

 <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>An update on the Mouse-Free Marion (MFM) Project</b></p> <p><b><i>Anton Wolfaardt (Mouse-Free Marion Project)</i></b> <b><i>Azwianewi Makhado (South Africa)</i></b></p>
---	--

## **1. THE MOUSE-FREE MARION PROJECT: BACKGROUND**

The Mouse-Free Marion (MFM) Project aims to eradicate invasive House Mice (*Mus musculus*) from Marion Island, part of the Prince Edward Islands Special Nature Reserve, managed by South Africa. The project is a collaboration between the Department of Forestry, Fisheries and the Environment (DFFE) and BirdLife South Africa.

Invasive mice have had severe impacts on the island's ecosystem, including predation on invertebrates and seabirds. Of particular concern to ACAP is the increasing evidence of mouse impacts on ACAP-listed species, including albatrosses and petrels (e.g. Risi et al. 2025).

The previous ACAP submissions (Wolfaardt and Makhado, 2023, 2024) provide an overview of the project rationale, ecological context, and initial planning. The purpose of the present document is to provide a concise update on progress since that meeting, with particular emphasis on recent research, planning developments, and implementation readiness.

## **2. THE MOUSE-FREE MARION PROJECT: UPDATE**

Since the previous update to ACAP in 2024, the MFM Project has continued to progress technical planning and implementation readiness for the planned mouse eradication. Two key milestones have been achieved during this period, namely the completion of an Updated Feasibility Assessment (Broome, 2024) and the development of the MFM Research Plan (Samaniego and Harper 2025). These documents incorporate recent reviews of MFM Project research and planning, lessons from global eradication efforts, and updated project-specific information, and together provide the framework guiding current research and operational planning.

Current work is focused on addressing priority knowledge gaps identified in these documents, particularly in relation to mouse ecology, spatial and temporal variation in abundance, and bait uptake dynamics.

A phased programme of additional field research initiated in 2025 has provided important insights into mouse behaviour and bait performance under operationally relevant conditions. A lowland trial conducted in May 2025 confirmed high palatability of the PestOff 30R (30 ppm) bait, with rapid uptake and evidence of bait caching. Despite high bait uptake, mouse densities within the trial area did not decline to zero, likely due to immigration from surrounding untreated areas (Kemp et al. 2025). This underscores the need for a larger-scale trial, planned for 2027. A repeat lowland trial in August 2025 (austral winter), conducted during a period of seasonally-lower mouse densities, recorded substantially reduced bait uptake, indicating strong seasonal variability in both mouse abundance and bait interaction (Kemp et al. 2025).

Ongoing monitoring of mouse populations across multiple habitats has further demonstrated pronounced temporal variability. Mouse densities remained higher later into winter than recorded between 1991 and 2011 (McClelland et al. 2018), with declines occurring later in the season. These findings are important with respect to assumptions related to bait application rates and timing. Nonetheless, the current eradication strategy accounts for the period of peak mouse abundance in early autumn.

Collaboration with the New Zealand Department of Conservation (DOC) has continued to inform investigations regarding bait development, particularly with respect to pellet size and shape and their influence on bait distribution dynamics. Trials undertaken by DOC and MFM identified operational limitations associated with smaller (5.5 mm) bait pellets, including fragmentation, wind drift, reduced swath width, and poor visibility of bait flow (DOC, unpubl. data). Consequently, this bait size will not be used for the eradication operation on Marion Island. Current trial efforts are focused on modified 10 mm bait pellets (one @ 10 × 14 mm; ~1.4 g and one @ 10 x 10 mm; ~1 g), designed to improve encounter rates for mice (relative to standard larger pellets), maintain structural integrity during aerial application, and optimise flow characteristics in bait spreaders. Helicopter bucket calibration trials undertaken in New Zealand in late 2025 and early 2026 have provided data on bait distribution characteristics, which are being incorporated into ongoing planning.

Findings from the 2025 fieldwork on Marion Island highlight the various factors influencing bait uptake dynamics, including the influence of seasonal and spatial variation in mouse abundance, bait caching behaviour, and habitat-specific differences. In this context, the 975 ha aerial baiting trial planned for 2027 remains a critical step in informing the baiting strategy for the eradication operation. The timing will allow sufficient time to incorporate ongoing research findings into operational planning and ensure regulatory readiness.

Fieldwork in 2026 will focus on addressing remaining priority knowledge gaps identified in the Feasibility Assessment and Research Plan. Key activities include a bait trial in the polar desert habitat in March 2026, continued year-round monitoring of mouse abundance across seasons and habitats, further bait calibration trials in collaboration with DOC, and integration and analysis of data from recent trials. Importantly, these activities will inform ongoing refinement of the Research Plan, specifically with respect to the planned aerial baiting trial.

In parallel, progress on regulatory approvals and fundraising continues. Work is ongoing to secure the necessary environmental and operational approvals for both the aerial baiting trial and the full eradication operation. Fundraising efforts have secured significant international support to date; however, additional funding is required to fully resource the eradication operation.

Reflecting progress in technical planning and enabling activities, the anticipated timing of the eradication operation has been revised, with implementation now targeted for 2029, subject to

securing full funding and all necessary regulatory approvals well in advance. This revised timeline allows for the incorporation of lessons from ongoing trials, completion of regulatory processes, and the securing of remaining funds.

The conservation imperative for the MFM Project remains clear. Continued impacts of invasive House Mice on Marion Island, including predation on seabirds and other native biota, reinforce the importance of implementing a successful eradication operation. The project remains focused on reducing risk and strengthening the technical and operational foundation required to achieve this objective.

### 3. REFERENCES

- Broome KG 2024. Marion Island mouse eradication review of feasibility. Unpublished Report, 49 pp.
- Kemp J, Springer K, van Bers M, Perold V, Daling R, Whitehead O, Samaniego A (2025). Mouse-Free Marion Project Research - 2025 Field Trials Report. Unpublished Report. Mouse-Free Marion Project.
- McClelland GTW, Altwegg R, van Aarde RJ, Ferreira S, Burger A, Chown S. 2018. Climate change leads to increasing population density and impacts of a key island invader. *Ecological Applications* 28. 212-224.
- Risi MM, Jones CW, Connan M, Gill R, Stephen V, Cunningham S J, Ryan PG (2025). Escalating threats: house mouse attacks on adult wandering albatrosses spread across Marion Island. *Biological Invasions* 27. 149.
- Samaniego A, Harper GA (2025). Advancing the Mouse-Free Marion Project: research plan towards eradication target. Unpublished technical report for the Mouse-Free Marion Project. Auckland, New Zealand
- Wolfaardt A, Makhado A (2023). The Mouse-Free Marion Project. PaCSWG7 Inf 05. Seventh Meeting of ACAP's Population and Conservation Status Working Group. Edinburgh, UK, 18-19 May 2023
- Wolfaardt A, Makhado A (2024). An update on the Mouse-Free Marion (MFM) Project. PaCSWG8 Inf 07. Eighth Meeting of ACAP's Population and Conservation Status Working Group. Lima, Peru, 09 August 2024