

**Every Individual Matters
Every Action Counts**



RISE OF THE ECO-WARRIORS

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A **STUDY GUIDE** BY JENNIFER CONNOLLY & CHERYL JAKAB



<http://www.metromagazine.com.au>

ISBN: 978-1-74295-317-5

<http://www.theeducationshop.com.au>



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Synopsis

What can a dedicated group of young people, a visionary scientist and school students working from their classrooms achieve in 100 days to halt the rampant destruction of Borneo's forest and help save orangutans from extinction?

Rise of the Eco-Warriors follows the journey of a group of passionate and adventurous young people as they leave their homes behind them to spend 100 days in the jungles of Borneo. Their mission is to confront one of the greatest global challenges of our time, saving rainforests and giving hope to endangered orangutans. Their task is enormous and the odds are against them – but they never give up.

Jojo, an orphaned baby orangutan, is entrusted in their care and they must find a way to return her to her forest home. To do this they need to build an orangutan rehabilitation centre and work with local communities to protect their forest. They start a reforestation nursery and create a musical education show for local schools. Under the guidance of their mentor Dr Willie Smits,

they introduce an innovative satellite monitoring system called Earthwatchers and enlist the help of school students around the world. The system is put to the test when bulldozers move in and threaten a local community.

This is a story about what it takes to be an eco-warrior, an individual willing to step up and take action to avert a global catastrophe taking place before our eyes. The eco-warriors represent a new generation, ready to face what is happening on our planet and willing to do something, no matter how small, to build a more humane and balanced world. For them, every individual matters, every action counts.

Curriculum and educational suitability links

Most suitable for Junior to Senior Secondary (Years 7 – 12). The film and related activities in this guide could be adapted for use in Years 5 and 6.

General understandings addressed in the film

- Tackling deforestation

- Conserving endangered species
- Supporting local action in partnership with local people
- Uses of modern technology in taking action on an environmental issue
- The importance of global connections

Summary of links to the National Curriculum

The following table provides a summary of links to the National Curriculum and the draft of the National Curriculum for Media. **See pages 4-5.**

Learning areas:

- Geography 7-12
- Science 7-12
- History 10-12
- Media 7-12
- Cross curriculum priorities – Sustainability and Asia and Australia's engagement with Asia.

Reference:

<http://www.australiancurriculum.edu.au>¹

http://www.acara.edu.au/verve/_resources/DRAFT_Australian_Curriculum_The_Arts_Foundation_to_Year_10_July_2012.pdf²

