

Australasian Bittern Call Inventory Surveys

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Photo Credit: Helen Cunningham

Australasian Bitterns (*Botaurus poiciloptilus*; Family Ardeidae) are a crepuscular, cryptic, and nomadic species, which historically, have been distributed across Australia, New Caledonia, and New Zealand. The Australian population of Australasian Bitterns is thinly dispersed across wetlands in the continent's south with its core habitat in the south-east (including Tasmania) and south-west. The species is classified globally as 'endangered' due to the declining trajectory of its small remaining population (~1700 individuals). Australasian Bitterns are solitary except during the austral Spring-Summer when the males form territories and the females congregate around them to nest. These nests and territories are established amongst dense stands of sedges and rushes, over shallow water. The males maintain their territory by producing a low frequency call (0-500 Hz), referred hereafter as a 'boom', to both signal to females and intimidate rivals. Booms comprise a sharp inhale/gasp followed by 3-5 low frequency foghorn-like honks (see below). The foghorn-like honks are often detected during a listening survey with the inhale/gasp missed by surveyors.



Visual representation of an Australasian Bittern boom (green rectangle). Booms comprise a sharp inhale/gasp followed by 3-5 low frequency foghorn-like honks. The foghorn-like honks are often detected during a listening survey with the inhale/gasp missed by surveyors.

Booms can be listened to [here](#) (<- click link).

Given this, it takes a huge survey effort to find an Australasian Bittern. One method employed to find Australasian Bitterns, the call inventory survey or 'listening survey' is the least intense of these. Essentially, listeners position themselves at an accessible location on the bank of a wetland and record the presence or absence of booming bitterns. In this guide, you will receive instructions on how to undertake a listening survey, which will help us identify Australasian Bittern habitat and better understand breeding behaviour.

Getting Started

1. Get Birdata

To lodge the results of listening surveys, we ask that you register with [Birdata](#) (<- click link). Birdata is the home for all BirdLife's critical citizen-science gathered observations – the vital knowledge that underpins all our conservation and research work. You can use Birdata not only to contribute to this project, but to store your own observations, and to explore and learn about our amazing birdlife across the country.

If Apps are not your style, you can always send through your observations to:

Bradley Clarke-Wood

bradley.clarke-wood@birdlife.org.au

When you open the Birdata app for the first time, you will be prompted to enter your login details. You will need to be connected to wifi or have mobile reception for this. However, once you login the first time, the app remembers who you are. From now on, you can use Birdata anywhere in the country, regardless of whether you have phone reception or not.

The Birdata app acts like an electronic notebook. You can use it to Record Surveys, or explore your existing data in the 'My Stats' tab. However, given the large amounts of data involved, to properly Explore observations submitted by others and to learn about our birds or our Shared Sites, you will need to visit the web portal. See below for more details.



Photo Credit: Helen Cunningham

2. Finding Your Local Australasian Bittern Wetland

When you registered, you should have supplied a postcode. Using this postcode, we've determined some of your closest Australasian Bittern wetlands. These wetlands have been selected as they've either supported Australasian Bitterns in the past (according to Birdata) or their habitat appears to be suitable for the species. ***Find your nearest bittern wetland [here](#) (<- click link).*** If your postcode is missing or if you can suggest a better site, do let Bradley know.

3. State Your Availability

We have identified dates in September to December when listening surveys should be undertaken. These dates align with the full moon, which anecdotally, Australasian Bitterns respond to. You're not expected to be available for every date. Listeners can determine how many they're available for. Even just one dawn or dusk survey during these dates is an exceptional contribution.

Using the '[Listening Survey Planner](#)' (<- click link), state which wetland you're willing to survey and on what dates by ~~standing together to stop extinctions~~ putting your first name and initial (e.g. Bradley C.) in the 'Listener' column. Ideally, each site and date will have at least

two listeners. If you intend to conduct listening surveys in a group, with a friend or partner, please ensure these participants have also registered using the sign-up sheet.

We do not endorse listening surveys being undertaken by one person, alone, without prior consideration.

4. Complete OHS and other administrative requirements

To ensure you're aware of the safety risks associated with fieldwork and to ensure you're comfortable with the survey method, we will ask you to complete training modules. We understand that administration can be burdensome, but it is to mitigate threats and to ensure the quality of the data you collect. To accompany these modules, we will have virtual walkthroughs arranged at your convenience. We will share these modules with you, shortly. These modules are compulsory to participate in this project.



