 <p>Agreement on the Conservation of Albatrosses and Petrels</p>	<p><b>Ninth Meeting of the Population and Conservation Status Working Group</b> <i>Swakopmund, Namibia, 25 May 2026</i></p> <p><b>ACAP species at Heard Island and McDonald Islands: HPAI and population survey updates</b></p> <p><b><i>Julie C McInnes, Tristan L Burgess, Rachael Alderman, Georgia Byrne, Melanie R Wells and Jarrod C Hodgson</i></b></p> <p><i>Department of Climate Change, Energy, the Environment and Water Australian Antarctic Division</i></p>
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## SUMMARY

There are four ACAP species known to breed in the Heard Island and McDonald Islands (HIMI) Marine Reserve - southern giant petrels (SGP), black-browed albatross (BBA), light-mantled albatross (LMA) and wandering/snowy albatross (WA), though only one pair of the latter has been recorded.

In the 2025/26 austral summer the Australian Antarctic Division undertook two management voyages to HIMI which included work to:

- 1) Assess for signs of high pathogenicity avian influenza (HPAI) and obtain samples for confirmation/exclusion
- 2) Undertake island-wide population surveys of ACAP species where feasible.

Drone surveys and ground surveys were used to look for unusual mortalities, and where feasible undertake population surveys. Despite unusual mortality from HPAI in southern elephant seals and sporadic detections of HPAI in other species, there were no signs of unusual mortality observed in any ACAP species on HIMI during either voyage. One dead BBA was detected (but inaccessible) and three dead SGPs were found, of which samples were collected from two, with both returning negative qPCR test results for HPAI.

Due to short operational windows a complete population survey was only possible for BBA at Heard Island, while a partial survey of SGPs (approximately 20% of the historic colonies on Heard Island) was made. Final counts are still being finalised. Results showed no evidence of WA breeding activity and there was insufficient time to survey LMA. Future voyages are needed to HIMI to provide updated population estimates for all ACAP species and to understand ongoing spread and impacts of HPAI.

## 1. BACKGROUND

### 1.1. High pathogenicity avian influenza

High pathogenicity avian influenza (HPAI) strain H5N1 clade 2.3.4.4b has been circulating the globe since 2021. The virus has spread through Europe, Africa, Asia and the Americas where it has caused high mortality in seabirds and marine mammal populations, particularly colonial species. In 2022/23 the virus spread along the southern tip of South America reaching South Georgia and the South Sandwich Islands (Islas Georgias del Sur e Islas Sandwich del Sur)<sup>1</sup> (Bennison et al. 2024), Falkland Islands (Islas Malvinas)<sup>1</sup> and the Antarctic Peninsula (Banyard et al. 2024). From September 2024 onwards, the virus has been detected at other sub-Antarctic islands, including at Marion, Crozet and Kerguelen Islands (Clessin et al. 2025). As the Kerguelen archipelago is only 450km from Heard Island, the possibility that HPAI had reached Heard Island and McDonald Islands (HIMI) was recognised.

Globally, impacts on some bird species have been severe, including northern gannets (*Morus bassanus*) (Careen et al. 2024) and Peruvian pelicans (*Pelecanus thagus*) (Gamarra-Toledo et al. 2023). The impact of HPAI to ACAP species has been variable, with the highest reported incidences in wandering/snowy albatross (*Diomedea exulans*, WA) and black-browed albatross (*Thalassarche melanophris*, BBA) (Banyard et al. 2024, Bennison et al. 2024), and lower mortality recorded in other species.

### 1.2. Heard Island and McDonald Islands ACAP species

HIMI is home to over one million breeding seabirds and seals, with 19 species of seabird and 3 seal species known to breed on the islands. This includes four ACAP species: southern giant petrels (*Macronectes giganteus*, SGP), BBA, light-mantled albatross (*Phoebastria palpebrate*, LMA) and WA.

There have been no population surveys on the islands for over 20 years. Previous population estimates on Heard Island in the early 2000s included ~3500 SGP pairs (Woehler 2005), ~600 BBA pairs (Woehler et al. 2002), and one WA pair last seen in the 1980s (Woehler 2005). There are no accurate survey data for LMA. There was also a small population of BBA breeding on McDonald Island in the 1970s (Keage and Johnston 1982), but this has not been resurveyed. The SGP population on Heard Island is considered an important breeding site holding >5% of the global breeding population.