LEARNING AREA	YEARS 7-8	YEARS9-10	YEARS11-12
Geography	<p>Year 7</p> <p>GEOGRAPHICAL KNOWLEDGE AND UNDERSTANDING</p> <p>Unit 2: Place and liveability</p> <p>The influence of environmental quality on the liveability of places (ACHGK045)</p> <p>GEOGRAPHICAL INQUIRY AND SKILLS</p> <p>Year 8</p> <p>GEOGRAPHICAL KNOWLEDGE AND UNDERSTANDING</p> <p>Unit 1: Landforms and landscapes</p> <p>The human causes and effects of landscape degradation (ACHGK051)</p> <p>GEOGRAPHICAL INQUIRY AND SKILLS</p>	<p>Year 9</p> <p>GEOGRAPHICAL KNOWLEDGE AND UNDERSTANDING</p> <p>Unit 1: Biomes and food security</p> <p>The human alteration of biomes to produce food, industrial materials and fibres, and the environmental effects of these alterations (ACHGK061)</p> <p>Unit 2: Geographies of interconnections</p> <p>The way transportation and information and communication technologies are used to connect people to services, information and people in other places (ACHGK066)</p> <p>The effects of the production and consumption of goods on places and environments throughout the world and including a country from North-East Asia (ACHGK068)</p> <p>GEOGRAPHICAL INQUIRY AND SKILLS</p> <p>Year 10</p> <p>GEOGRAPHICAL KNOWLEDGE AND UNDERSTANDING</p> <p>Unit 1: Environmental change and management</p> <p>GEOGRAPHICAL INQUIRY AND SKILLS</p>	<p>Year 12</p> <p>UNIT 3: LAND COVER TRANSFORMATIONS</p> <p>- Depth study of the interrelationship between land cover change and changes in either global climate or biodiversity</p> <p>- Depth study of a program to address land cover change</p> <p>UNIT 4: GLOBAL TRANSFORMATIONS</p> <p>- Depth study: International economic integration</p>
Science	<p>BIOLOGICAL SCIENCES</p> <p>YEAR 7:</p> <p>There are differences within and between groups of organisms; classification helps organise this diversity (ACSSU111)</p> <p>Interactions between organisms can be described in terms of food chains and food webs; human activity can affect these interactions (ACSSU112)</p> <p>SCIENCE AS A HUMAN ENDEAVOUR</p> <p>USE AND INFLUENCE OF SCIENCE,</p> <p>SCIENCE INQUIRY SKILLS: evaluating, communicating</p>	<p>BIOLOGICAL SCIENCES</p> <p>YEAR 9:</p> <p>Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems (ACSSU176)</p> <p>YEAR 10:</p> <p>The theory of evolution by natural selection explains the diversity of living things and is supported by a range of scientific evidence (ACSSU185)</p> <p>SCIENCE AS A HUMAN ENDEAVOUR</p> <p>USE AND INFLUENCE OF SCIENCE,</p> <p>SCIENCE INQUIRY SKILLS: evaluating, communicating</p>	<p>BIOLOGY</p> <p>YEAR 11:</p> <p>UNIT 1: Biodiversity and the interconnectedness of life; earth and environmental science.</p> <p>YEAR 12:</p> <p>UNIT 3: Living on earth – extracting, using and managing earth resources</p> <p>EARTH AND ENVIRONMENTAL SCIENCE</p> <p>YEAR 12:</p> <p>Unit 3: Living on Earth - extracting, using and managing Earth resources</p>
HISTORY		<p>YEAR 10 CONTENT</p> <p>Depth study: Students investigate one major global influence that has shaped Australian society in depth, including the development of the global influence during the twentieth century. Students study ONE of these electives: Popular culture or The environment movement or Migration experiences.</p>	<p>MODERN HISTORY</p> <p>Year 11:</p> <p>Unit 2: Movements for Change in the 20th century</p>

LEARNING AREA	YEARS 7-8	YEARS 9-10	YEARS 11-12
Media	YEARS 7 & 8 MAKING 8.1 Select from a range of equipment and media arts technologies and techniques, including those from the Asia region, to create media arts works that inform, entertain and persuade audiences and that recognise the need to use resources sustainably RESPONDING 8.7 Analyse how the choice of codes and conventions in a media arts work engages audiences and communicates ideas	YEARS 9 & 10 MAKING 10.3 Manipulate representations to invite alternate social, cultural and environmental viewpoints and audience interpretations RESPONDING 10.7 Evaluate the effectiveness of codes and conventions within a media arts work to engage audiences and communicate ideas and concepts	YEARS 11 & 12 Various links to studies across different national senior Media curricula
Cross curriculum priority: Sustainability	SYSTEMS: OI.3 Sustainable patterns of living rely on the interdependence of healthy social, economic and ecological systems. WORLDVIEWS: OI.5 World views are formed by experiences at personal, local, national and global levels, and are linked to individual and community actions for sustainability. FUTURES: OI.6 The sustainability of ecological, social and economic systems is achieved through informed individual and community action that values local and global equity and fairness across generations into the future. OI.9 Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments.		
Cross Curriculum Priority: Asia and Australia's engagement with Asia	ASIA AND ITS DIVERSITY: OI.2 Interrelationships between humans and the diverse environments in Asia shape the region and have global implications. ASIA-AUSTRALIA ENGAGEMENT: OI.5 Collaboration and engagement with the peoples of Asia support effective regional and global citizenship.		