Photo Credit: Helen Cunningham

[Australasian Bittern Call Inventory Survey Method](#)

Data:

- Presence of booming males in a wetland at dawn or dusk,
- Number of booming males if they can be distinguished.

When: September – December, 30 minutes before local sunset to 1 hour after local sunset or 1 hour before local sunrise to 30 minutes after local sunrise.

standing together to stop extinctions

Ideal conditions: Still, calm, and clear conditions – avoid survey dates with rainy, windy, or cloudy weather. Listening can also be difficult if in proximity to a lot of traffic (especially trucks).

Procedure

1. Listeners position themselves at accessible locations (~500 m apart) around the wetland (see Fig. 1). Ideally, this is within 10 m of the wetland (highlighted in orange in Fig. 1) but often vegetation prevents this. A boom can travel ~ 1 km under quiet conditions – so there is no need to enter the wetland.
2. To identify an appropriate and accessible location, listeners should “scout out” their wetland during the day, prior to the listening survey. This is a good opportunity to note any potential threats (e.g., traffic conditions, uneven ground, other obstacles) in the area.
3. While completing the listening survey, listeners should note (in Birddata or elsewhere):
 - The wetland’s name,
 - start time, date, and duration of survey,
 - Their position around the wetland
 - Presence/absence of Australasian Bittern booms.
4. Listeners may also like to determine the number of males booming. To do this, you will need to note the direction booms are coming from. This can be difficult given how close males are to each other and as a result is optional.

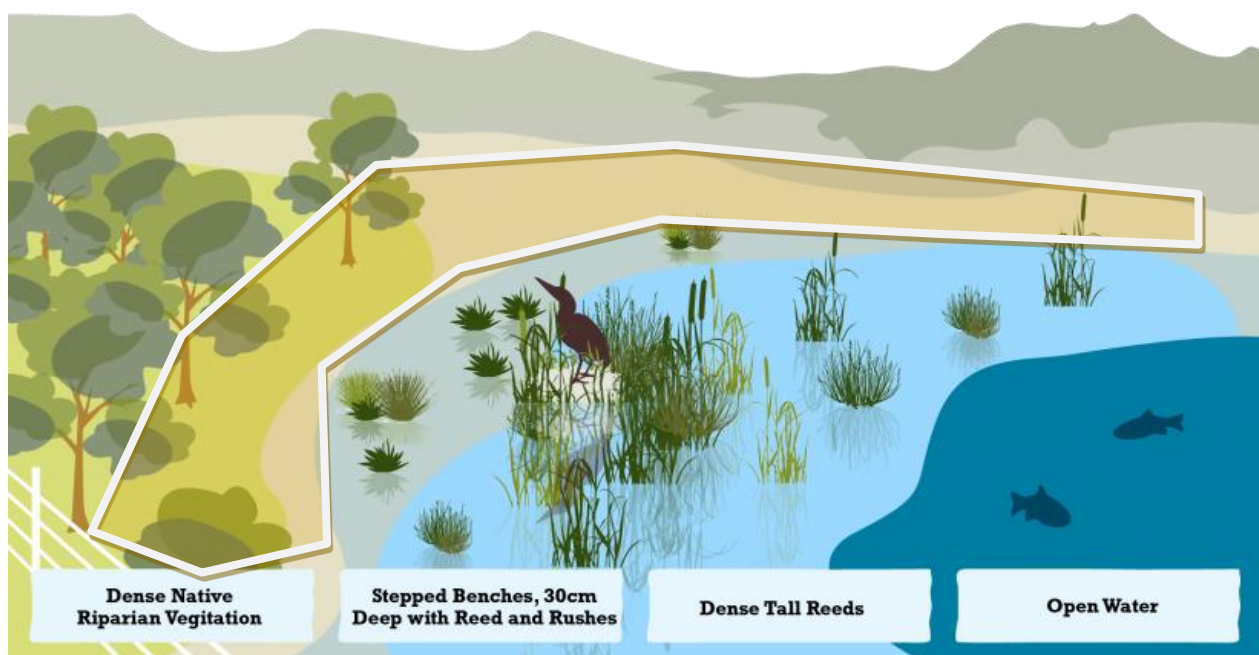
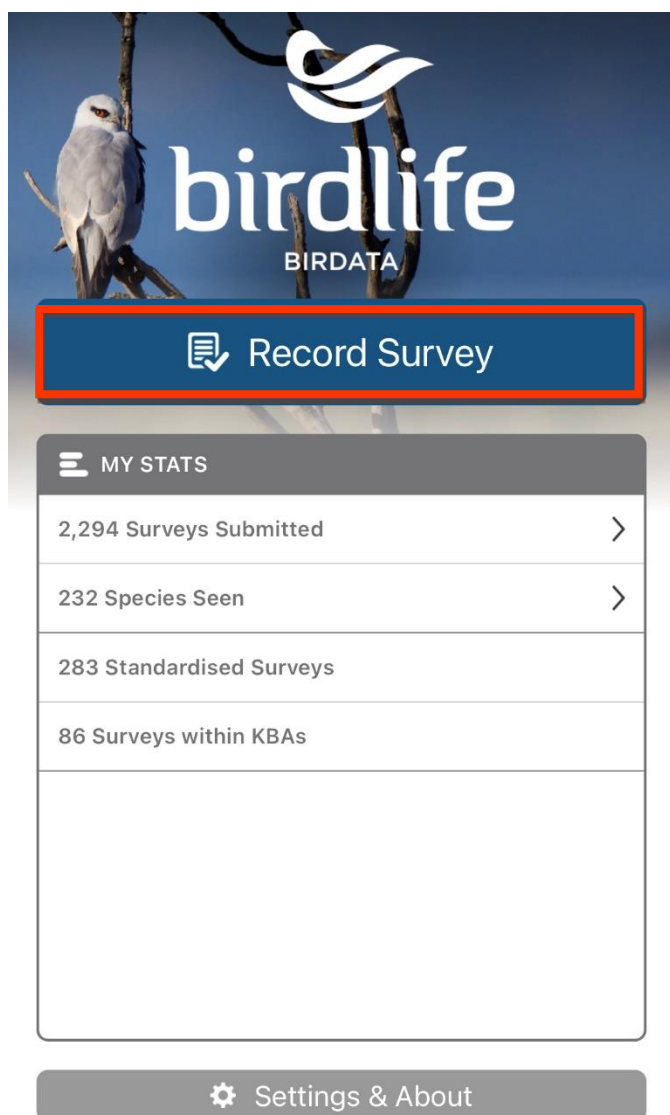


