

LANDHOLDER GUIDE

*Growing Bittern
friendly rice*



Local Land
Services



National
Landcare
Program



www.lls.nsw.gov.au/riverina



The Riverina is home to the largest population of Australasian Bitterns in the world. It is recognised that about 500 to 1000 Australasian Bitterns use rice crops over the summer months for breeding purposes.

Research over the last seven years has found that rice growers can undertake a range of crucial activities to increase the number of successful Australasian Bitterns breeding events and boost the number of chicks fledging prior to rice harvest.

This program offers rice growers an opportunity to demonstrate how farming and wildlife conservation can be married in the irrigation areas of the Riverina.

What rice growers can do to help

ESTABLISH RICE WITH EARLY PERMANENT WATER:

Driven by water use efficiency many rice growers are looking at alternative agronomic practices and growing short season rice varieties to improve their dollar return per megalitre. Drill sowing, delayed permanent water and flushing of rice bays is becoming more common, with permanent water not applied until December. Mid-season drainage is another practice that is also becoming more widespread.

These changes are challenging for Australasian Bitterns and are likely to adversely affect their ability to successfully breed and fledge young birds in rice crops.

Australasian Bitterns usually wait for about two months after sowing to arrive in rice crops. By then the rice is well established and is providing adequate cover with sufficient prey available. Tadpoles, frogs and fish are a favoured prey of Bitterns. It has been found that bitterns have a strong preference for early permanent water crops that has been aerially sown; it may be that is because there are on average 12.3 times as many tadpoles in crops with early permanent water early in the season when compared to direct drilled crops with delayed permanent water.

Ponding of water in early permanent water crops usually occurs in October, continuing for up to 150 days until March. These crops provide a more stable breeding habitat for a longer period, resulting in significantly improved opportunities for successful breeding prior to rice harvest.

Below: Bitterns prefer rice crops that are aerial sown or dry broadcast with early permanent water.



Below: Rice crops that are direct drilled with delayed permanent water do not provide sufficient time for Bittern chicks to successfully fledge prior to harvest.



INCLUDE BITTERN NESTING PADS IN YOU RICE

Bitterns regularly nest in taller, thicker parts of the crop where there has been additional fertiliser applied. It is thought that Bitterns may prefer these areas because they can begin nesting earlier.

Additional fertilising of crops so that a small area of thick cover is provided in the middle of the bay has the potential to increase successful breeding opportunities.



TAKE PART IN FOX BAITING PROGRAMS

Fox and cat numbers in the irrigation areas are estimated to be high. Although not a lot of conclusive evidence is available it is assumed that young birds are particularly vulnerable as they begin leaving the nest after only two weeks and start roaming around, but can't fly for another five to six weeks. Keeping banks weedy will provide both chicks and adults with additional cover from predators.

Introducing a regular fox baiting program with baiting taking place in spring and autumn will help reduce fox numbers. Joining a fox baiting group and taking part in district wide baiting programs is a good idea as large scale baiting programs have been proven to be more effective.

Targeted baiting programs over the breeding season (January to May) may also be effective.

Below: Banks covered in barnyard grass are thought to provide cover and protection from predators, particularly for young birds.



Below: Sprayed banks leave the young chicks exposed.



PROVIDE ADDITIONAL HABITAT AREAS

The provision of additional habitat adjacent to or near rice areas on the farm can play a very important role in improving survival rates of young birds as these can offer a refuge immediately after harvest and over the winter months.

There are many options and each farming system will have different opportunities to provide additional habitat areas. For example, a recycle dam with a shallow area and wetland plants such as reeds a drain filled with lots of cumbungi, or a natural wetland area can all provide potential refuge for bitterns, complementing the rice field habitat and provide a refuge at important times of the year when other options are limited.



ADDITIONAL HABITAT AREA:

A narrow channel with dense cumbungi that supported four Bitterns for several weeks after rice harvest 2014.



ADDITIONAL HABITAT AREA: A recycle dam with large areas of shallow water and patches of cumbungi. With the rice crop in the background the area will be an excellent refuge for Australasian Bitterns after harvest.



ADDITIONAL HABITAT AREA:

Natural wetlands with expanses of dense sedges, rushes and reeds provide excellent habitat for Bitterns on farm.

Photo credits: Matt Herring, Troy Mauger and Anna Wilson.

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