TERM	DEFINITION
Deforestation	
Reforestation	
Global connections	
Sustainability	
Endangered species	
Rehabilitation	
Biodiversity	
Eco-tourism	

Pre-viewing activities

1. The quote, 'Every individual matters. Every Action counts'³ is central to the themes and issues presented in *Rise of the Eco-Warriors*. Display this quote to the class and ask students to form groups of 3-4 to discuss what this quote means to them in a global sense. Provide the following prompt questions to guide their discussion and ask groups to report back a short summary of their findings to the class.
 - How do the interconnections between places, people and environments affect the lives of people?
 - What are the consequences of changes to places and

environments and how can these changes be managed?

- Why are interconnections and interdependencies important for the future of places and environments?
 - What are the causes and consequences of change in places and environments and how can this change be managed? (Curriculum focus: Geography, Science, Sustainability)
2. Display the word 'Ecology' to the class. Discuss the meaning of this word and ask students to calculate their ecological footprint by completing the activity on the website below:
<http://www.earthday.org/footprint-calculator?gclid=CIKOr4nTk7oCFU1QpAod6VoA-A>
 (Curriculum focus: Geography,

Science, Sustainability)

3. Establish the level of student prior knowledge about Borneo by conducting a class brainstorm. Geographical questions could include searching for basic information such as; location, coordinates, area, districts, population, ethnic groups, GDP and climate. Questions could become more complex and be generated by the students themselves in older year levels. Findings should be presented in a table or graph.
 (Curriculum focus: Geography, Asia and Australia's engagement with Asia, ICT)
4. Check your understanding. How many of these terms can you define? **See Table this page.** The terminology in the table could



be modified to suit various year levels. The activity could be repeated after the film to enable students to fill in the gaps and consolidate their knowledge.

(Curriculum focus: Geography, Science, Sustainability, History)

5. Orangutan Facts

Orangutans are great apes, as opposed to monkeys, and are closely related to humans, having 97% of DNA in common.

Orangutans are extremely patient and intelligent mammals. They are very observant and inquisitive, and there are many stories of orangutans escaping from zoos after having watched their keepers unlock and lock doors.

Extinction in the wild is likely in the next 10 years for Sumatran Orangutans and soon after for Bornean Orangutans. The Sumatran

species (*Pongo abelii*) is Critically Endangered and the Bornean species (*Pongo pygmaeus*) of orangutans is endangered according to the International Union for the Conservation of Nature and Natural Resources (IUCN) Red List of Threatened Species.

Source: <http://www.orangutan.org.au/orangutan-facts>⁴

- Visit the following website: <http://www.orangutans.com.au/Orangutans-Survival-Information/Orangutan-Facts.aspx>
- Create a one page profile of the Bornean orangutan that covers information about their biology, behaviour, diet and the threats that have led to their classification as an endangered species. Come up with 5 unusual facts about orangutans, e.g. Orangutans once occurred in southern China.
- Extension activity: Research the questions below and add your findings to your report:

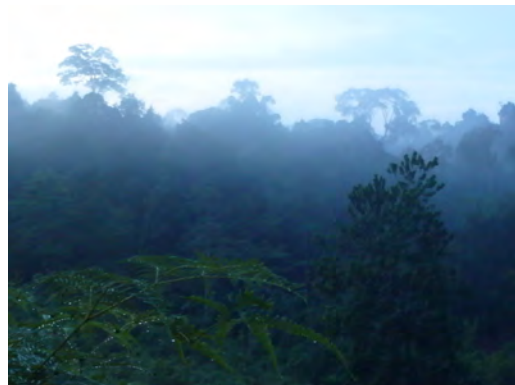
- What part do orangutans play in the eco-system as a whole?
- If you were to protect or restore 500 hectares of forest for orangutans, how many other species could this also support?

(Curriculum focus: Geography, Science, Sustainability, ICT)

6. Agree or disagree? (an activity for students in Years 5 and 6 or lower secondary)

Read the following statements out to students and ask them to position themselves, according to how strongly they agree or disagree, on an imaginary line that runs across the room or an area outside.