## 2. METHODS

The Australian Antarctic Division conducted two management voyages to HIMI in the 2025/26 season. The voyages were at HIMI between 12 - 22 October 2025 (V1) and 31 December 2025 - 22 January 2026 (V2). Planning took into consideration the likely presence of HPAI on Heard Island prior to arrival. A HPAI Response and Preparedness Plan and Triggered Action

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<sup>1</sup> A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Islas Malvinas), South Georgia and the South Sandwich Islands (Islas Georgias del Sur e Islas Sandwich del Sur) and the surrounding maritime areas

Response Plan were in place, highlighting biosafety, biosecurity and sampling protocols for the voyages.

## **2.1. Drone surveys**

Ship-based and land-based drone surveys were carried out at Heard Island throughout both voyages to assess for signs of animal mortalities above baseline levels, and where possible, to assess for signs consistent with HPAI. These surveys were carried out by an experienced wildlife ecologist pilot and observers, with ship-based drone imagery streamed to monitors where other subject matter experts could view footage in real-time to assist with observations and help identify animals and areas of interest. Flights were carried out with DJI M400 drones fitted with either a Zenmuse P1 or H30T camera. The majority of flights (98%) were beyond visual line of sight, up to ~6km from the pilot, and this enabled ship-based drone operations when conditions were not suitable for personnel to access the island. Data collected were either video imagery (including thermal) or still photographs. Flights were typically a minimum of 80m vertical separation from wildlife, enabling 1 cm pixel resolution. Abundance will be estimated from drone imagery, including video footage and georeferenced orthomosaics.

## **2.2. Ground surveys and sampling**

Ground-based surveillance for HPAI was carried out across 10 part-days of field work at Heard Island, but were restricted to subsections of the island within a day walk of helicopter accessible locations. The number and location of any dead animals were recorded. Samples were collected from freshly deceased carcasses following strict biosecurity and biosafety protocols as outlined in the HIMI HPAI Preparedness and Response Plan. Samples were collected in duplicate with one sample in Universal Transport Medium (UTM; Copan) and one in DNA/RNA Shield (Zymo), with samples collected from 1) the mouth and cloaca/rectum and 2) brain. All samples were securely packaged in accordance with International Air Transport Association (IATA) packaging instruction 650 by trained personnel, returned to the ship and frozen at -80°C within 24 hours of sampling.

## **2.3. Laboratory testing**

Swab samples were tested at the Australian Centre for Disease Preparedness for influenza A using the matrix gene real-time RT-PCR assay (Heine et al. 2007). Positive samples were further characterised by Hemagglutinin and Neuraminidase subtyping and whole genome sequencing.

# **3. ACAP SPECIES UPDATES**

## **3.1 HPAI surveys**

Over the two voyages, 120 drone flights were completed totalling more than 54 hours of air-time and covering approximately 1600 km. A subset of these flights were mapping missions used to produce approximately 16km<sup>2</sup> of high-resolution orthomosaics. Ground surveys covered approximately 300 km (Figure 1).

The HPAI virus was detected in samples collected from Heard Island during V1 and V2. Unusual mortalities were observed in the southern elephant seal (*Mirounga leonina*) population, with very high pup mortality in some sites during October 2025. Samples were

collected from dead animals for subsequent diagnostic testing on return to mainland Australia. The Australian Centre for Disease Preparedness confirmed positive detection of strain influenza A H5N1 clade 2.3.4.4b in the southern elephant seal samples from V1, and subsequently in further elephant seal samples, two gentoo penguins (*Pygoscelis papua*) and two Antarctic fur seals (*Arctocephalus gazella*) sampled on V2

