

Black Cockatoo Crisis: An Education Resource

Monitoring to Save and Endangered Species

Objective:

Students will examine the methods used to monitor the population of endangered Black Cockatoos in the Southwest of Western Australia. They analyse patterns and trends in ecological monitoring data (tagging and tracking) then examine the scientific methods, processes, claims, and conclusions presented in the Black Cockatoo Crisis film. They will consider the quality of evidence provided, and use knowledge of scientific concepts to draw conclusions that are consistent with evidence.

Task/Assessment:

Students will create a presentation on the ecological monitoring methods used for Black Cockatoos, highlighting the significance of these methods for the conservation of this species.

Students will create a monitoring plan to identify the effectiveness of conservation strategies for threatened and endangered species of Black Cockatoos in Southwest Western Australia.

Key Points:

- Understanding ecological monitoring
- Recognising the challenges faced by endangered species like Black Cockatoos
- Exploring specific monitoring methods including Radio tracking and GPS tags and associated challenges.
- Analysing the impact of monitoring on conservation efforts
- Explain how scientific concepts are used to draw conclusions that are consistent with evidence.

Preparation:

- Watch the *Black Cockatoo Crisis* documentary film either as a school, in a preceding class or as homework. Access options include:
SBS On Demand <https://www.sbs.com.au/ondemand/movie/black-cockatoo-crisis/2295518787622>
Clickview <https://launch.clickview.net/open?AppLink=video:79607552>
Vimeo <https://vimeo.com/ondemand/blackcockatooecrisis>
- Highlight the parts of the Year 11 ATAR syllabus this lesson contributes to (slides 3 – 4).

Introduction (Think-Pair-Share)

- Discuss with a partner: "Why is it important to monitor endangered species in their natural habitat?" (slide 5).
- Show monitoring excerpt (11.19-17.12) of 'Black Cockatoo Crisis' (students should have viewed the whole documentary at the school 'showing' of the film, in a previous lesson or as 'homework').

Black Cockatoo Crisis: An Education Resource

Theory Content:

- Work through slides 8 to 39. You can choose to either:
 - project the slides and move through with the class, or
 - ask students to work through the slides and make notes to your requirements.
 - ask student to read through then facilitate a discussion after a set of time.
- You may wish to build the following into discussion if you have more than one lesson available.
- Pose question about how tags are attached and why Black Cockatoos do not just chew them off (slide 28 – 30) A story resource is available for this.
- Discuss the concept of ecological monitoring and its relevance to conservation efforts
- Highlight the specific challenges faced by Black Cockatoos in the ‘wild’
- Discuss the common misconception: Belief that monitoring alone can save endangered species without conservation actions

Guided Practice:

- Review population sampling methods from the slides together and ask students to identify the monitoring methods shown in the film and what information those methods would provide to scientists.
- Ask the students to suggest other examples of each monitoring method that can be used for population surveys and habitat assessment.
- Scaffold questioning from simple identification to understanding the purpose of each monitoring method. Monitor student performance through group discussions and guided questions

Independent Practice:

- Assign students to research and create a monitoring plan for Black Cockatoos in WA.
- Include details on the methods they would use and why these methods are suitable for this species

Conclusion:

- Conduct a brief class discussion to summarize key points learned about ecological monitoring and its importance
- Ask students to share one new thing they learned about Black Cockatoos' conservation.
- Provide students with the ‘Fill in the gaps & word find’ worksheet to use as revision.

Extension Activities:

- Create a poster to explain how radio tracking and GPS tags work to collect data on the habitat use and movement of Black Cockatoos.
- Research and write a short reflection on the role of ecological monitoring in protecting endangered species such as Black Cockatoos.
- Write a short paragraph explaining what you think it would be like conducting the fieldwork that Molly, Zoe and Jill were shown doing in the film.

Black Cockatoo Crisis: An Education Resource

Curriculum (Year 11 ATAR Biology Unit 1):

- contemporary technologies, including satellite sensing and remote monitoring enable improved monitoring of habitat and species population change over time.
- human activities that can affect biodiversity and can impact on the magnitude, duration and speed of ecosystem change. One example of this is habitat destruction, fragmentation or degradation.

Specific Statements:

- People can use scientific knowledge to inform the monitoring, assessment and evaluation of risk (ACSBL071)
- Investigate & explain conservation and management practices
- Ecosystems are diverse, composed of varied habitats and can be described in terms of their component species, species interactions and the abiotic factors that make up the environment (ACSBL019)
- Relationships and interactions between species in ecosystems include predation, competition, symbiosis and disease (ACSBL020)
- Interpret a range of scientific and media texts, and evaluate processes, claims and conclusions by considering the quality of available evidence; and use reasoning to construct scientific arguments (ACSBL034)
- Select, construct and use appropriate representations, including diagrams of structures and processes; and images from different imaging techniques, to communicate conceptual understanding, solve problems and make predictions (ACSBL035)
- Design, evaluate, and refine a solution for reducing the impacts of human activities on endangered species and ecosystem balance.
- Analyse patterns and trends in data, including describing relationships between variables (ASCIS169; ASCIS203; ACSBL004; ACSBL033).
- Use knowledge of scientific concepts to draw conclusions that are consistent with evidence.
- Integrate and evaluate multiple sources of information presented in diverse formats and media in order to address a question or solve a problem.
- Scientific knowledge can enable scientists to offer reliable explanations and make reliable predictions (ACSBL042)
- Scientific knowledge can be used to develop and evaluate projected economic, social and environmental impacts and to design action for sustainability (ACSBL043)
- Gather, organise and compare information from a range of sources relating to Country/Place, community and past and present ways of living (Y3-6 ACLFWC026)

Black Cockatoo Crisis: An Education Resource

Websites & Further Resources

Black Cockatoo Crisis Documentary Film Clickview link:

<https://launch.clickview.net/open?AppLink=video:79607552>

Keep Carnaby's Flying: Ngoolarks Forever

<https://www.murdoch.edu.au/research/hbi/carnabys>

DBCA – Black Cockatoos

<https://www.dpaw.wa.gov.au/plants-and-animals/animals/208-saving-carnaby-s-cockatoo>

Urban Bushland Council

<https://www.bushlandperth.org.au/resources/for-schools/>

Kaarakin

<https://blackcockatoorecovery.com/get-involved/kaarakin-school-education-experiences/>

Kaarakin Colouring Sheets

<https://blackcockatoorecovery.com/new-colouring-sheets/>

Kid's activity book and masks

<https://www.australianwildlife.org/kids-corner/>

<https://www.australianwildlife.org/kids-corner/dress-up-for-wildlife/>

Black Cockatoos and your property

<https://www.birdlife.org.au/documents/swbc-BCs-and-your-property.pdf>

Bush Heritage – includes video of Carnaby's reveg

https://www.bushheritage.org.au/species/cockatoos?gclid=Cj0KCQjwmdGYBhDRARIsABmSEeOj6oD5giW1uc20CjXnqMQfJeNjUrXVUY5ycaZpGa_q1IyAUKnMFvQaAvnREALw_wcB

Nature Conservation

<https://www.natureconservation.org.au/our-work/threatened-species-protection/black-cockatoos/>

Interview with Jane Hammond, journalist & filmmaker

<https://fremantleshippingnews.com.au/2022/04/05/interview-with-jane-hammond-journalist-film-maker/>

Jane Hammond. Documentary Filmmaker/Director/Cinematographer/Journalist

<https://filmfreeway.com/JaneHammond>