- I am concerned about the environment
- I do my part to make sure the environment is looked after
- I know a lot about endangered species of animals
- I know the names of at least 5 endangered species (stop and ask students to share)



- I have heard of the term deforestation
- I know the meaning of the word deforestation (stop and discuss this)
- I can share 3 ways that we can all help the environment

*This activity could be repeated after viewing the film to review and consolidate learning.
(Curriculum focus: Geography, Science, Sustainability)

Viewing activities

1. **Refer to the table on this page** to take notes while viewing the film. Students do not need to fill in each column for each fact presented. The FQR sheet can be used to take notes and record responses to the variety of issues and events that take place in the film. Teachers may wish students viewing the film for Geography or Science

to focus on the first two columns whereas students of Media may concentrate more on the last two columns.
(Curriculum focus: Geography, Science, Sustainability, Media, Asia and Australia's engagement with Asia)

2. *Rise of the Eco-Warriors* Film Questions
 - A. The journey that the eco-warriors take is mapped out during the film. List each of the places they visit.
 - B. Who is Dr Willie Smits?
 - C. List the environmental issues that the eco-warriors witness on their way to the heart of Borneo.
 - D. What is about to happen to the Dayak Ancestral Burial Ground when the eco-warriors visit?
 - E. How is oil palm farming damaging the way of life for the Dayak people?
 - F. What happened to the community of Tembak in 1996?

FACTS

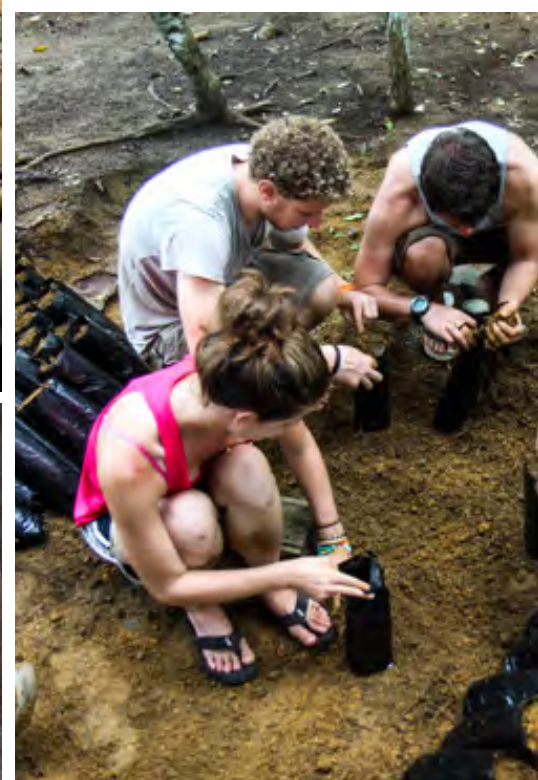
Example: Goldmining is affecting the water quality in Borneo.

QUESTIONS

Example: What is being done about this?

RESPONSES

Example: The water appears to be of very poor quality, it seems unfair that the local people and the environment pay the price for goldmining. Both navigation (sediment run off and flooding as well as shifting sand banks) and fish stocks are impacted. Also health of local people.



- G. List the goals that each of the eco-warrior teams decide on.
- Education Team
 - Earthwatcher Team
 - Wildlife Rehabilitation Team
 - Reforestation Team
- H. What uses are there for sugar palm?
- I. What type of products use palm oil?
- J. What is eco-tourism?
- K. Which eco-warrior do you identify with the most and why?
- L. What, in your opinion, are the two greatest challenges the eco-warriors faced?
- M. What did the eco-warriors achieve in the 100 day time frame?
- N. List three things you learnt from the film.
- Students in Years 7-12 could be given these questions as a hand-out to record responses on during viewing. The questions could be modified for primary students in Years 5 and 6 and/or used as

discussion starters after specific sections have been viewed.
(Curriculum focus: Geography, Science, Sustainability, Media Arts, Asia and Australia's engagement with Asia)

Post viewing activities

1. Take action!

Visit the following website: <http://dfa.tigweb.org/schools/?section=vc>

- Students sign up to become part of the Deforestation Virtual Classroom where they will be able to continue their learning about deforestation

through the use of social and digital media tools.

