

Response by: Andrew (Andy) Chambers, Managing Director, AirborneLogic Pty Ltd.

To question on notice at: Animal Welfare Committee Inquiry into Proposed Aerial Shooting of Brumbies in Kosciuszko National Park (27/3/2024)

During my appearance before the inquiry, I was asked a question in relation to survey areas and previous surveys regarding count of brumbies within Kosciuszko National Park. I requested to take this “question on notice” to check the numbers quoted.

Question

Ms SUE HIGGINSON: Mr Chambers, does it sound right to you that the area that we refer to as the Rocky Harvey count area was 161 square kilometres compared to the horse helicopter transect in 2020, which was 1,299 square kilometres, and the horse helicopter index northern plains survey, which was 395 square kilometres? Does that sound familiar to you, in terms of the surveys that have been undertaken?

Answer at inquiry

ANDY CHAMBERS: If I could take that on notice to check those numbers, because I've not seen them—I've not seen those reports.

Response by Andy Chambers (30/4/2024):

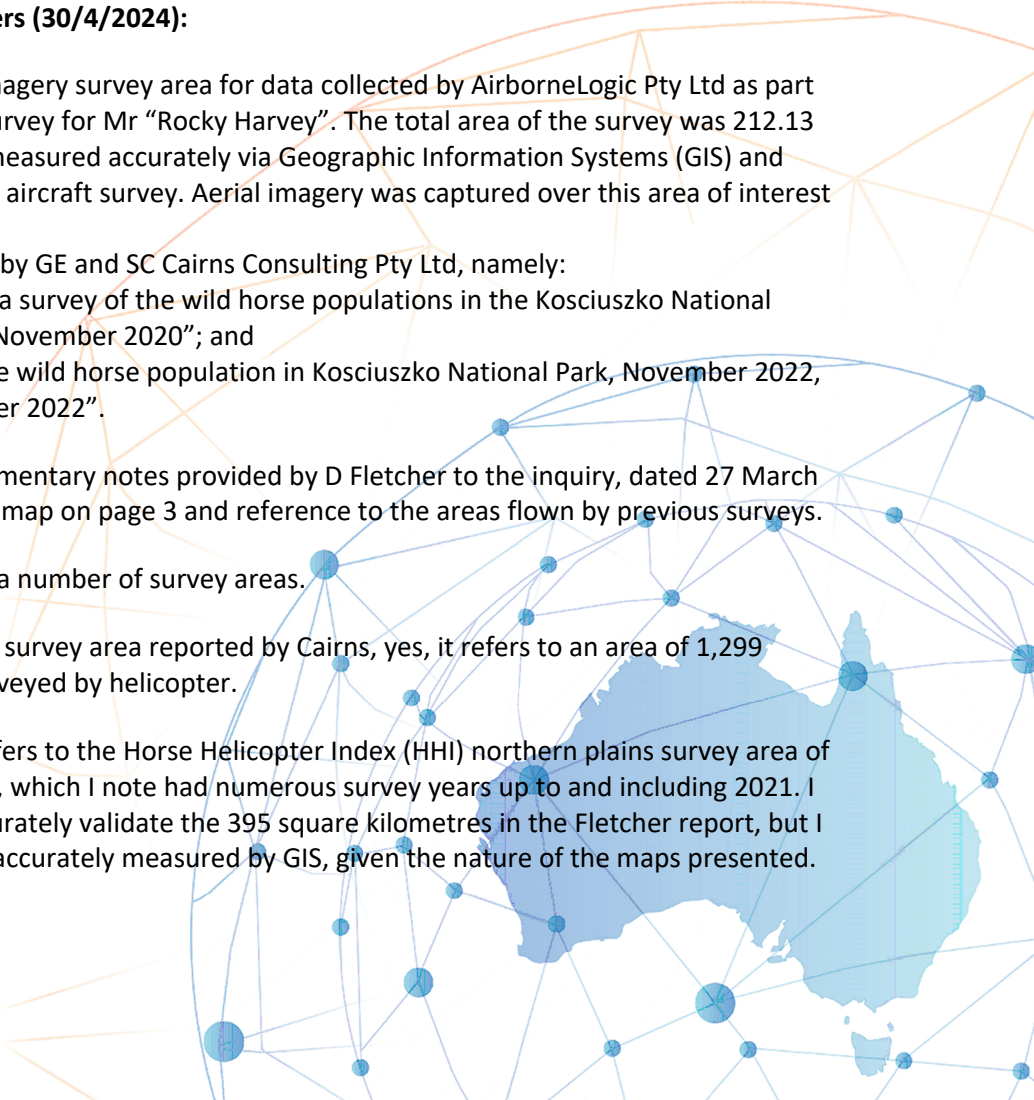
- 1) I reviewed the aerial imagery survey area for data collected by AirborneLogic Pty Ltd as part of our aerial imagery survey for Mr “Rocky Harvey”. The total area of the survey was 212.13 square kilometres, as measured accurately via Geographic Information Systems (GIS) and data provided from the aircraft survey. Aerial imagery was captured over this area of interest on 25 February 2024.
- 2) I reviewed two reports by GE and SC Cairns Consulting Pty Ltd, namely:
 - I. “The results of a survey of the wild horse populations in the Kosciuszko National Park, October-November 2020”; and
 - II. “A survey of the wild horse population in Kosciuszko National Park, November 2022, Dated December 2022”.

