Conservation

Protecting Ecosystems and Biodiversity

Stage 3

NSW Stage 3 Outcomes:

ST3-4LW-S · ST3-2DP-T · GE3-I · GE3-2 · EN3-IA · EN3-6B · MA3-8SP · CA3

WHAT IS CONSERVATION?

Conservation and sustainability

Conservation involves protecting and managing ecosystems to maintain biodiversity.

Sustainability focuses on meeting current needs without damaging future environments.

Why is conservation important for the future?

Complete:

Conservation is important because...

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WILDLIFE SYDNEY

BIODIVERSITY

Biodiversity

Biodiversity refers to the variety of living things in an ecosystem. High biodiversity supports stable and healthy ecosystems.

Why is biodiversity important?

List three reasons biodiversity is important.

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Explain how losing one species can affect others.

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WILDLIFE SYDNEY

ENDANGERED SPECIES

Species at risk

Species become endangered when their populations decline significantly.

If a species becomes extinct, it cannot be replaced.

What causes species to become endangered?

Complete:

Cause → Impact → Outcome

(e.g. habitat loss → fewer resources → population decline)

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WILDLIFE SYDNEY

HUMAN IMPACT

Human impact on ecosystems

Human activities can disrupt ecosystems.

Examples include:

- habitat destruction
- pollution
- climate change
- introduction of species

Which human activity has the greatest impact? Why?

Explain an example of: Human action → Ecosystem change → Effect on organisms.

WILDLIFE SYDNEY

INTERDEPENDENCE

Interconnected ecosystems

Animals and plants rely on each other to survive.
Changes in one part of a system can affect many others.

How are organisms connected?

Activity:

Explain a chain of interactions between at least three organisms.

WILDLIFE SYDNEY

CONSERVATION STRATEGIES

Protecting ecosystems

Conservation strategies include:

- protected areas
- breeding programs
- habitat restoration
- laws and regulations

Which strategy is most effective?

Explain:

Choose one strategy and explain how it protects species.

WILDLIFE SYDNEY

INDIVIDUAL ACTION

Making a difference

Individuals can contribute to conservation through everyday actions, such as:

- reducing waste
- protecting habitats
- supporting conservation organisations

Can small actions make a big difference?

Complete:

Explain how one individual action can impact ecosystems.

WILDLIFE SYDNEY

BEFORE THE ZOO

Inquiry & prediction

List:

- 2 animals you expect to see
- one threat each may face
- one conservation strategy that may help

WILDLIFE SYDNEY

AT THE ZOO

Observe real animals and their behaviours

Choose one animal. Record:

- Habitat: _____
- Food source: _____
- Behaviour: _____
- Role in the food web: _____

Explain how conservation efforts help this species survive.

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WILDLIFE SYDNEY

ZONE: TRICKY TONGUES & TREETOPS

ECHIDNA

Echidnas are uniquely adapted mammals that rely on specific habitats and food sources.

THINK...

How do adaptations influence survival?

ACTIVITY...

Explain how the echidna's features support its survival.

Explain how habitat loss could impact this species.

WILDLIFE SYDNEY

ZONE: DAINTREE RAINFOREST

CASSOWARY

Cassowaries are keystone species that play a critical role in rainforest ecosystems.

THINK...

Why are keystone species important?

ACTIVITY

Explain how cassowaries support biodiversity.

Predict the impact of their decline

WILDLIFE SYDNEY

ZONE: KANGAROO WALKABOUT

KANGAROO

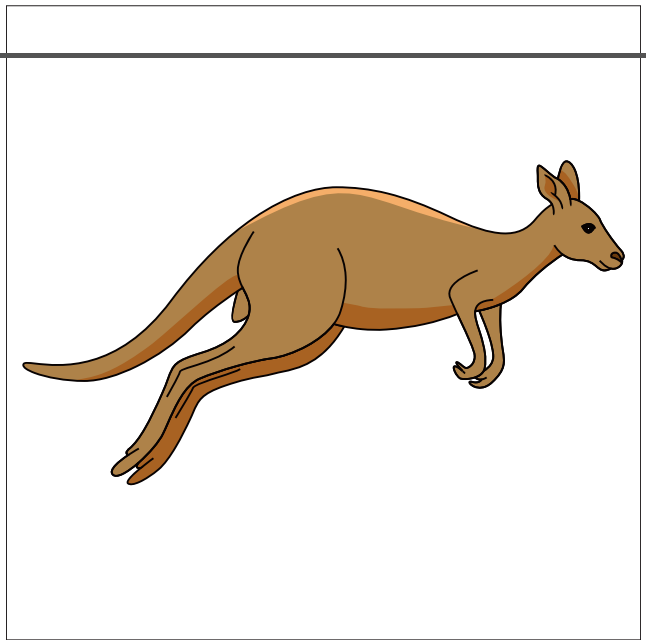
Kangaroos are abundant species that play a role in ecosystem balance.

THINK...

Why do some species thrive while others decline?

ACTIVITY...

Explain how human activity can influence kangaroo populations.



WILDLIFE SYDNEY

ZONE: NIGHTFALL

SUGAR GLIDER

Sugar gliders depend on tree habitats for movement and feeding.

THINK...

How does habitat fragmentation affect movement?

ACTIVITY...

Explain the impact of losing tree habitats on this species.

WILDLIFE SYDNEY

ZONE: CROCODILE BILLABONG

FRESHWATER CROCODILE

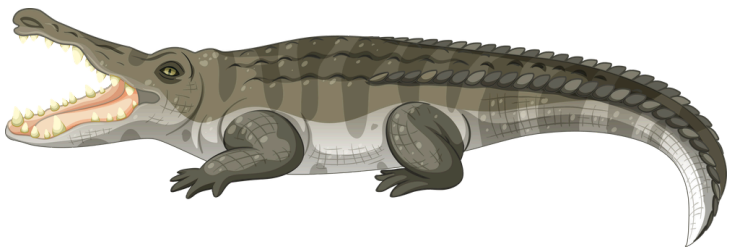
Crocodiles are important predators that help maintain ecosystem balance.

THINK...

What role do predators play in ecosystems?

ACTIVITY

Explain the impact of removing this predator from the system.



WILDLIFE SYDNEY

AFTER OUR VISIT TO THE ZOO

Reflection

Describe one animal and explain:

its role in the ecosystem

what threatens it

how it can be protected

WILDLIFE SYDNEY

DATA AND ANALYSIS

Class Data

Collect data on:

- animals observed
- animals needing protection

Analyse:

- which animal is most at risk?
- why?

SUSTAINABLE FUTURE

Write:

Write a paragraph: “How can humans protect ecosystems for the future?”

Include:

- one issue
- one solution
- one expected outcome

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WILDLIFE SYDNEY