

Environment and development: World environments

Strand

Place and Space

Systems, Resources and Power

Core learning outcomes

Place and space

- PS 5.1** Students synthesise information from the perspectives of different groups to identify patterns that constitute a region.
- PS 5.2** Students design strategies for evaluating environmental impacts of a proposed project, highlighting relationships within and between natural systems.
- PS 5.4** Students use maps, diagrams and statistics to justify placing value on environments in Australia and the Asia-Pacific region.
- PS 5.5** Students evaluate ideas concerning sustainability to identify who may benefit and who may be disadvantaged from changes to a Queensland industry.

Systems, Resources and Power

- SRP 5.1** Students evaluate the relationship between an ecological system and a government and/or an economic system.
- SRP 5.3** Students use a structured decision-making process to suggest participatory action regarding a significant current environmental, business, political or legal issue.

Purpose and overview

Activities assist students to work towards demonstrating the core learning outcomes through a controversial proposal – a planned cableway linking the Gold Coast with the Springbrook World Heritage rainforest area. Students make decisions about the proposal, and design a media-based presentation to convey their decisions.

Using data from the actual Environmental Impact Statement for the Naturelink project, students undertake their own environmental impact assessment. This process will highlight the intersection of environmental, economic, social, political and cultural factors. Students are assisted to understand how different views and interests can produce different attitudes to planned projects.

This module focuses on one case study – the Naturelink Sky-rail controversy. The proposal to locate a commercial development within a world heritage area allows the broader issues of world environments to be explored in microcosm. Investigations will also allow students to experience decisions faced by active citizens.

Phases (Minimum time recommended: 12 hours)	Activities	Core learning outcomes	Assessment opportunities
1. Exploring the issue (approximately 5 hours)	1. Exploring the cableway project issues 2. Exploring ecological sustainability 3. Exploring the impact of the cableway 4. Defining regions 5. Exploring interest in the cableway	PS 5.1 PS 5.4 PS 5.5	Oral presentations Definition of a region Observation Group reports
2. Investigating the impact of the proposed cableway (approximately 4 hours)	6. An environmental impact statement 7. Conducting an environmental impact investigation	PS 5.1 PS 5.2 PS 5.4 SRP 5.1	Environmental impact statement investigation and report
3. Making judgments, taking action (approximately 3 hours)	8. Advocacy 9. Reality check	SRP 5.1 SRP 5.3	Participation in discussions to reach consensus Group oral reports Participation in developing an advocacy event

Assessment

The assessment opportunities outlined are examples of how to assess students' demonstrations of the identified learning outcomes. As often as possible, negotiate assessment with students and support a variety of ways of demonstrating the learning outcomes. Reflect with students on evidence gathered when making judgments about their demonstrations of learning outcomes. Some students may require more time and/or other contexts in which to demonstrate these learning outcomes. Other modules may provide such time and/or contexts and the 'Levels 1 to 6 module learning outcomes maps' in the *Years 1 to 10 Studies of Society and Environment Sourcebook Guidelines* can be used to identify these modules.

The environmental impact statement provides opportunities to assess most of the core learning outcomes.

Assessing learning outcomes at different levels

Activities are designed primarily for students working towards demonstrations of Level 5 learning outcomes. Some assessment opportunities may be used to decide whether students are demonstrating the learning outcomes at levels before or after Level 5. To guide judgments about students' demonstrations of learning outcomes consider whether students are:

- working towards demonstration of the Level 5 learning outcomes
- demonstrating the Level 5 learning outcomes
- demonstrating the Level 5 learning outcomes and working towards Level 6 learning outcomes.

Learning outcomes in the syllabus at Level 4 and Level 6 could provide a guide for teacher judgments. Studies of Society and Environment learning outcomes are organised so that there is a progression of concepts and processes within a strand. For example, the progression from PS 4.5 to PS 5.5, then PS 6.5 involves increasing sophistication and complexity particularly related to the concept of *significance of place* and the process of *reflecting*, though neither of these is exclusive of other concepts and processes. The elaborations provide specific content examples of how the concepts and processes may be levelled from Levels 1 to 6. See the Queensland School Curriculum Council website at www.qscc.qld.edu.au for more information.

