

Comments on GMA's use of their helicopter survey to revise 2021 season arrangements¹

At the stakeholder consultation meeting on 6 Jan 2021, Simon Toop told shooters that the Nov 2020 helicopter survey was only a snapshot – a pilot survey to test methodology, and not an accurate count that could or should be used to make a decision on the 2021 season.

We agree with that view. However it seems GMA has now been persuaded to use the survey report to justify a government backflip - caving in to shooter anger about the reduced season for 2021.

Inaccuracy of the 2020 helicopter survey

- The aerial survey was done 6 months before the scheduled start of the shooting season. Since then, record floods have occurred in NSW and Qld. Ducks are known to fly north in search of such conditions. Even if the survey had been accurate in November (see below – it wasn't) **it is grossly out of date and inappropriate as a management tool for deciding bag limits and season "harvest" for 2021. The number of game ducks in Victoria in May 2021 will likely be a mere fraction of those that were here in Nov 2020.**
- Two methodologies were used: design-based (DB) and model based (MB). Neither was reliable.
 - The DB method yielded a 95% confidence interval (p2) for the estimate of game duck abundance: it was pretty sure to lie in the range 1.84m and 3.3m, with a proposed best estimate of 2.45m. So the duck abundance could well be as low as 1.84m, a whopping 25% lower than the 2.45m estimate adopted by GMA. This matters because GMA then calculates an arbitrary 10% of that population as the intended season cull figure: 245,000 game ducks. The 10% cull could be as low as 184,000 rather than 245,000 – a difference of 62,000 ducks. That discrepancy is similar to the total number of ducks shot last year.
 - The DB method predicted that Hardhead could be as low as 21,600 but possibly up to 7 times that number!!
 - The MB method was tested for accuracy against known counts of ducks in NSW (p20). It failed abysmally. For Pacific Black Duck it produced one-fifth of the known total, and for Australian Shoveler (Mountain Duck) it predicted twenty times the true number!
- The report (pp25-26) provides no less than 7 recommendations for modifications that should be made in future to "provide more robust estimates of abundance" that would be suitable for setting the annual seasonal arrangements.

The survey as a management tool for the 2021 season

- On p24 the report notes that in order to be useful for management objectives (setting season limits etc) "*abundance estimates should have a level of precision (coefficient of variation) of 15% or less...*"

¹ In these notes, "the report" refers to *Abundance Estimates for Game Ducks in Victoria: Results from the 2020 Aerial Survey*, Ramsey and Fanson, Arthur Rylah Institute, 2021

- However the report then admits that **none of the DB estimates for the individual species met that required level of accuracy.**
 - On p25 the report notes the need for *“further investigation... to build more confidence in [MB] estimates before they could be used to reliably estimate statewide duck abundance...”*.
 - **So why have the results of this survey been used to justify increasing the bag limit and removing the Teal restriction for 2021?**
- The helicopter survey was unable to distinguish between the two species of Teal (Chestnut Teal and Grey Teal). The two species are combined in the DB and MB results on pp17-18. This is of particular concern, given that GMA had previously banned the shooting of any Teal north of Princes Hwy because the two species are difficult to distinguish and Kingsford’s work had shown that they had not recovered despite recent rains. **The report provides no evidence to show that each of these Teal species is present in sufficient numbers to remove that ban.**
 - The survey found so few Pink Eared Duck that neither of the DB or MB methods could be applied. **Of the 13,394 game ducks counted by the helicopter survey in Victoria, only 16 ducks (0.1%) were Pink Eared Duck. If GMA wishes to act on the findings of the survey, why is Pink Eared Duck still available to shooters?** [Only 6 Blue-Winged Shoveler were counted, justifying a continuing ban on shooting that species.]