I also reviewed supplementary notes provided by D Fletcher to the inquiry, dated 27 March 2024, in particular the map on page 3 and reference to the areas flown by previous surveys.

The reports identified a number of survey areas.

In relation to the 2020 survey area reported by Cairns, yes, it refers to an area of 1,299 square kilometers, surveyed by helicopter.

The Fletcher report refers to the Horse Helicopter Index (HHI) northern plains survey area of 395 square kilometres, which I note had numerous survey years up to and including 2021. I have no means to accurately validate the 395 square kilometres in the Fletcher report, but I assume this has been accurately measured by GIS, given the nature of the maps presented.





Additional Information

AirborneLogic has now completed a report on the project to aerially survey and use machine learning to identify horses in the Area of Interest (AOI) 212.13 square kilometres of Kosciuszko National Park.

The report is currently undergoing peer review and an Executive Summary will be published to the site <https://knp-horse-count.web.app/#>

Machine Learning has confirmed the ability to identify horses using this type of technology. There were initially 405 horses manually identified in the imagery (AOI). Machine Learning has identified additional horses in the open plain's areas and under trees within the AOI.

The small number of horses identified in the imagery (compared to expected projections) created challenges in development of a model but never the less, has indicated the ability to identify horses in this terrain with high confidence (>90%) and a high probability that with additional work a high confidence model (>95%) can be developed.

Claims have been made by Dr Fletcher regarding the cost benefit of the aerial survey technique. At no time was Dr Fletched provided with costs or details regarding image capture or processing costs by AirborneLogic, so we assume these claims are estimated. Our experience as a professional remote sensing company is that large acquisition areas (such as the 1299 square kilometre area of previous helicopter horse surveys) can use fixed wing aircraft (pilot only) to aquire imagery very cost effectively, when compared to a helicopter operations, containing pilot, multiple observers and supported by ground-based office team. Machine Learning and imagery processing techniques managed using automated cloud computing, are highly cost effective, when compared to manual and statistical, human centric methods.

Andy Chambers

Managing Director, AirborneLogic Pty Ltd (30/4/2024)

References

Cairns, S. C. (2020b). The Results of a Survey of the Feral Horse Populations in the Kosciuszko National Park, October-November, 2020. A report to New South Wales National Parks and Wildlife Service, November 2020.

Cairns, S. C. (2022). A survey of the wild horse population in the Kosciuszko National Park, November, 2022. A report to New South Wales National Parks and Wildlife Service, December 2022.

Fletcher, D (2024). Differences Between Recent Horse Survey Results. Supplementary notes by D Fletcher for the Animal Welfare Committee hearing on 27 March 2024.

<https://www.parliament.nsw.gov.au/lcdocs/other/19302/Tabled%20Document%20-%20Dr%20Don%20Fletcher.pdf> April 2024.

AirborneLogic Pty Ltd
Room 108 ThincLab Waite Campus
Waite Road
URRBRAE South Australia 5064
www.airbornelogic.com.au
Tel: +61 (8) 7221 1625