Using this module

This module uses the Naturelink proposal as a case study to focus on environmental and economic impacts of the proposed project for the Gold Coast Hinterland. On 8 November 2000 the Beattie government stopped any further development on the cableway. How to investigate a project that impacts on the environment is modeled. Other contexts more relevant and appropriate for students could be explored.

Background information

Terminology

In this module students have opportunities to become familiar with and use the following terminology:

biodiversity	global	sustainable development
bioregion	green politics	tourism
conservation	heritage	treaty
ecology	international responsibility	values
ecological sustainability	local government	world heritage
economy	perspectives	
environment	progress	
environmentalism	statutory authorities	

School authority policies

Be aware of and observe school authority policies that may be relevant to this module particularly those relating to field studies.

Equity considerations

Activities take place in a supportive environment. They provide opportunities for students to increase their understanding and appreciation of equity through valuing diversity and challenging inequities. Activities encourage students to:

- recognise competing interests in a pluralist society and develop strategies for resolving these democratically and with concern for economic and ecological sustainability
- value and conserve natural environments.

Some students with disabilities may need assistance with some activities. Advice should be sought from their support teachers. It is important that these equity considerations inform decision making about teaching strategies, classroom organisation and assessment.

Links

Studies of Society and Environment

This module is one of a suite of modules for Levels 1 to 6. See the Queensland School Curriculum Council website at www.qscc.qld.edu.au for more information.

This module has conceptual and process links to the following modules:

- Level 4: Changing places: *Changing global environments*
- Level 4: *Resources rich and rare: Australian resource management*
- Level 5: *A question of balance: Australian environments*
- Level 5: *Urban Ecology: Ecology and economy*
- Level 6: *Managing the future: Australian environments*
- Level 6: *Asia-Pacific challenges: World environments*

Other key learning areas

Activities may offer opportunities for planning across key learning areas. However, it is important that the integrity of the key concepts, organising ideas and processes within key learning areas is maintained.

Evaluation of a unit of work

After completion of units of work developed from this module, collect information and make judgments about:

- teaching strategies and activities used to progress student learning towards demonstrations of core learning outcomes
- opportunities provided to gather evidence about student's demonstrations of core learning outcomes
- future learning opportunities for students who have not yet demonstrated the core learning outcomes and to challenge and extend those students who have already demonstrated the core learning outcomes
- the extent to which activities matched needs of particular groups of students and reflected equity considerations
- the appropriateness of time allocations for particular activities
- the appropriateness of resources used.

Information from this evaluation process can be used to plan subsequent units of work so that they build on, and support, student learning. The evaluated units of work may also be adapted prior to their reuse. For further information, refer to the 'Curriculum evaluation' section in the sourcebook guidelines.

Activities

Phase 1 Exploring the issue

Core learning outcomes emphasis: PS 5.1, PS 5.4, PS 5.5

Students explore issues in relation to a proposed project to build a cableway in a World Heritage rainforest area. The diverse interest groups involved in the Naturelink cableway proposal are introduced and students explore the values and perspectives associated with each interest group.

Focus questions:

- What are some of the issues about a cableway project in the Gold Coast hinterland?
- What is ecological sustainability?
- What are the different ways in which a 'region' can be defined?
- Is the Springbrook area part of the Gold Coast region?
- What advantages do some people believe the cableway project would bring?
- What disadvantages do some people believe the cableway project would bring?
- How might the cableway project affect people and environments around the world?