The arbitrary 10% cull

- On p12 the report states: *“A 10% harvest for game ducks is consistent with sustainable harvest offtake rates estimated for waterfowl in North America ... and mirrors the offtake rate recommended for duck control in the Riverina district of NSW...”* However we strongly reject the adoption of this arbitrary 10% figure because:
 - Australia’s game ducks are in long-term decline as a result of the ways in which this country has diverted water from their habitat, and climate change has altered rainfall patterns. These impacts are unique to Australian conditions. The life cycle and breeding patterns of our game species will be quite different to those of foreign birds. **There is no evidence that a cull that may be sustainable in another country with different climate and species is transferable or appropriate for Victoria.**
 - In NSW the DPI has imported this arbitrary 10% cull for its so-called pest control program among rice-growers. However the total size of the NSW cull is tiny compared with the annual slaughter in Victoria. And the actual cull in NSW is usually well below the permitted cull. **There is no evidence that the 10% cull adopted by DPI in NSW would be sustainable or appropriate for Victoria.**
 - **The only pertinent fact is that the long-term decline of game duck species continues across the eastern states, as scientifically measured by the EAWS. That evidence, coupled with the lack of observed breeding in EAWS, supports a total ban on recreational shooting until populations first stabilise and then recover.**

The “independent expert” assessment

- The fact that GMA has commissioned a glowing assessment from Dr McLeod (DPI, NSW) suggests they are feeling vulnerable when relying on a pilot study to revise the 2021 season’s strict settings.
- It is surprising that a QUALITATIVE ecologist has been chosen to review an exercise that is highly QUANTITATIVE in nature. McLeod’s lack of mathematical understanding shows up in his criticism of the EAWS: *“This result [surveying farm dams] confirms the bias (also identified in the NSW DPI data) in the EAWS (Eastern Australian Waterbird Survey) data since it does not sample small waterbodies.”* No one has ever suggested that the EAWS covers farm dams in Victoria (or NSW). The EAWS relies on mobility of game ducks to establish long-term trends measured across key waterholes and wetlands in the eastern states, and it provides an invaluable index of abundance. A consistent study of trends across a standard set of waterholes does not become biased because it fails to cover every small waterbody.
- However despite the glowing affirmation from Dr McLeod, the survey report is quite upfront about its own problems and weaknesses – as we have outlined above.
- McLeod admits that: *“The methods used [by GMA] to collect and analyse survey data are broadly similar to those used by NSW DPI to survey waterfowl in the Riverina region of NSW”* - so his review is not exactly independent. It’s significant that he omits to mention that when GMA’s DB methodology was applied to NSW it failed.
- Dr McLeod is not entirely “independent”. His speciality is in the field of wildlife surveys to facilitate shooter culls of kangaroos and game ducks. Those surveys are highly controversial. It would be more credible to get an independent review from a scientist involved in the protection of wildlife. McLeod’s job security depends on the continued acceptance of this methodology and culling.
 - Scientists involved with so-called “adaptive harvest management” (AHM) are carving out a long-term career for themselves, as these models will never be accurate, always looking for “improvements”. Ramsey² noted that no AHM program has been entirely successful. Even the much-touted North American Mallard program has its limitations.
- A truly independent reviewer would include a declaration as to whether OR NOT he had been involved with recreational hunting or culling himself.

CONCLUSION

There is no evidence in the report to justify increasing the bag limit for 2021. In fact the survey

² Ramsey et al, 2017, Arthur Rylah Institute: *Towards the implementation of adaptive harvest management of waterfowl in south-eastern Australia*, pp5-7

evidence supports a total ban on shooting Pink Eared Duck as well as the Blue-Winged Shoveler. Why has this not been announced?

The original settings for 2021 were very strict. This was a clear acknowledgement that the environmental evidence showed game ducks had not recovered from record drought and Black Summer (smoke, fire, loss of habitat) and there was no justification for any recreational shooting. A minimalist season was announced as a concession to the shooters. It should have been no season at all. Previous governments had the courage to cancel duck shooting during drought periods (1995, 2003, 2007, 2008).

But in 2021, shooters were angry and threatened MPs. There are only two in every thousand Victorians who actively shoot ducks, but the government listened to them, ignoring the 998 in every 1,000 Victorians who choose not to shoot native waterbirds. Now the government has grasped at a straw - a trial survey, an experiment that acknowledges its own unreliability – to more than double the bag limit. This is an increase of 150% (from 2 to 5 per day).