

Birds NZ North Island Mātātā Fernbird Moulting Study

Project Summary Report 2024/25 [one page]

The objective of the study was to describe the moulting characteristics of North Island Mātātā Fernbird, which has also required developing new techniques for ageing juvenile and older birds to distinguish post-juvenile and post-breeding moulting patterns.

Two field trips were planned, in November 2024 to band early fledglings and in late March 2025 to assess the progress of post breeding moulting prior to completion and post juvenile moulting. 46 Fernbirds were banded over two field visits in November 2023 and April 2024, potentially available for recapture in 2024/2025. The planned Whangarei trip in November 2024 was cancelled due to strong winds and rain. Fieldwork was undertaken from 29 March to 7 April 2025, with studies focusing at Ngunguru and Tahi wetlands, both sites visited previously in 2023/2024. Nine new birds were banded and nine were recaptured. Morphometric measurements and photographs of feather moulting extent were taken of all birds for analysis. For post breeding moulting, most birds exhibited growing outer primaries with feather sheaths, indicating that primary moulting was almost complete. This observation can also be used to estimate the timing of moulting and compared to South Island fernbirds. The two juvenile birds captured exhibited two extremes of post juvenile moulting, with one almost completing moulting with suspended secondaries (abridged moulting) and the other birds still with all juvenile feathers, providing more information on the extent of post juvenile moulting. This field season contributes to a project total of 55 fernbirds banded and 18 recaptures since 26 November 2023.

The study will contribute to a publication describing the moulting extent of NZ endemic passerines, which has been submitted to *Notornis* and accepted for review. An article describing fernbird moulting and morphometrics, intended for use in conservation management of fernbirds is planned for publication in *Notornis* later this year. A revision of Fernbird moulting has been submitted to the Bander's Guide to Sexing and Ageing Birds (Bell *in prep.*) and information from this study was also presented at the Birds NZ Online Moulting Workshop supported by Birds NZ Research Fund.

The Whangarei team consisted of Birds NZ Members Sui Sinclair and Dr Tony Beauchamp (co-Regional Representatives), Katrina Hansen (Northland Regional Council), Carl Dowd (Tahi Operations Manager). Ilse Corkery (Department of Conservation) and Matu Booth (The Forest Bridge Trust) were unable to attend the banding sessions. Paul Fisher provided training on selecting mist-netting sites and capturing fernbirds with playback, and revision on how to record moulting and criteria for ageing and sexing fernbirds to support ongoing study by the Northland team. Approximately 40% of the grant was not used in lieu of one field trip cancelled. The final expense claim will be submitted when validating the sex of Fernbird feathers has been completed by Infogene Ltd.

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