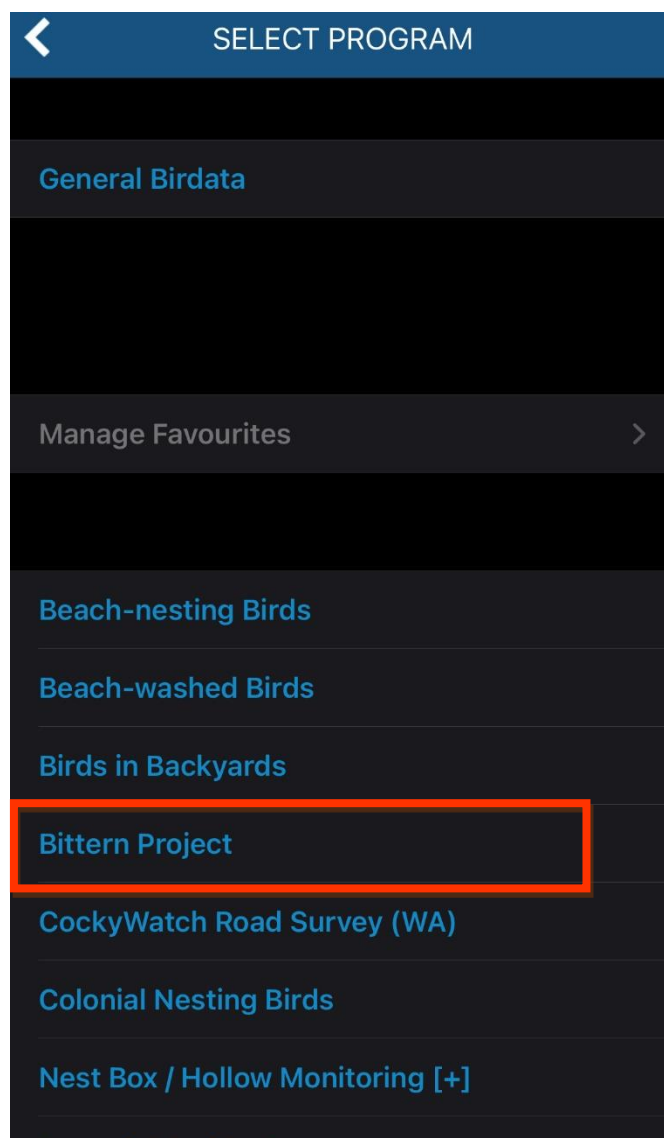
Fig. 1 Diagram of bittern wetland. Orange highlight indicates ideal position for listening survey. Image credit: Glenelg Hopkins CMA.

