

Big City Bird



Project Aim

To learn more about some of bird species and their behavioural adaptations

URL

<https://www.spotteron.com/bigcitybirds>

Initiators

Max Planck Institute of Animal Behavior, Taronga Conservation Society Australia, and The University of Sydney

Project Description

This project aims to engage the general public and keen bird watchers to report bird sightings, whereabouts, behaviours, communal roosts, and nest sites. The project focuses on five bird species: Sulphur-crested Cockatoo, Australian Brush-turkey, Australian White Ibis, Little Corella, and Long-billed Corella. The data collected will help scientists understand the behaviour of these species and their movement, reproduction, distribution, and habitat use in suburban areas. This information will help understand the behavioural traits that have allowed some species to adapt to the challenges and opportunities of city living.

Main Content Covered

- Identifying Australian bird species
- Telling males and females apart
- Nesting behaviour: tree hollows, mound-builders, sticks or reeds nest building
- Bird behaviours: preening another bird, feeding chick, bin-opening, sitting, foraging, fed by people, aggression to another bird, mating, innovation, alarm-call, playing, and other.

Curricular Links

The following section maps the Big City Bird citizen science project to specific outcomes and content of the NSW syllabus.

Knowledge and Understanding - Living World

Outcomes	Content
SC4-14LW <i>Relates the structure and function of living things to their classification, survival and reproduction</i>	LW1 - There are differences within and between groups of organisms; classification helps organise this diversity (ACSSU111) <ul style="list-style-type: none"> Identify reasons for classifying Australian birds Classify a variety of Australian birds based on similarities and differences in structural features Use simple keys to identify a range of Australian birds Explain how the features of some Australian plants are adaptations that attract birds and ways birds can assist their survival and reproduction in the environment. Identify and describe adaptations of Australian birds (e.g. compare adaptation of different corella species)
SC4-15LW <i>Explains how new biological evidence changes people's understanding of the world</i>	LW5 - Science and technology contribute to finding solutions to conserving and managing sustainable ecosystems. <ul style="list-style-type: none"> Predict how human activities can affect interactions in food chains and food webs, including examples from Australian land (ACSSU112) <p><i>Examples:</i></p> <ul style="list-style-type: none"> ✓ <i>Bin eating that can affect bird reproductive capabilities</i> ✓ <i>People disturbing wild brush turkeys nest building</i>
Additional Content to broaden and deepen students' skills, knowledge and understanding	Describe how people in occupations that involve the biological sciences use understanding and skills from across the disciplines of science when investigating birds

Skills – Working Scientifically

Outcomes	Content
<p>SC4-4WS Questioning and predicting <i>identifies questions and problems that can be tested or researched and makes predictions based on scientific knowledge</i></p>	<p>WS4 - Students question and predict by:</p> <ul style="list-style-type: none"> Identifying questions and problems about birds that can be investigated scientifically (AC SIS124, AC SIS139) <i>Examples:</i> <ul style="list-style-type: none"> ✓ Which birds are bound to our school area? ✓ How can we design a bin to stop the Ibis from getting at the rubbish? Making predictions based on scientific knowledge and their own observations (AC SIS124, AC SIS139) <i>Examples:</i> <ul style="list-style-type: none"> ✓ Planting bottlebrush in the edges of the school footpath will increase the amount of honey-eaters in the school.
<p>SC4-6WS Conducting Investigations <i>follows a sequence of instructions to safely undertake a range of investigation types, collaboratively and individually</i></p>	<p>WS6 - Students conduct investigations by:</p> <ul style="list-style-type: none"> Collaboratively and individually conducting a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (AC SIS125, AC SIS140) Assembling and using appropriate equipment and resources to perform the investigation, including safety equipment. <i>Examples:</i> <ul style="list-style-type: none"> ✓ Using binoculars safely to observe birds ✓ Using technology and apps for recording bird observations Following the planned procedure, including in fair tests, measuring and controlling variables (AC SIS126, AC SIS141) <i>Examples:</i> <ul style="list-style-type: none"> ✓ Following citizen science planned protocols for observing birds Recording observations and measurements accurately, using appropriate units Performing specific roles safely and responsibly when working collaboratively to complete a task within the timeline