Activity 1 Exploring the cableway project issues

Use Tourism Queensland's website to locate maps and text that highlight attractions in South East Queensland and the Gold Coast region in particular. Ask students to locate Springbrook in relation to Surfers Paradise, and to explain why it might be popular with tourists. Assist students to refer to maps and statistics — for example, the number of visitors to the area, to justify their answers. Discuss what values students feel might be placed on this particular environment.

Ask students to imagine that they are holidaying on the Gold Coast, and that they have just visited Springbrook by travelling on a cableway from the coast through the national park. There, they enjoyed the scenery, a walk through the rainforest, a meal at the Skyway Café, before taking the return journey.

Ask students to design a postcard and write a message describing how much they enjoyed this experience, and highlighting some of the things they enjoyed most. Students swap and read each others' postcards. Display postcards in the room.

Discuss postcard messages and the different aspects described by students – for example, beautiful vegetation; walking; seeing birds and animals; thrill of travelling so high; meeting other tourists; the marvel of technology. Discuss and list the advantages of being able to access this site by a cableway.

Ask students why anyone might object to the building and running of the cableway. Develop a second list highlighting possible disadvantages of such a cableway.

Explain that a project called Naturelink to develop a cableway has been proposed and that students will be investigating this proposal to make recommendations about whether the project should or should not proceed.

Activity 2 Exploring ecological sustainability

Introduce the concept of ecological sustainability. Choose a variety of environments around the world in which to explore this concept. Distribute/arrange access to maps, diagrams, statistics and photographs of the environments chosen. In small groups, assist students to analyse sources to create a list of reasons why these environments could be valued. Ask each group to report their findings. If possible provide some historical background about the areas to illustrate how use of the environment may impact on the sustainability of livelihood, heritage, culture and standard of living.

Ask students in small groups to discuss and suggest a definition of ecological sustainability. Use these suggestions to write a definition.

Activity 3 Exploring the impact of the cableway

Use understandings of ecological sustainability to explore the impact of the proposed cableway. Provide the sentence starter: 'The cableway project could be ecologically sustainable if ...'. Use 'think, pair, share' to complete the sentence. Encourage students to consider environmental issues and social issues such as human access and impact on surrounding environment.

Activity 4 Defining regions

Display maps of Queensland that show some or all of the following 'areas': the Atherton Tableland; the Channel Country; Burrum Shire; the Daintree; the Central Coalfields; Surfers Paradise; the Sunshine Coast. Explain that each of the areas could be called a 'region', and discuss what feature of a region defines it. Refer to atlas maps and assist students to identify the following: topography (the Atherton Tableland); rivers: (the Channel Country); political boundary (Burrum Shire); vegetation (the Daintree); resources/economy (the Central Coalfields); leisure/culture (Surfers Paradise); climate (the Sunshine Coast).

Display maps of different types of Queensland regions — for example, bioregions, council shires, geological regions, tourism zones and use these to illustrate that the same area may be defined as a part of many different regions.

Ask students to consider the 'region' in which they live, and decide where the regional boundaries could be drawn.

Display maps of the Gold Coast/Springbrook area and discuss how regional boundaries may be defined in different ways, depending on the features/patterns focused on and the perspective of the group identifying the features/patterns of a region. Discuss aspects such as bioclimate, culture, ecology, economy, ethnicity, governments, interest groups, treaties that may influence how a region is defined.

Activity 5 Exploring interest in the cableway

Resource 1

Use the statements and instructions on Resource 1 to introduce a diamond ranking activity to explore what groups may have an interest in the proposed cableway.

Ask students to compare and discuss their arrangement of statements. Discuss how the cableway may impact locally and regionally.

Phase 2 Investigating the impact of the proposed cableway

Core learning outcomes emphasis: PS 5.1, PS 5.2, PS 5.4, SRP 5.1

Students use social and environmental inquiry (outlined in the 'Describing social and environmental inquiry' section of the syllabus) to engage with an Environmental Impact Assessment of the proposed cableway — the Naturelink project. This phase concludes with students attempting to reach a decision about whether the Naturelink project should proceed.