Entering Observations in Birdata

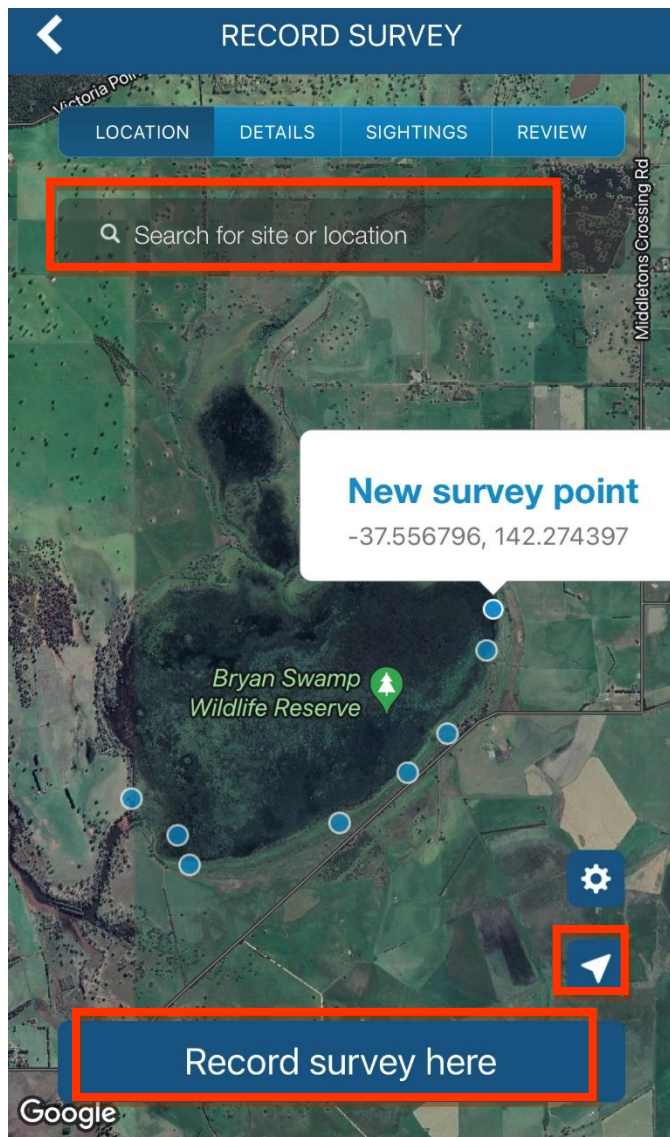
Here are the steps for entering a listening survey into Birdata




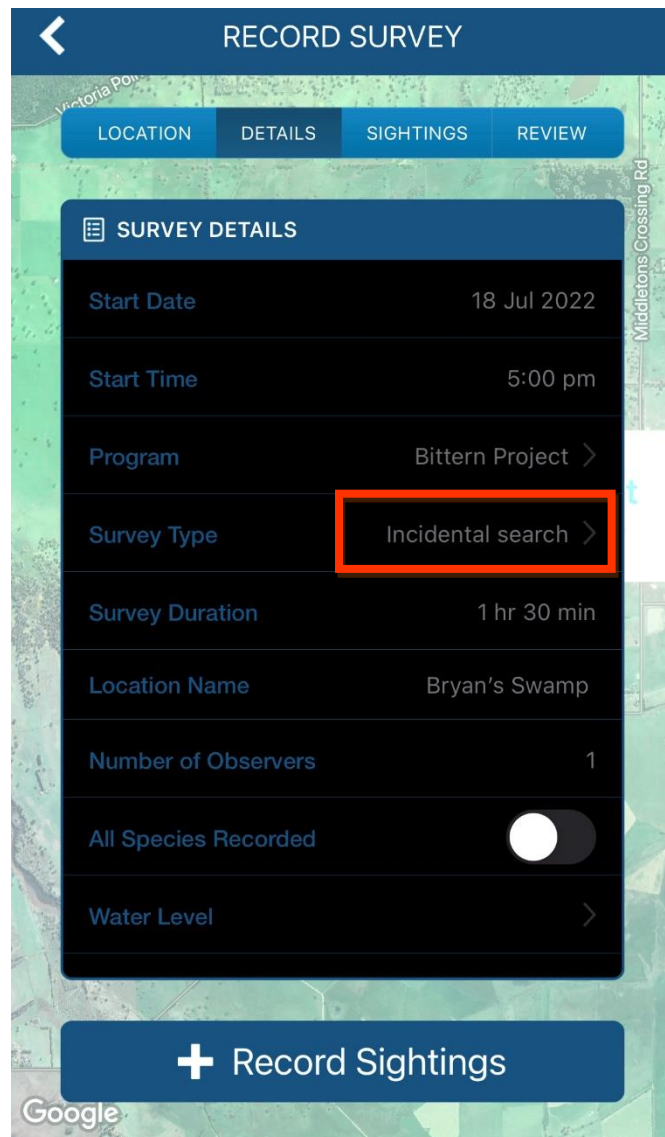
1. Open up Birdata and click 'Record Survey'