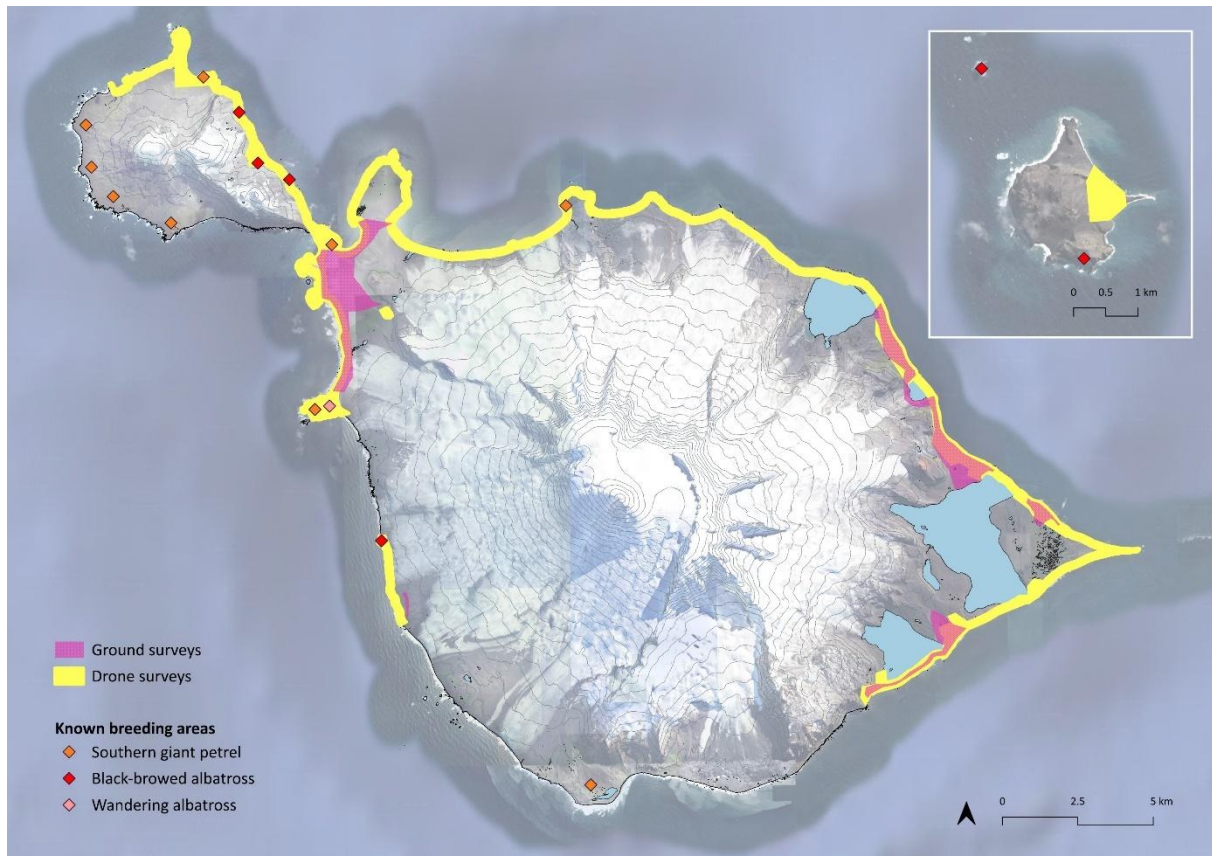
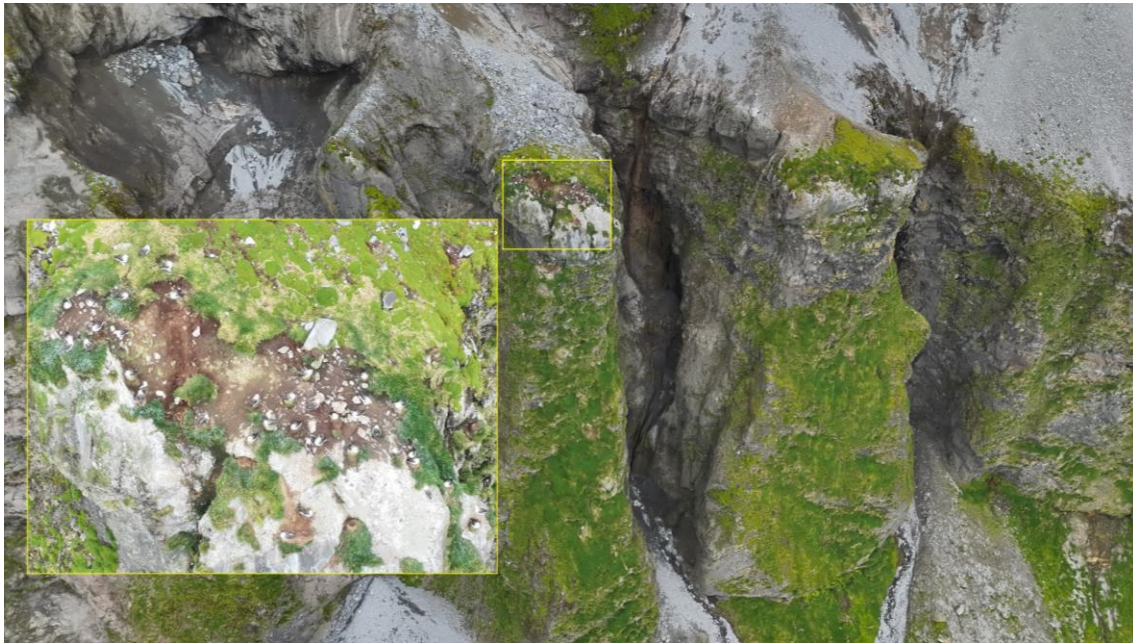


Figure 1: Areas of Heard Island and McDonald Islands (inset) surveyed for wildlife across V1 and/or V2 and approximate historic breeding distribution of ACAP species (excluding light-mantled albatross where accurate survey data is lacking).