Focus questions:

- What is an Environmental Impact Statement (EIS)?
- How can data be collected for an EIS?
- Given data about one aspect of the project, should it proceed?
- Given the combined data on a number of aspects of the project, should the project proceed?
- What major economic, environmental and political issues are revealed in this investigation?

Activity 6 An environmental impact statement

Explain that as part of the planning for proposed development such as a cableway an expert investigation of the impact of such a proposal must be undertaken. Such investigations are carried out by a specialist group who write an Environmental Impact Statement (EIS).

Set the scene for students to become an ‘expert group’ to undertake an environmental impact investigation by explaining that Naturelink Ltd proposed to establish a cableway operation between Mudgeeraba and Springbrook in the Gold Coast Hinterland. The route proposed would traverse parts of National Park, State Forest reserves, private freehold land and the Hinze Dam catchment area controlled by Gold Coast City Council.

Explain that to undertake an environmental impact investigation students will investigate potentially significant impacts of the proposed project on the environment and provide a report on any adverse impacts in an environmental impact statement report. If possible share such a statement about another area with students.

Activity 7 Conducting an environmental impact investigation

Assist students to frame questions for investigation.

Use a table such as the following to assist students to plan how they will investigate the possible impact of the project. Ask each student or small groups of students to choose one aspect to investigate.

Planning an environmental impact investigation	
Investigating the possible impact of the Naturelink Cableway Project	
Focus question:	
Possible method of investigation	Details
Visit the proposed site to make observations	
Conduct experiments, measurements or tests in the area	
Gather advice from experts	
Find out about similar projects elsewhere	
Survey large numbers of people	
Any other methods	

Assist students to locate sources of information and begin their investigations. Once data is collected assist students to plan their report and remind them that they need to refer to maps, diagrams, statistics data and expert advice to support their arguments, conclusions and recommendations in their report.

As an alternative provide the Environmental Impact Statement report about the Naturelink project and assist students to critique the report. Students could prepare an oral report on the aspect critiqued.

Phase 3 Making judgments, taking action

Core learning outcomes emphasis: SRP5.1, SRP 5.3

This phase provides students with choices about how to publicise and advocate for a view they have reached regarding the cableway issue. As a teaching, learning and assessment opportunity, the focus is on:

- the use of structured decision-making processes
- the cooperative role of each student in the group task
- the use of researched knowledge to inform the group's advocacy event
- the effectiveness of the advocacy event in conveying a view to an audience.

Focus questions:

- What future scenarios are likely to emerge if the cableway project goes ahead?
- How can the research, decision-making and reflection in previous phases inform a view in relation to the cableway project?
- How can a view in relation to the cableway project be publicised effectively through an advocacy event?

Activity 8 Advocacy

Using data from students' investigations and report assess whether the proposed project should proceed. Consider the findings for the aspects investigated. Discuss with students explanations, questions, supportive comments and objections to highlight the complex and debatable nature of the issue. Ask students to individually respond using highly likely, likely, unlikely, highly unlikely, or too difficult to assess the recommendations made about each aspect investigated in Activity 7. Collect and collate assessments, discuss judgments, debate the proposal in a balanced way (that is consider all values and elements and weigh up issues) and reach a consensus about whether the project should proceed or not. Students should arrive at a view where they can make a recommendation. Ask representatives from each group to present their recommendations to the class. If the group does not reach consensus, they can deliver a 'mixed' recommendation reflecting their conflicting views.

In small groups assist students to plan an advocacy event to explain and promote their consensus view – for example, a TV current affairs program, a poster campaign, a public meeting, magazine advertisement, web site, public (non-violent) demonstration. Explain that the event must canvass the issues in a way that acknowledges different views, while still strongly advocating a particular view. Reasons presented must be clear and supported by evidence.

Activity 11 Reality check

Assist students to locate resources about the history of the Gold Coast and Springbrook areas and current information about these areas (see Support materials and references). Compare aspects of the areas from past and present perspectives.