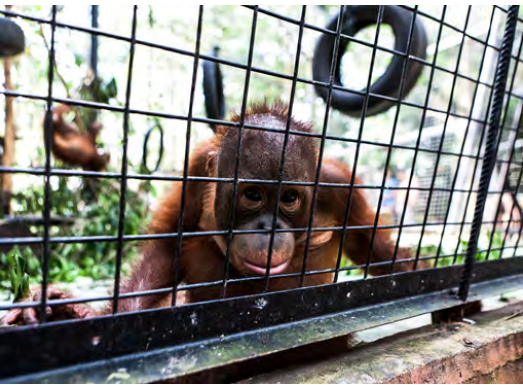
(Curriculum focus: Geography, Science, Sustainability, Asia and Australia's engagement with Asia, History)

2. Become an Earthwatcher

Students can continue to explore the effects of production and consumption on the environment first hand by signing up to monitor the forests of Borneo using the Earthwatchers program seen in *Rise of the Eco-Warriors* <http://dfa.tigweb.org/earthwatchers/>

Each student is assigned a parcel of land and will be able to track changes in land patterns over time through the use of satellite imagery. These changes are then passed onto local authorities who will investigate any deforestation in the area.

(Curriculum focus: Geography, Science, Sustainability, Asia and Australia's engagement with Asia, ICT)



3. An environmental news bulletin.

(Geography/Science curriculum based activity)

Use the film as a starting point for a discussion about environmental issues that concern students.

- In groups of 2 or 3 students create an informative news bulletin about one of the environmental issues on this list:
- Climate change and issues related to global warming, such as the greenhouse effect and gradual rise in sea level
- Deforestation, clear-cutting, destruction of wildlife habitats, and greenhouse gas emissions that contribute to global warming.
- Wildlife conservation
- Carbon footprint and the responsibility of individuals to reduce their effect on the environment
- Consumerism and over

consumption and their effect on the planet

- Ecosystem destruction and associated environment concerns
- Energy conservation issues, including renewable energy for home and business, energy efficiency and fossil fuel depletion
- Land use, urban sprawl, lack of free space and habitat destruction and fragmentation
- Mining and its role in global warming
- Resource depletion, the need for newer, cleaner energy sources, and exploitation of natural resources.
- Sustainable communities and issues such as reducing reliance on fossil fuels, supporting local farmers, encouraging green practices and building.

Source: http://greenliving.lovetoknow.com/Top_30_Environmental_Concerns⁵

The news report should:

- Be structured using research questions
- Include the use of graphs, tables and ICT to present findings
- Propose action that can be taken to make a difference in relation to the issue
- Outline the causes and consequences of the environmental issue being investigated
- Use maps and spatial technologies as appropriate for the chosen topic
- Use scientific and/or geographical concepts when combining information from various sources to draw conclusions

This activity uses general capabilities that relate to Geography and Science; however, it could be adapted to include year level specific criteria that encompasses Science, History, Media or Cross Curriculum Priorities.



(Curriculum focus: Geography, Science, Sustainability, Asia and Australia's engagement with Asia, History, ICT, Media)

4. Palm Oil Awareness Campaign

'A lot of people are curious. They want to do better for the earth and for nature but they just don't know how'. Rise of the Eco-Warriors⁶

Create an awareness campaign about the use of Palm Oil in products that we find on our supermarket shelves. The websites below can be used as a starting point to find information that will educate your school community about the impact Palm Oil has on the environment, the labelling of products that use Palm Oil and sustainable alternatives.

Present your findings in the way that you believe will best engage your school community. Possibilities include: a filmed advertisement, a poster, a flyer,

a speech, a power point presentation, a website.