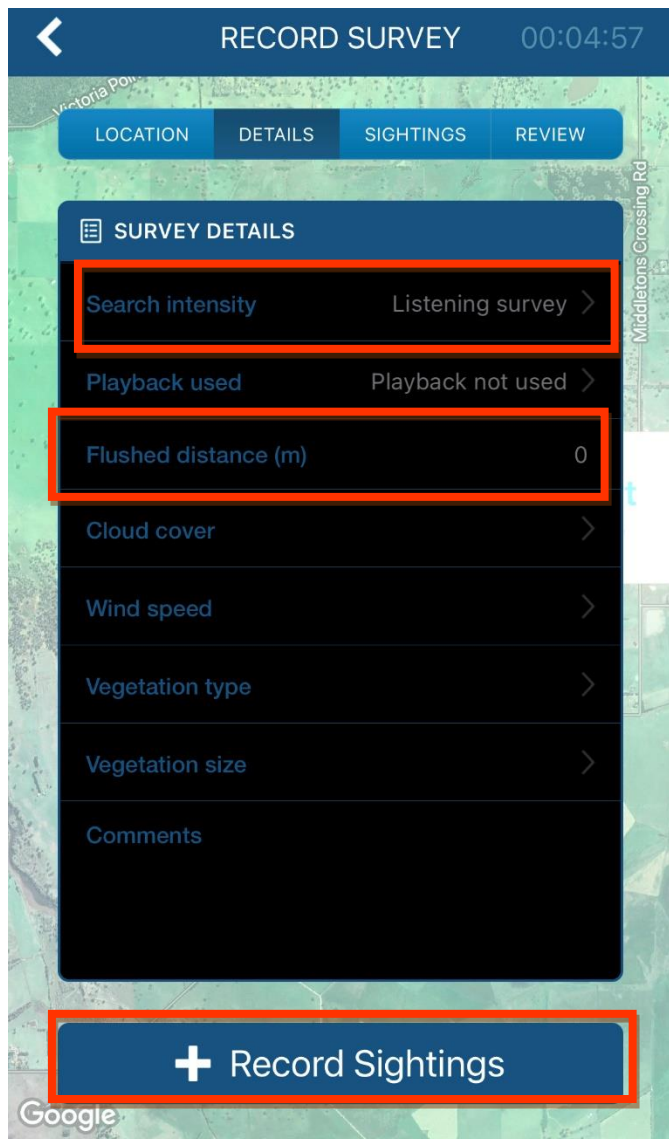
2. Select 'Bittern Project'