Learning across the curriculum

<i>Learning areas</i>	<i>Content</i>
<i>Cross-curriculum priorities</i>	Sustainability <ul style="list-style-type: none"> Explain human impact on environments and bird habitat
<i>General capabilities</i>	Critical and creative thinking <ul style="list-style-type: none"> Explain how features of Australian birds are adaptations for survival and reproduction in their environment Predict how human activities can affect bird behaviours and interactions Ethical understanding <ul style="list-style-type: none"> Ensure ethical guidelines are followed during investigations of birds Information and communication technology capability <ul style="list-style-type: none"> Use technology during investigations Literacy <ul style="list-style-type: none"> Record observations of Australian birds in pictorial and verbal form Classify a variety of Australian birds Explain adaptations and survival strategies of Australian birds Personal and social capability <ul style="list-style-type: none"> Work collaboratively when investigating birds
<i>Other learning across the curriculum areas</i>	Work and enterprise <p>Describe how people in biological occupations use understanding and skills from across the disciplines of science when investigating birds</p>

Engaging students with Big City Birds

Citizen science is a great way to engage students with the natural sciences. Students will experience what it is like to be a real scientist, conducting bird observations, recording bird behaviours and learning about bird distribution and habitat.

Students can also browse the Big City Bird website, look through past observations and learn about Australian bird distribution and behaviour over time.



Figure 1. Print screen from Big City Bird app, detailing placed-based bird observations

Using the Big City Bird app

Observations are recorded using the Big City Bird app which can be downloaded to a school device. Alternatively, reporting is also possible using the project website. Before reporting sightings, you will have to register for the app. You can register as a school class account which will allow all students to use the class account login on multiple devices. No personal data from single users is processed. To register a school class account, please provide your name and birthday as the responsible representative to: consent@spotteron.net with your username provided in the email.

Once you have registered, reporting sightings is easy. Students choose the bird they have observed from a pictorial list (see figure 2) and are prompted with a set of questions about their observation(s). Students can report various information, for example the presence of a bird or a flock of birds, bird location and bird behaviour (e.g. foraging, nesting, chicks

maturing, innovation; see figure 3). Students can also report more detailed information such as bird age and sex, or what the bird was eating. Student can also upload a photo of their observation.

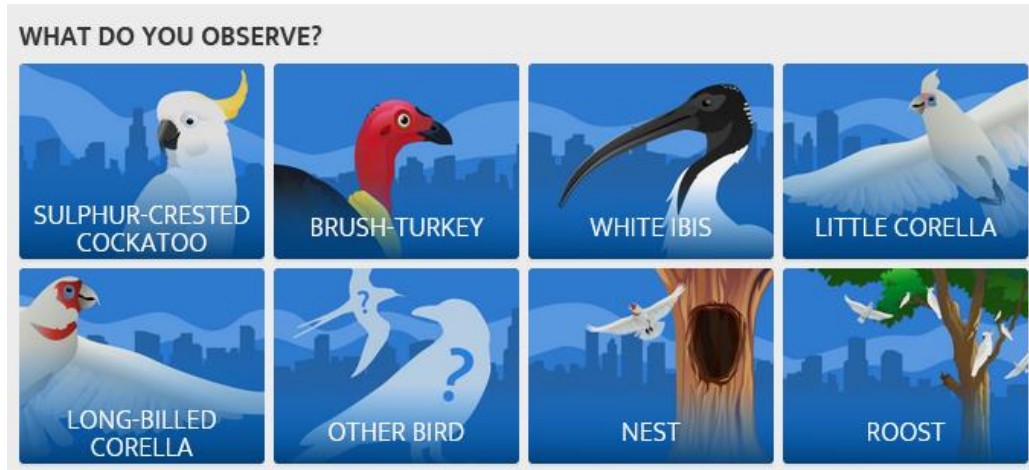


Figure 2. Print screen from Big City Bird app, choosing what bird you have observed