Provide students with or assist students to locate information about the Naturelink project. If possible include media coverage. Discuss the reasons why the project was rejected. Ask students to consider whether past and present management of the area was considered by the proposed project. Using sources ask students to identify and list the environmental concerns and economic interests raised. In small groups ask students to discuss and present in a diagram showing how they think the Government may have evaluated environmental and economic issues to reach the decision to reject the proposed project. Ask students to explain whether environmental issues and concerns balanced or outweighed economic interests.

Assist students to reflect on their findings about the impacts of such a proposed development within a world heritage rainforest area. Discuss how their investigations and findings might be used to consider environmental, economic, social, political and cultural factors of proposed or current developments in other world heritage areas.

Comparing decisions**Resource 1**

Provide students with the nine statements on separate pieces of paper.

Students arrange the nine statements in a diamond pattern. The top statement is the one they think is most important in the decision-making process about whether the cableway should be built. The next two statements are the next in importance. Then there are three statements of medium importance, two of lesser importance, and finally one at the bottom of least importance.

1. We live at Springbrook and love the peace and unspoiled beauty of the rainforest.
2. We live at Surfers Paradise and often drive up to Springbrook for a picnic.
3. The water supply for the Gold Coast depends on the streams that flow from the mountains around Springbrook.
4. The cableway will provide a safe way to travel through Springbrook, instead of the dangerous and winding road.
5. I own a business in Springbrook. Extra tourists to the area will increase my sales.
6. People who now bushwalk in Springbrook won't like the crowds of tourists who'll come up by cableway.
7. I run a tourist agency. I think many of my clients will want to include the cableway to Springbrook in their holiday.
8. I'm a medical scientist. I believe many important cures will be found using plants found in the rainforest of the Springbrook area.
9. I own the cableway company. When we're up and running, we'll employ forty-eight people, most of them locals.

Support materials and references

Alexander, A & Rouen, M. 1999, *SOSE for Queensland Book 1*, Heinemann, Port Melbourne.

Alexander, A & Rouen, M. 1999, *SOSE for Queensland Book 2*, Heinemann, Port Melbourne.

Alexander, A & Rouen, M. 1999, *SOSE for Queensland Book 3*, Heinemann, Port Melbourne.

Eshuys, J., et al. 1998, *Society and Environment Book 3*, Universal, Noosaville, Qld.

Hardie, N., Rutherford, M. & Walsh, J., (2nd ed.), 1995, *Participating in Our Society*, Addison Wesley Longman, Melbourne, Vic.

Jacaranda Wiley, 1996, *Society and Environment Atlas*, Jacaranda Wiley, Milton, Qld.

Mc Cauley, D., Brown, P., Mills, M. (2000), *SOSE 1 for Queensland*, Jacaranda Wiley, Milton, Qld

Mc Cauley, D., Brown, P., Mills, M. (2000), *SOSE 3 for Queensland*, Jacaranda Wiley, Milton, Qld

Miles, S. & Van Berendonk, J. 1996, *Australia: Studies of Society and Environment*, Hodder Educational, Rydalmere, NSW.

VASST, 1996, *New Perspectives in Social Education 3*, Cambridge University Press, Melbourne, Vic.

Websites

(All websites listed were accessed in February 2002.)

Environment

Australian Commonwealth Government Entry Point www.anca.gov.au/

Australian Conservation Foundation www.acfonline.org.au/

Australian Student Environment Network www.asen.org.au/index.html

Bureau of Rural Sciences Australia
www.affa.gov.au/content/output.cfm?ObjectID=3E48F86-AB1C-11A1-B6300060B0AA00004

Department of Environment and Heritage site, Environment Australia Online
www.environment.gov.au/

Environet www.environment.gov.au/epg/environet/environet.html

Environment Australia Environment Protection Group www.erin.gov.au/epg/ [URL invalid 19/02]

