DEPTH STUDIES WITH TARONGA ZOO - TEACHER RESOURCE

Year 11 Biology and Earth and Environmental Science

WILDLIFE AT RISK

Biodiversity is not a luxury – it is a necessity. Global trends indicate wildlife population numbers are decreasing dramatically due to natural and human influences. Taronga's Conservation Society is perfectly placed to engage students with depth studies.

Students will connect directly with Taronga's scientists and experts to deepen their understanding of the risks threatening populations and our conservation efforts. Students will design initiatives that empower people to take action to reduce threats to wildlife and ecosystems.

OUTCOMES

Knowledge and Understanding:

- **BIO11-10** describes biological diversity by explaining the relationships between a range of organisms in terms of specialisation for selected habitats and evolution of species
- **BIO11-11** analyses ecosystem dynamics and the interrelationships of organisms within the ecosystem
- **EES11-11** describes human impact on the Earth in relation to hydrological processes, geological processes and biological changes

Working Scientifically:

- Questioning and predicting BIO11-1 / EES11-1
- Communicating BIO11-7 / EES11-7
- Analysing data and information BIO11-5 / EES11-5
- Problem solving BIO11-6 / EES11-6

DEPTH STUDY OUTLINE

AT SCHOOL - PRE EXCURSION ACTIVITIES

Students are encouraged to explore:

- the cause and effect of different impacts on species.
- Taronga's scientists and their research projects.
- past conservation projects that have been created thanks to the Taronga Green Grant.
- data sets from Taronga conservation or research projects.

AT THE ZOO

Students will:

- participate in workshops delivered by working scientists, keepers and teachers at the zoo about human impacts and efforts to increase population numbers.
- analyse data from authentic research and conservation projects.
- examine technologies used in conservation science.

BACK AT SCHOOL - POST EXCURSION ACTIVITY

Students are encouraged to design a wildlife-focused conservation initiative that will help protect wildlife and secure a sustainable future for our planet.

TARONGA ZOO
For the Wild

AT SCHOOL - PRE EXCURSION ACTIVITIES

CONSERVATION IN ACTION

Visit Taronga Zoo's current research and for a chosen conservation project identify:

- the driving question for the project
- what species it aims to impact
- what data collection was involved in the project
- how the projects success will be measured.

SCIENTISTS AT WORK

Get to know Our Scientists before you meet some of them in person at the Zoo.

CONSERVATION GRANTS

Past conservation projects that have been created thanks to the inaugural Taronga Green Grant are listed below. For each winner summarise their solution, what species they are impacting and why you believe their project has been successful.

- Take 3
- Wildlife Witness
- The last straw

SAVING OUR SPECIES

The Department of Planning, Industry and Environment is working hard to help save threatened species from extinction in NSW. Learn more by exploring:

- Saving Our Species 2016-21
- Saving Our Species Videos

THREATENED PLANT SPECIES

Use the NSW guide to surveying threatened plants to assess your local habitat.

INTRODUCED SPECIES

Since colonisation, many species of animal have been introduced into Australia from other countries. They include cane toads, goats, foxes, deer, rabbits, pigs, cats, dogs and horses. Learn about these Pest Animals.

WILDLIFE AT RISK CASE STUDY - THE CORROBOREE FROG

Go to the Atlas of Living Australia to:

- Compare the occurrence records map for the Southern Corroboree Frog and the occurrence records map for the Northern Corroboree Frog.
- Explore the charts showing the breakdown of occurrence records for the Northern Corroboree Frog by month, year, habitat etc.

Michael McFadden is the Unit Supervisor of the Herpetofauna division at Taronga Zoo where he oversees the maintenance and husbandry of the Zoo's collection of reptiles and amphibians.

Michael currently works on conservation projects including the captive breeding and release programs for the highly endangered Southern and Northern Corroboree Frogs and Booroolong Frogs. See his research and conservation papers under is profile; Michael McFadden on Researchgate. Learn about how Taronga is helping to save the Southern Corroboree Frog with the Office of Environment and Heritage.

Specific reference material can also be found at Corroboree Frog Recovery Program website, including the national recovery plans.

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AT THE ZOO

This excursion will contribute five hours to a depth study

THIS FULL DAY EXCURSION INCLUDES:

- Workshops delivered by working scientists, keepers and teachers at the Zoo about human impacts (e.g. habitat loss, marine pollution, introduced species) and current efforts to increase population numbers.
- Data analysis from authentic research and conservation projects.
- Exposure to technologies used in conservation science.

A student worksheet will be emailed before the Zoo excursion

BACK AT SCHOOL – POST EXCURSION ACTIVITY

Taronga Wildlife Grant

Ever had an idea that could change the world?
Can you rid Australia of cane toads? Can you reduce our waste? Can you help stop habitat loss or protect a threatened species?

Taronga is a not-for-profit conservation organisation with a goal to secure a shared future for wildlife and people. Taronga is offering funding for innovative wildlife-focused conservation initiatives that will help protect our wildlife and help secure a sustainable future for our planet.

Be part of the solution, not the problem - "with funding and access to 1.7 million people a year, what would you do to make Australia a safer place for wildlife?"
Create a video (no longer than five minutes) or written application (no longer than 4 pages) which addresses the following:
a) Describe the targeted issue and explain why this issue is a threat with far reaching impact on wildlife.
b) Describe how you would address this issue.
c) Describe the specific activities you plan to undertake with clear milestones you hope to achieve.
d) Describe which community, habitat, species will the proposal impact?
e) What potential pitfalls can you see and how will you overcome them?

Keep the below criteria in mind:
Vision: Does the proposed project help secure a shared future for wildlife and people?
Target issues: Is the identified issue a genuine conservation threat with far reaching impact?
Appropriate action: How likely is it that the targeted action will create a positive tangible conservation outcome? Have potential pitfalls been addressed?
Realistic: How likely is it that your targeted action will be achieved, given available resources
Scope of conservation impact: Will this project impact at a population, species, habitat, ecosystem or global level?
Innovation: Is this a novel method for tackling a conservation issue?
Mainstream: Does the idea have potential for mainstream uptake?

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