<http://www.saynotopalmoil.com/palm-oil.php>

<http://www.worldwatch.org/node/6059>

<http://www.wwf.org.au/>

[our_work/saving_the_natural_world/forests/palm_oil/palm_oil_and_deforestation/](#)

http://wwf.panda.org/what_we_do/footprint/agriculture/palm_oil/environmental_impacts/forest_conversion/

(Curriculum focus: Geography, Sustainability, ICT, Media)

5. Document change, a Media based activity.

'We are the future. We can't rely on past generations to always make decisions for us. What are we going to do when they are gone? We have to learn to take charge. We have to learn to put our foot down' Rise of the Eco-Warriors⁷

Use this quote as the starting point for a discussion about issues in your school community. Work in small groups to identify a local environmental issue you feel passionate about. The issue could be as simple as rubbish in the school yard or could be a more complex one, such as pollution or land degradation in surrounding areas.

Create a mind map that analyses the issue and identifies action you can take to make a difference.

Track the progress you make towards affecting change, or bringing about community awareness, by making a documentary or using the iMovie film trailer app.

*This task has obvious links to the National Curriculum standards for Media but could also be adapted for Geography or a History depth study. Students can make a short film or simply create a film trailer that summarises their work.



(Curriculum focus: Geography, History, Sustainability, ICT, Media)

6. Exploring Media codes and conventions

Students view the film and then respond to the following questions:

- Identify the codes and conventions used in the film.
 - How does the use of codes and conventions evoke a personal response?
 - How does the use of codes and conventions convey a message about the environment, individual responsibility and the need for action?
 - This film is made for cinema, not for TV, what are the differences between these two mediums?
- (Curriculum focus: Geography, Sustainability, Media)

7. Google Earth Activities relating to issues explored in the film

Use Google Earth to enable students to:

- make a tour to highlight all the major rainforests affected by deforestation
- explore endangered species with the National Geographic layer
- study climate change and the effects of global warming by viewing global historical temperatures

More information about how to set up and run activities like the ones above can be found at: <http://sites-content.google.com/google-earth-for-educators/classroom-resources/lesson-plan-library>

(Curriculum focus: Geography, Sustainability, ICT, Science)

8. Essay

Respond to this topic in essay form. The essay should be 800-1000 words.

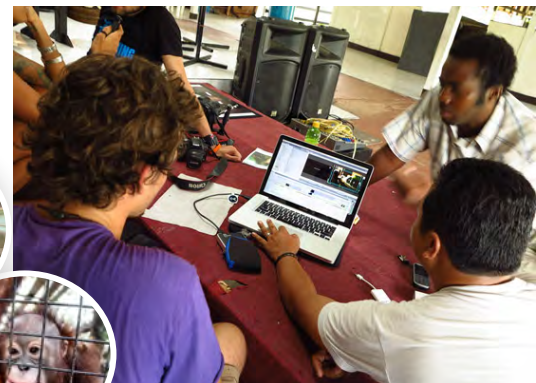
What is driving palm oil expansion? What factors are pushing our system to continually expand and achieve economic growth at all costs? Discuss these questions with reference to anthropocentrism and biocentrism.

(Curriculum focus: Science, Sustainability, History)

9. Wallace's Line

Teachers may like to reference Wallace's Line when discussing Borneo and the theory of evolution. This could generate discussion on species distribution, why tigers and orangutans are found in Asia and why tree kangaroos and cassowaries are found in Australia.

(Curriculum focus: Science, Geography, Sustainability, History)



Activites responding to the film clips in the DVD extras

While viewing, ask students to find answers to the following question/s and ask them to raise one question of their own. Consider the list of raised questions for attitudes, biases and interests.

Clip 1: Welcome to Tembak

<http://vimeo.com/61509631>

Focus: Supporting local action

Q. How are the oil palms damaging the way of life?

Student questions: List student comments for further exploration. How many refer to the importance of supporting local action?