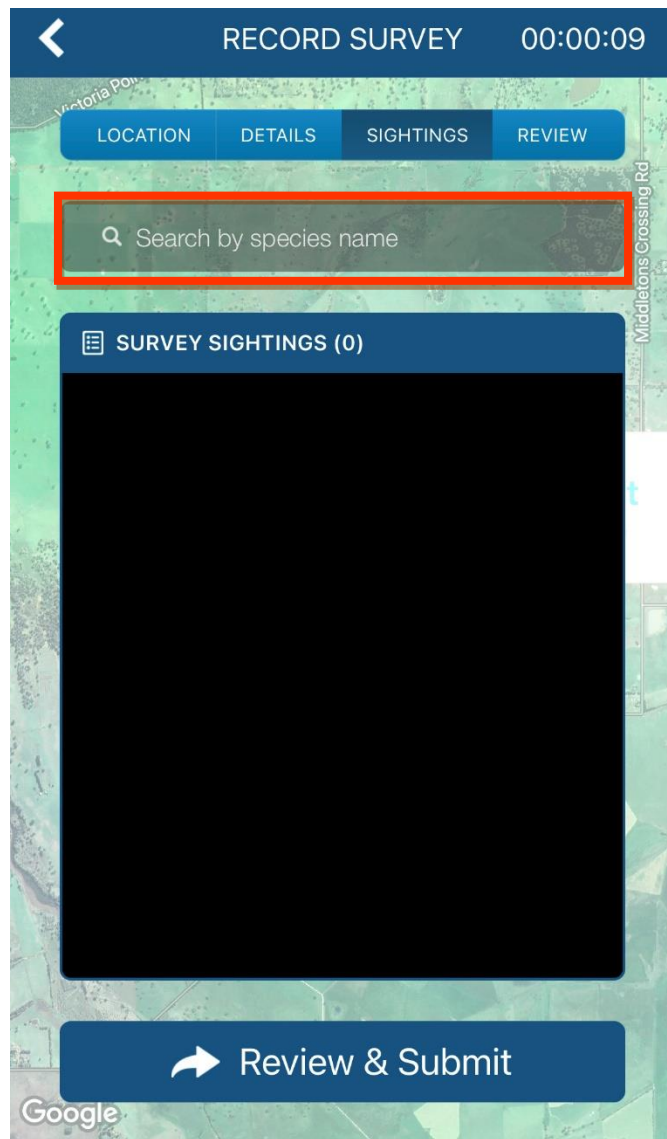
1. Locate your wetland. You can do this by either searching the name of the wetland or using the  symbol to locate you. Once you've found the wetland, click on the map where you were positioned during the listening survey. Then click 'Record survey here'.



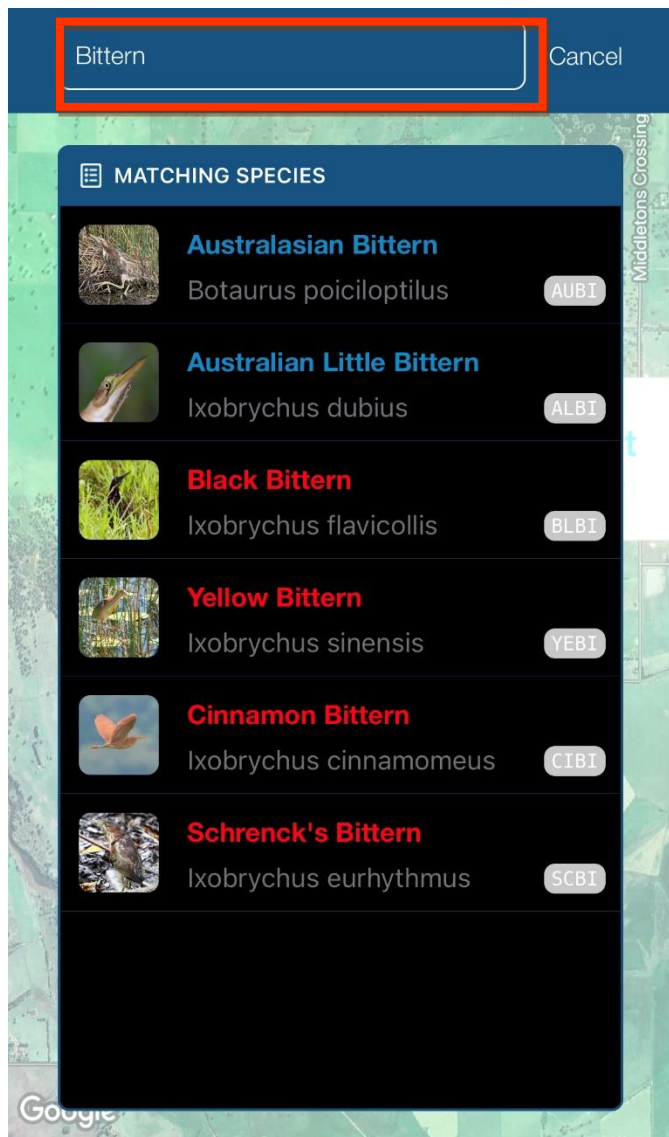
2. Input details about the survey. 'Start Date', 'Start Time', 'Survey Type', 'Survey Duration' and 'Location Name' are required fields. The survey type should be recorded as an 'Incidental Search'. Ideally, your survey should go for 1.5 hours (see above).



