



Australian Government

Commonwealth Environmental Water Office



May 2022

Macquarie River Valley 2021–22: Update 2

Objectives:



Support colonial waterbird breeding by providing food and habitat



Maintain connection between the Macquarie River/Wambuul, Macquarie Marshes and Barwon River



Support native fish breeding and movement



Keeping wetlands wet so that plants and animals complete life cycles

Timing: Winter 2021 to autumn 2022, as required



Adult Intermediate Egret foraging for food, Macquarie Marshes (photo: Nicola Brookhouse, NSW National Parks Wildlife Service (NPWS)). Photo taken during scientific monitoring.

Flocks of flyers!

If you missed Update 1, the Macquarie Marshes is playing host once again to large-scale colonial waterbird breeding. The number and size of waterbird colonies in the Macquarie Marshes has continued to grow since December 2021. By the end of February, waterbird colonies across the Marshes were estimated to include over 90,000 colonial waterbird nests! This is compared to ~57,000 in 2016 and ~139,000 in 2010.

The main nesting stages chicks progress through before leaving the nest include: egg; downy chicks; 'squirters' with some flight feathers; 'runners' when they start to walk; 'flappers' when they work out how to flap their wings; and 'flyers' that begin to fly.

As at April 2022, thousands of juvenile Ibis, Egrets, Spoonbills and Night herons had taken their first flights around the Marshes and nearby, often flocking back at colony sites.

Once they have left the nest, young birds often stay and use feeding grounds in the Marshes to build their strength. How far birds forage may differ between species, individual birds, stage of chick development and availability of habitat. As the chicks get older, the birds may travel greater distances to find food. To maximise the success of the breeding event, it is important foraging areas remain inundated during and after nesting to ensure an adequate food supply is available for the many new hungry mouths.

Monitoring colony success

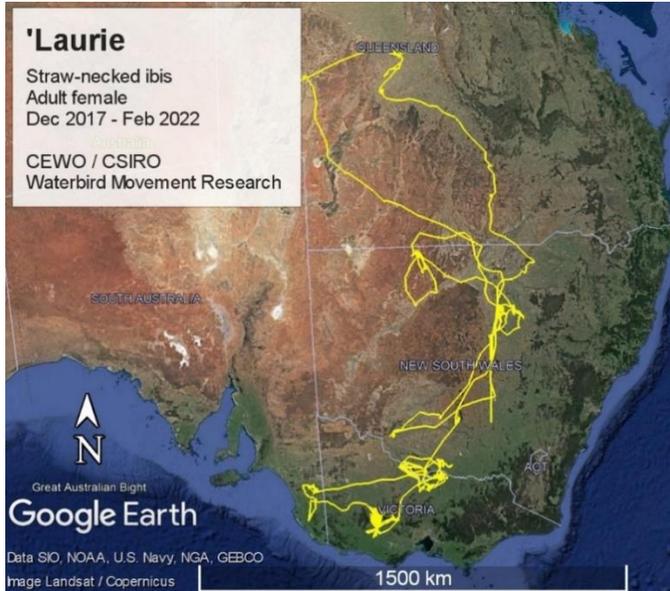
Regular monitoring of waterbird colonies is recording the colony size, stages of chick development, water depths, water quality and other useful information. This helps inform water management decisions to support the colonies and their feeding grounds. With so many colonies in the Marshes, monitoring undertaken by the Department of Planning and Environment (NSW DPE) and NSW NPWS is being augmented by the University of New South Wales with support by the Commonwealth Environmental Water Office (CEWO).



Monitoring colony progress (photo: Tim Hosking, NSW DPE). Photo taken during scientific monitoring.

Tracking bird movements

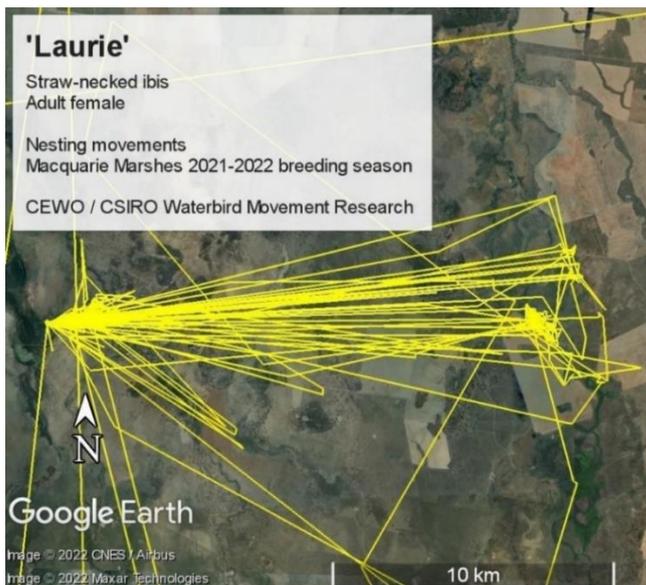
As part of CEWO Flow-MER (Monitoring, Evaluation, Research), CSIRO is using satellite trackers to follow the movements of waterbirds across the Murray–Darling Basin, including Straw-necked ibis and Royal spoonbills. Over 150 birds have been tagged with high-accuracy GPS transmitters, at breeding sites across the Basin. This builds a picture of when waterbirds move and the locations they use to forage and nest.



Laurie's movements since she was fitted with a satellite transmitter in December 2017. Source: CSIRO.

'Laurie', a female Straw-necked ibis originally tagged in Kerang Lakes, Victoria, in December 2017 has flown vast distances from Victoria into Queensland and back.

In October 2021, Laurie journeyed to the thriving Macquarie Marshes to nest and start a new family.



Laurie's movements while nesting in the Macquarie Marshes. Source: CSIRO.

Tracking information shows that Laurie flew up to 20 km from her nest gathering food for her chicks in the eastern part of the Marshes (see map on bottom left).

This knowledge demonstrates the importance of managing our wetlands on a larger 'systems' scale to ensure a diversity of habitat is available to support the needs of our colonial waterbirds. For more information: <https://research.csiro.au/ewkrwaterbirds/>

Water management

Water levels in the Macquarie Marshes continue to be maintained by the flood mitigation flows from Burrendong Dam, rainfall and tributary flows. These flows are expected to support the bird breeding colonies to completion.

Our partners

The delivery of water for the environment is undertaken by the NSW Department of Planning and Environment and the CEWO in consultation with the Macquarie–Cudgegong Environmental Water Advisory Group. This group includes representatives from local landholders, the irrigation industry, relevant agencies, environment groups and the Aboriginal community.

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We acknowledge the Traditional Owners of the Murray–Darling Basin. We pay our respects to them and their elders past, present and emerging.