The Australasian Bittern in Western Australia

Understanding 'Boordenitj' : a cryptic wetland predator

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Background

The Australasian Bittern (*Ixobrychus poiciloptilus*):

- Is listed globally as threatened (IUCN Red List) and as Endangered under the EBPC Act and BC Act (WA)
- Is a large, robust heron standing up to 70cm tall
- The male produced booming calls in spring, and is the origin of the 'bunyip' legend
- Bitterns are top order wetland predators, feeding on large invertebrates, frogs, fish and freshwater crayfish,
- The Australasian bittern is secretive, and well camouflaged in it's wetland habitat
- Very little is know about their life history, but they require well vegetated freshwater wetlands.
- The Australasian bittern is Endangered, with historical loss of wetland habitat has been a major factor in their decline.
- The WA Australasian Bittern Recovery Plan was approved in 2018, and recovery actions are being coordinated through the WA Australasian Bittern Recovery Team
- Implementation of the recovery plan and conservation work is being conducted by DBCA and BirdLife WA with support from numerous volunteers .

Monitoring Techniques (Australasian bittern)

Traditionally human listeners have stood on the edge of swamps after sunset or before sunrise to listen for birds, and this work is still important for detecting bittern.

Since 2012 Autonomous Recording Units (ARUs) have been used to support bittern monitoring in WA, and in 2019 were deployed in over 30 wetlands. These units are programmed to record during the peak bittern calling times. Battery powered units will record for up to six weeks, and some of the wetlands have units with solar panels , which mean we can monitor both bittern and other wetland fauna throughout the year. Analysis of the data collected will be conducted by volunteers from BirdLife WA, and DBCA are working on improving automated techniques for analysis of these files.

Camera traps are also providing insights into bittern use of wetlands, recording both bittern presence , plumage and behavior. Ina addition to bittern other fauna are often recorded, including both native species and introduced predators.

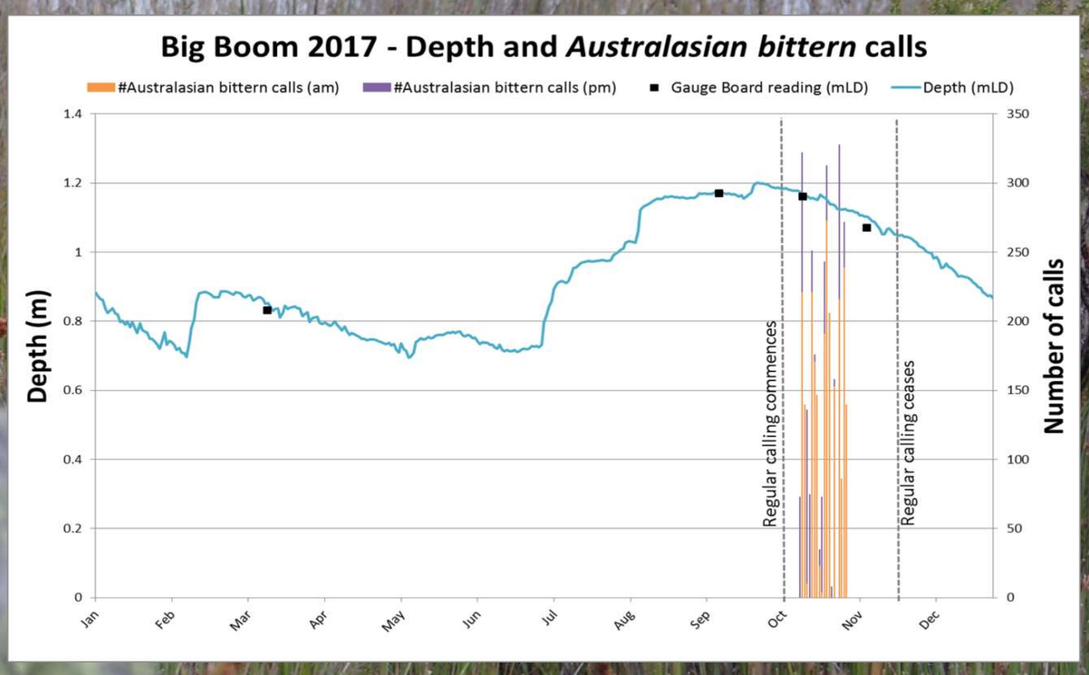
Passive monitoring techniques are being used to study wetlands and understand Australasian bittern ecology and behavior.

Wetland Investigations

Wading surveys of wetlands are conducted by skilled observers, who look for nesting activity and document other habitat characteristics.

During wading surveys bittern feathers are also collected. These assist with identifying habitat preferences and presence/absence in areas of wetlands. Future opportunities for a student to look at extracting DNA from these feathers to help identify individuals and inform our understanding of population structure.

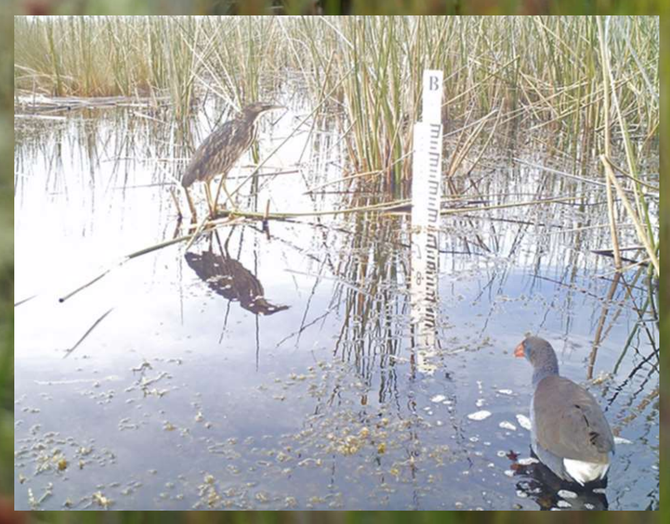
Australasian **bittern feathers are often found** where birds have been preening. Volunteer Tony Bush near a nest site (Photos Al. Clarke, DBCA)



Monitoring Techniques (wetlands)

The relationship between wetland health and bitterns is strong, with bittern dependent on both water quality , levels and availability of prey.

Through DBCA's South West Wetland Monitoring program, a number of permanent depth loggers operated in core bittern wetlands. Analysis of data collected will help us to understand the relationship between calling rates and water level. This will improve our knowledge on optimal breeding conditions for Australasian Bittern, flow on to fire management and management of introduced predators.



Depth monitoring gauge with an Australasian bittern and swamp hen (left) and servicing permanent loggers (Photos A. Clarke, DBCA)

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