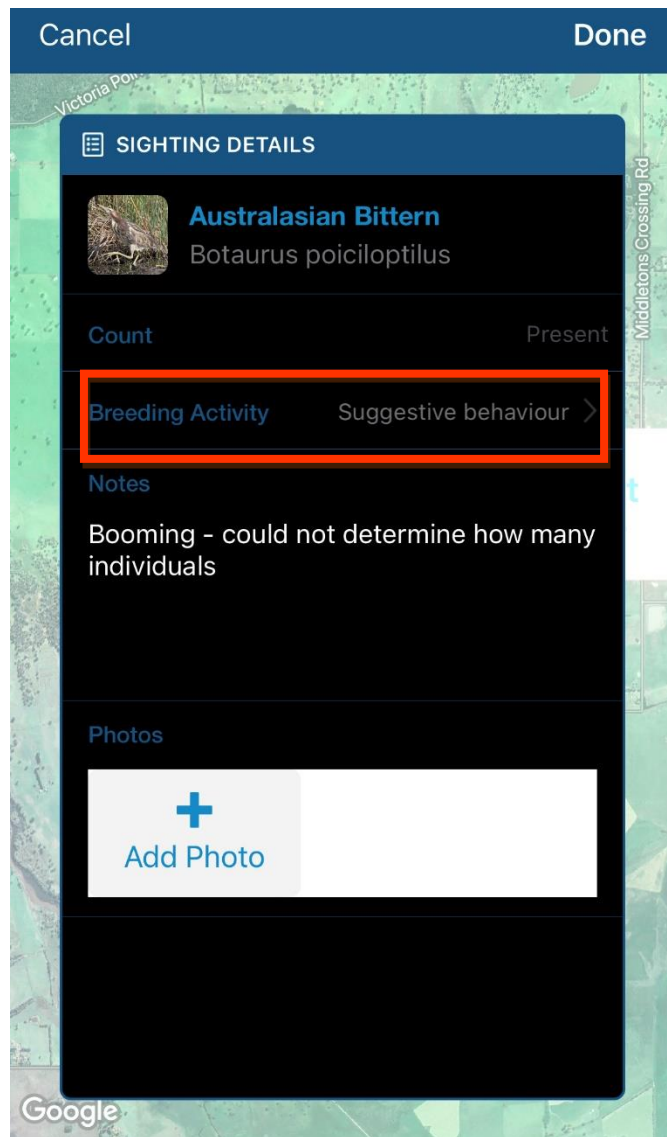
5. Now scroll down to 'Search Intensity' and select 'Listening Survey'. Then set the 'Flushed Distance (m)' to '0'. Once these are done, select 'Record Sightings'



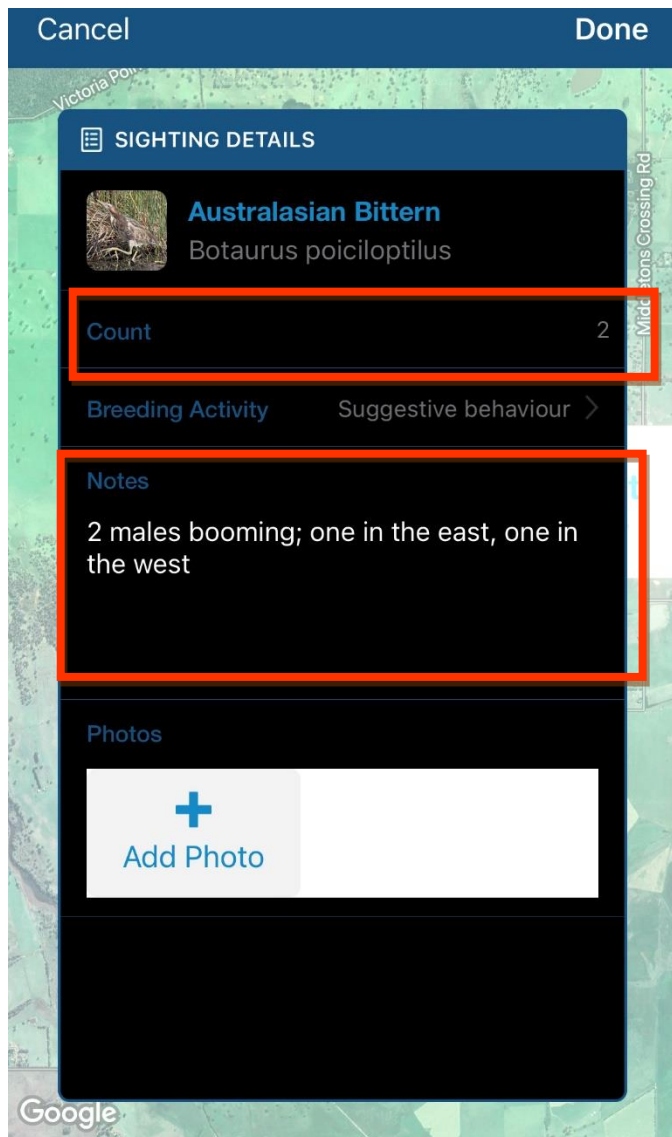
6. You're now able to enter any bird species you hear calling by searching their name.