Clip 2: The tree of new opportunities

<http://vimeo.com/59383585>

Focus: Sugar palm for the people

Q. What uses are there for the sugar palm?

Student questions: Do student-raised questions address the idea expressed in the title of the clip?

Clip 3: What does orangutan salad taste like?

<http://vimeo.com/59881255>

Focus: Wild rainforest foods

Q. What do you think is the purpose of having a chef visit the forest seen in the clip?

Student questions: How can the responses be grouped? What was the focus of attention of the members of our class when watching this clip?

Clip 4: 100 days in the jungle

<http://vimeo.com/48931177>

Focus: Individual action

As the eco-warriors start their initial twenty days in Borneo, they begin to understand the huge task before them and what is at stake for humanity.

Q. What do you find inspiring about the views shared in this clip?

Student questions: Do the questions show understanding of the issues and reasons for individuals taking action?

Clip 5 The Earthwatchers program

<https://vimeo.com/64511800>

Focus: Action in classroom activity

Q. What support does local action need and how can students become involved in action through Earthwatchers?

Student questions: Do the questions show understanding of the role of technologies (drones, satellites, ICT) in data collection? What interests are expressed in the questions raised?



Online resources for students and teachers

Orangutans

<http://www.orangutans.com.au/>
<http://www.orangutan.org.au/>
<http://www.orangutan.org/orangutan-eco-tours>
http://www.orangutanprotection.com/indexina.php?lang=eng&menu=show_weblog_index1.php
<http://worldwildlife.org/species/sumatran-orangutan>
<http://worldwildlife.org/species/bornean-orangutan>
<http://orangutancentre.org>
<http://www.masarang.nl>

Teaching resources and ICT Tools

<http://www.gtav.asn.au/Resources/VELS/index.php>
<http://www.arkive.org/education/teaching-resources-11-14#resourceARKiveGeographicExploringTheWorldsBiodiversity>
<http://sitescontent.google.com/google-earth-for-educators/>
<http://www.google.com/gadgets/directory?synd=earth&hl=en&gl=en&id=82097059953>

Deforestation

<http://environment.national-geographic.com.au/environment/global-warming/deforestation-overview/>
<http://environment.national-geographic.com.au/environment/global-warming/gw-impacts-interactive/>

Interactive Global warming map

http://www.wwf.org.au/what_you_can_do/do_it/

Reforestation

<http://www.arkive.org/reforestation/>
<http://www.masarang.nl>

Palm Oil

<http://www.saynotopalmoil.com/palm-oil.php>
<http://www.worldwatch.org/node/6059>
http://www.wwf.org.au/our_work/saving_the_natural_world/forests/palm_oil/palm_oil_and_deforestation/
http://wwf.panda.org/what_we_do/footprint/agriculture/palm_oil/environmental_impacts/forest_conversion/

Endangered Species

http://worldwildlife.org/species/directory?sort=extinction_status&direction=desc
<http://www.kidsplanet.org/factsheets/map.html>

(Endnotes)

- 1 "Welcome to the Foundation to Year 12 Australian Curriculum Online." The Australian Curriculum V5.1. N.p., n.d. <http://www.australiancurriculum.edu.au/>, accessed 10 October 2013
- 2 "ACARA, Draft Australian Curriculum: The Arts Curriculum Foundation to Year 10. 2012 <http://www.acara.edu.au/verve/_resources/DRAFT_Australian_Curriculum_The_Arts_Foundation_to_Year_10_July_2012.pdf> accessed 11th October 2013
- 3 Rise of the Eco Warriors (Cathy Henkel, 2012)
- 4 "The Orangutan Project, 2013< <http://www.orangutan.org.au/orangutan-facts>> accessed 13th October 2013
- 5 Sandra Ketcham, List of Top 30 Environmental Concerns, Love to Know Corp, 2011, <http://greenliving.lovetoknow.com/Top_30_Environmental_Concerns>
- 6 Op.cit. Rise of the Eco Warriors
- 7 ibid



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ISBN: 978-1-74295-317-5 editor@atom.org.au

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