Environment Australia www.ea.gov.au/

Environmental Organisation Web Directory www.webdirectory.com/ [URL invalid]

Gold Coast and Hinterland Environment Council www.gecko.org.au/

GreenPeace www.greenpeace.org/

Land and Water Resources Research & Development Corporation Australia
www.lwrrdc.gov.au/

National Environment Protection Council (NEPC) www.nepc.gov.au/

National Pollutant Inventory www.environment.gov.au/epg/npj

Queensland Environment Protection Agency www.env.qld.gov.au/

State Library Qld Environment Resources
www.slq.qld.gov.au/netlinks/subjects/environment.htm

The Australian Environmental Education Network www.environment.gov.au/education/aeen/

The Unofficial Naturelink Website www.hahaha.com.au/naturelink/default.asp

The World Heritage Central Eastern Rainforest Reserves (Australia) Draft Strategic Overview February 2000 www.npws.nsw.gov.au/news/exhibition/cerra/index.htm PDF link) [URL invalid]

United Nations Environment Programme www.unep.org/

Government

Australian Councils with Internet Sites List www.algin.net.au/cnclist.htm

Australian Local Government Information Network www.algin.net.au/

Parliamentary Education Office www.peo.gov.au/home.htm

Queensland Government Department of State Development
www.statedevelopment.qld.gov.au/

Mapping and Statistics

Australia's National Mapping Agency www.auslig.gov.au/

Australian Bureau of Statistics www.abs.gov.au/

Australian Rail Maps www.people.enternet.com.au/~cbrnbill/maps/austrail.htm [URL invalid
see www.railpage.org.au/railmaps/]

Axon Global Search Map www.axionspatial.com/~atlas/ [See www.axionspatial.com/]

Bureau of Meteorology Home Page www.bom.gov.au/

Interim Biogeographical Regionalisation for Australia
www.ea.gov.au/parks/nrs/ibraimcr/ibra_95/

Lonely Planet map of Australia www.lonelyplanet.com.au/dest/aust/graphics/map-aus.htm

Maps From QLD State Library www.netlinks.slq.qld.gov.au/rfmp.htm

Maps Online From Australian Geological Survey Organisation www.agso.gov.au/

National Geographic Map Index www.nationalgeographic.com/maps/index.html

National Geographic Map Machine www.plasma.nationalgeographic.com/mapmachine/

Statistical Information by Country www.your-nation.com/ [Invalid URL]

Industry Interest Groups

World Business Council for Sustainable Development www.wbcsd.ch/

WMC (Australian based minerals producer with business interests in 19 countries).
www.wmc.com.au/sustain/index.htm

Australian Minerals and Energy Environment Foundation www.ameef.com.au/

Tourism

Australian Tourism Net www.atn.com.au/

Australian Tourism commission www.aussie.kctest.com/index.aust

Tourism Queensland <http://www.tq.com.au/>

Other

Indigenous Land Corporation (ILC) - functions to assist indigenous peoples in Australia to acquire land and to manage indigenous-held land. www.ilc.gov.au/

[Aboriginal and Torres Strait Islander Commission \(ATSIC\)](http://www.atsic.gov.au/) - aims at providing equitable resources in all areas of life and to recognise the indigenous cultural heritage of the first Australians.

QldWeb from State Library www.slq.qld.gov.au/qldweb.htm

This sourcebook module should be read in conjunction with the following Queensland School Curriculum Council materials:

Years 1 to 10 Studies of Society and Environment Syllabus

Years 1 to 10 Studies of Society and Environment Sourcebook Guidelines

Studies of Society and Environment Initial In-service Materials

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Any inquiries should be addressed to:
Queensland School Curriculum Council
PO Box 317
Brisbane Albert Street, Q 4002
Australia

Telephone: (07) 3237 0794
Facsimile: (07) 3237 1285
Website: www.qscc.qld.edu.au
Email: inquiries@qscc.qld.edu.au