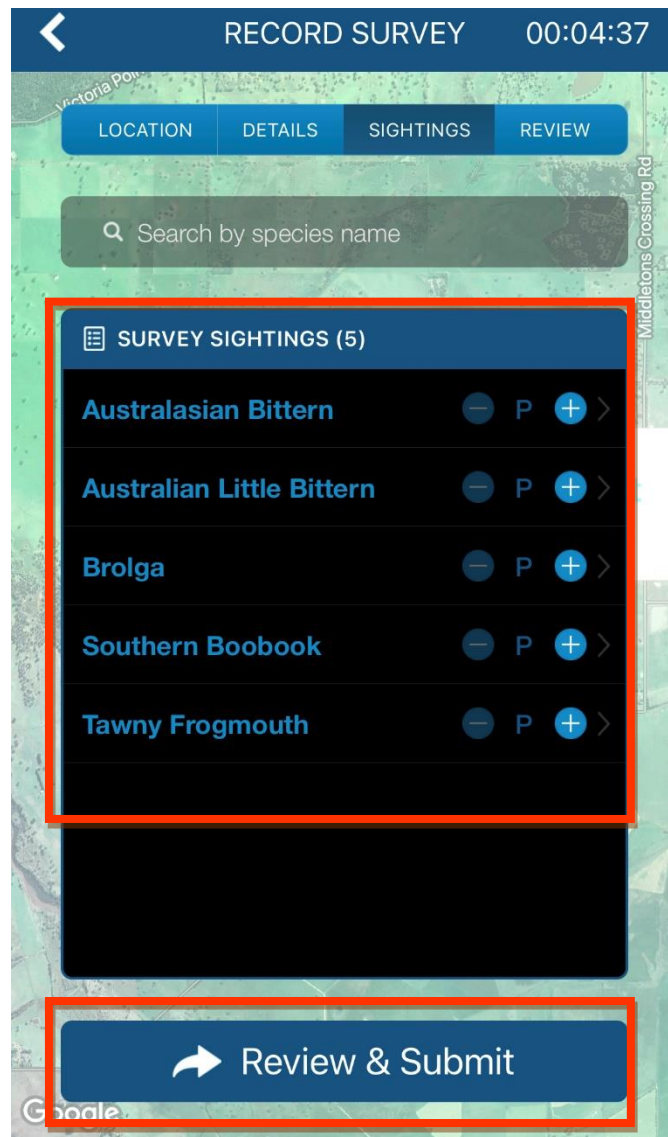
7. To record the presence of booming bitterns, type "bittern" and select 'Australasian Bittern'.



8. Now include some details of your observation. For instance, booming is a suggestive breeding activity. You may also like to describe what you've observed in the 'Notes'.



9. If you're able to distinguish between individuals, please include a 'Count' and notes about your observation.



10. Before you wrap up the listening survey, what other species did you hear? While our focus is Australasian Bitterns – you may also hear a range of other night birds. Feel free to enter these as well! Once you're done – click 'Review & Submit'.

12. review your survey details and click 'Submit Survey'. You can always edit this survey later.

13. Absences are as important as presences. If you did not hear a bittern – please send Bradley an email with these survey details.

Thank you!

Just a note of thanks from us at BirdLife Australia for your enthusiasm and commitment to wetlands and the birds that inhabit them. We've been overwhelmed by the response to this call out for Australasian Bittern surveyors and we just wanted to say your time and effort is appreciated! Please do not hesitate to reach out if you have any queries or concerns!