### 3.2. Black-browed albatross

BBA were located at four sites around Heard Island, all in known breeding areas: Laurens Peninsula at Vanhöffen Bluff, Jacka Valley and Charles Carrol Bluff; and at Henderson Bluff on the south-western coast. Although a small number of nests have previously been recorded at McDonald Island and Meyer Rock, we were unable to obtain imagery of these areas due to poor weather conditions during a single ship-based visit to the area. Drone surveys of the Laurens Peninsula were carried out over five time points: 12<sup>th</sup> and 19<sup>th</sup> October 2025, and 1<sup>st</sup>, 10<sup>th</sup> and 21<sup>st</sup> of January 2026 to observe for sick or dead animals and also estimate abundance. One survey was carried out at Henderson Bluff on 20<sup>th</sup> October 2025. There were no signs of unusual mortality observed. One dead BBA was detected below the Henderson Bluff colony but was inaccessible. One bird not on an active nest was detected with a droopy wing at Jacka Valley on 1<sup>st</sup> January, but there was no sign of this bird in subsequent drone flights. Population counts in these sites are still being finalised.



*Figure 2: Colonies at Charles Carol Bluff (top) and Jacka Valley (middle and bottom) at Laurens Peninsula. Detection of one sick/injured bird at Jacka Valley which was not observed in subsequent flights.*

### 3.3 Southern giant petrels

Aerial surveys were able to cover four breeding areas of SGPs – Sydney Cove, Cape Gazert, Mt Aubert de la Rue and Saddle Point, representing approximately 20% of the historic population coverage. Unfortunately, limited operational windows prevented access to the historically most populous breeding sites at Long Beach and the south-west coast of Laurens Peninsula. The Sydney Cove colonies were flown twice – once on 12<sup>th</sup> October 2025 and once on 10<sup>th</sup> January 2026. Cape Gazert, Mt Aubert de la Rue and Saddle Point were flown on the 4<sup>th</sup>, 6<sup>th</sup> and 14<sup>th</sup> of January respectively. During October, birds were still nest building and copulating, while during January imagery showed a combination of adults on nests, attended chicks and unattended chicks. Occupied nest counts are underway.

Three dead SGPs were detected during ground surveys along beaches. Swab samples were collected from two carcasses - one at the Spit on 17<sup>th</sup> October 2025 and another with a broken wing at Skua Beach on January 18<sup>th</sup> 2026. Both samples returned negative qPCR test results for influenza A.



*Figure 3: Breeding colony of SGPs at Cape Gazert with inset of older dead SGP carcass at Capsize Beach found during ground surveys (top) and carcass found in drone imagery (bottom).*

### 3.4. Wandering/snowy albatross

No WA birds or nests were detected on either visit to HIMI. The whole Cape Gazert peninsula, surrounding the previously known breeding site from the 1980s, was surveyed via drone on 4<sup>th</sup> January 2026 but no birds or nest bowls were visible.

### 3.5. Light-mantled albatross

Light-mantled albatross nests were seen around the Heard Island coastline during drone surveys, including at Scarlet Hill, Cape Gazert, and Laurens Peninsula. Obtaining adequate

data for population estimates was not possible due to the limited operational window. No dead birds were observed.

### 3.6 Other ACAP species

Within the Marine Reserve, opportunistic at-sea and on-land observations were made for other seabird species. At-sea observations of ACAP species (excluding known breeding species) included WA, southern royal albatross (*Diomedea epomophora*), grey-headed albatross (*Thalassarche chrysostoma*), and white chinned petrel (*Procellaria aequinoctialis*). On-land during January, two non-breeding grey-headed albatross were observed via drone in the BBA colonies at Laurens Peninsula and northern-giant petrels were regularly seen around the beaches, but no breeding birds were seen.



Figure 4: Northern giant petrels regularly seen around the HIMI coastline (top) and one of two grey-headed albatross seen at the BBA slopes (bottom).

## 4. CONCLUSIONS

There were no signs of unusual mortality observed in any ACAP species at HIMI during 2025/26, despite confirmation of H5N1 clade 2.3.4.4b causing unusual levels of mortality in elephant seals and isolated mortality in gentoo penguins and Antarctic fur seals. Due to operational constraints, large breeding aggregations of SGP and LMA could not be visited across either voyage or the BBA at McDonald Islands, and the BBA colony at Henderson Bluff was not accessed in January 2026. Population counts are being finalised and will enable an updated estimate of BBA population size at Heard Island and an update on SGPs nests at approximately 20% of their historic breeding range. The use of drones flying beyond

visual line of sight was a paradigm shift for a voyage of this nature and allowed data to be collected that would otherwise not have been possible with limited on-ground operations and limited operational windows.

## 5. ACKNOWLEDGEMENTS

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