Wild State **Australian Curriculum** Links
Senior Secondary Biology

The following Australian Curriculum links have been identified for senior secondary school audiences:

Content Description	Wild State Elaboration/s
Science Understanding (Unit 1) **Describing biodiversity** Biodiversity includes the diversity of species and ecosystems; measures of biodiversity rely on classification and are used to make comparisons across spatial and temporal scales. (ACSBL015)	Explore iconic Australian animals living in the Arid Outback in terms of diversity of species and ecosystems. Apply spatial (distribution area) and temporal (day/night or seasonal) scales to contrast animal populations in the Open Forest habitat. Examine classification system of Australian animals inhabiting the different Australian habitats. Investigate animals inhabiting the different Australian habitats in relation to diversity of species and ecosystems.
Science Understanding (Unit 1) **Describing biodiversity** 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)	Explore interactions between organisms such as predator/prey, parasites, competitors and pollinators. Examine factors that affect population sizes such as seasonal changes, destruction of habitats, and introduced species. Identify changes that impact ecosystems such as fragmentation, pollution and climate change. Understand the importance of co-dependent relationships such as mutualism, commensalism and parasitism.
Science Understanding (Unit 1) **Describing biodiversity** In addition to biotic factors, abiotic factors including climate and substrate can be used to describe and classify environments. (ACSBL021)	Document the importance of seasonal changes in Open Forests. Explain characteristics of the Rainforest and the microhabitats that exist within them. Describe the influence of daily changes of the Coastal and Intertidal habitats; examine how this affects animal behaviour.

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Science Understanding (Unit 1) **Ecosystem dynamics** Ecological succession involves changes in the populations of species present in a habitat; these changes impact the abiotic and biotic interactions in the community, which in turn influence further changes in the species present and their population size. (ACSBL026)	Investigate the interconnected biotic and abiotic interactions in various Australian habitats.
Science Understanding (Unit 3) **Continuity of life on Earth** Natural selection occurs when selection pressures in the environment confer a selective advantage on a specific phenotype to enhance its survival and reproduction; this results in changes in allele frequency in the gene pool of a population. (ACSBL090)	Understand the environmental factors which give rise to natural selection and speciation, such as the various microhabitats in the Rainforest habitat. Identify relationships between changes in environment which affect natural selection including fragmentation and land clearing.
Science Understanding (Unit 4) **Homeostasis** Changes in an organism's metabolic activity, in addition to structural features and changes in physiological processes and behaviour, enable the organism to maintain its internal environment within tolerance limits. (ACSBL111)	Understand changes in an animal's metabolic activity to maintain its internal environment within tolerance limits examples include torpor in snakes and microbats living in the Arid habitat.

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Science Understanding (Unit 4) **Homeostasis** Animals, whether osmoregulators or osmoconformers, and plants, have various mechanisms to maintain water balance that involve structural features, and behavioural, physiological and homeostatic responses. (ACSBL115)	Examine the behavioural, physiological and homeostatic responses of animals living in the various Australian habitats, such as reducing water loss by producing concentrated urine and dry faeces (the fawn hopping mouse), nocturnal activity (the desert scorpion) and having skin that reduces permeability (the water holding frog).
Science Inquiry Skills **(Biology Units 1, 2, 3 and 4)** Communicate to specific audiences and for specific purposes using appropriate language, nomenclature, genres and modes, including scientific reports. (Unit 1: ACSBL007) (Unit 2: ACSBL036) (Unit 3: ACSBL067) (Unit 4: ACSBL102)	Recognise how Queensland Museum's collections can communicate scientific information and document Queensland's unique flora, fauna and landscape. Suggest various technologies used by Queensland Museum's scientists to investigate a range of scientific questions. These investigations may impact on other areas of society and involve ethical considerations. Consider how science and technologies has contributed to finding solutions to conservation issues and natural resource management.
Science as a Human Endeavour **(Units 1 and 2)** Science is a global enterprise that relies on clear communication, international conventions, peer review and reproducibility. (ACSBL008)	Examine the role of scientists working within Queensland Museum in discovering new species and understanding the complexity of life to ensure proper economic, ecological, political and social decisions are made about Queensland's unique animals and their habitats.
Science as a Human Endeavour **(Units 3 and 4)** The acceptance of scientific knowledge can be influenced by the social, economic and cultural context in which it is considered. (ACSBL070)	Explore the ways in which a decline in biodiversity can influence the acceptance of scientific knowledge, models and theories related to climate change.

Wild State **General Capabilities and Cross-Curriculum Priorities** Links
Senior Secondary Biology

General Capabilities and Cross Curriculum Priorities

General Capabilities

Critical and creative thinking
- Inquiring – Identifying, exploring and organising information and ideas
- Generating ideas, possibilities and actions
- Reflecting on thinking and processes, analysing, synthesising and evaluation, reasoning and procedures

Personal and social capability
- Self-awareness
- Self-management
- Social awareness
- Social management

Ethical behaviour
- Understanding ethical concepts and issues
- Reasoning in decision making and actions
- Adopting values, rights and responsibilities

Intercultural understanding
- Recognising culture and developing respect for diversity
- Interacting and empathising with others
- Reflecting on intercultural experiences and taking responsibility

Literacy
- Comprehending texts through listening, reading and viewing
- Text knowledge
- Grammar knowledge
- Word knowledge
- Visual knowledge

Cross-Curriculum Priorities

Sustainability
- Consider the strong links between environment and survival of living things
- Human actions can play a vital part of meeting the needs of living things in man-made environments
- Suggest actions that can be taken to improve sustainable practices and support the provision of the basic needs of living things