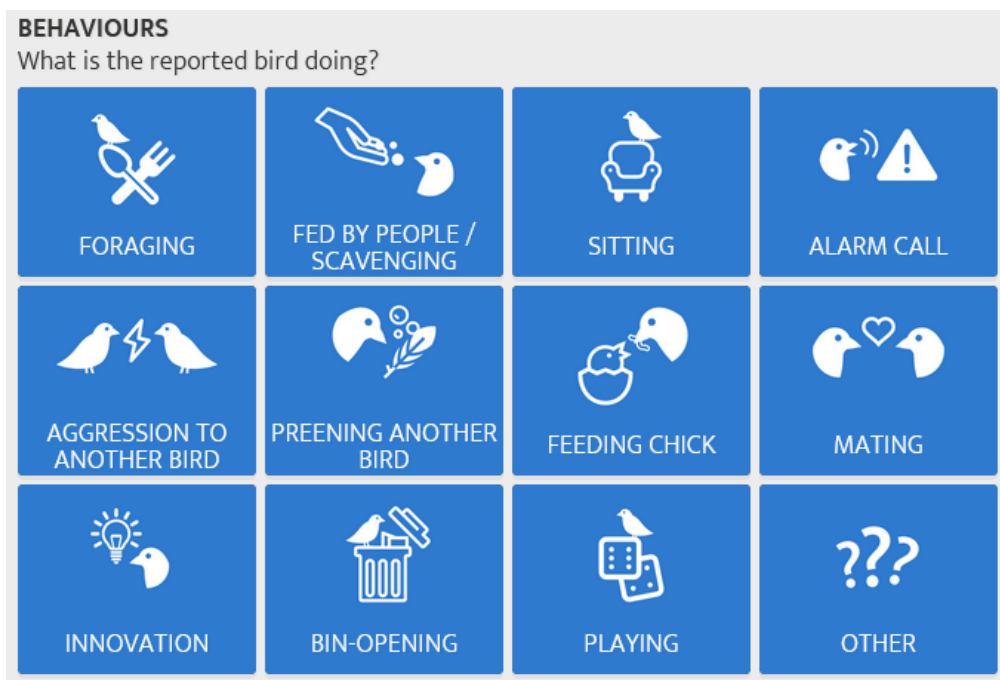


Figure 3. Print screen from Big City Bird app, reporting bird behaviours

Resources

For an overview of how to use the Big City Bird app - <https://www.spotteron.app/app-manual>

A pictorial and textual guide explaining bird behaviours and identifying male and female birds is available here- <https://www.spotteron.com/bigcitybirds/info>

Big City Bird in the media-

[Cockatoos in Sydney learning from each other to bin-dive for food, study finds](#)

[Cockatoos are teaching each other how to open bins](#)

Video resources-

[Cockatoos in southern Sydney have learned to open curb-side bins — and it has global significance](#)

[Sydney ideas seminar- For the birds](#)

[Aussie English Podcast - How Cockatoos Are Mastering Dumpster Diving with Dr John Martin](#)

Safety notes

Put personal safety first and ensure a safe environment for students to conduct their observations and prepare the relevant risk assessments before heading into the field. If you do find yourself in any danger, contact the emergency service or other authorities.

Please make sure your students use technology responsibly, monitor their contributions and delete or report contributions with sensitive data. Please also inform the participants of the school class that no one should delete the account without your consent.

Please do not disturb birds, their nests while conducting observations.

This document was assembled by Dr. Yaela Golumbic with assistance from the Learning By Doing team members: Dr Chris Preston and A/Prof Alice Motion

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