlands.

3. Consultation

N/A

4. Attachments

Attachment 1 ARI Report – Abundance Estimates for Game Ducks in Victoria

Attachment 2 Evaluation of survey design and data analysis