

Antarctica: Keep the tourists out!

Is tourism a threat to Antarctica's pristine wilderness?



Scotts' Terra Nova Hut

A unit of work for Year 12 Geography including an internal assessment activity for Geography Achievement Standard 2.6

'Explain a Contemporary Geographic Issue'

Murray Fastier 2003



**CHRISTCHURCH
COLLEGE of EDUCATION**

Tē Whare Whai Mātauraka Ki Ōtautahi

Antarctica: Keep the tourists out!

Is tourism a threat to Antarctica's pristine wilderness?

Introduction

A **wilderness** is an area free of human exploitation and without evidence of human activity. Antarctica is perceived by many people to be the closest thing to a true wilderness area that we have left on the planet. There are no indigenous people and no permanent communities of people in Antarctica making it home to some of the world's most **pristine** (original) ecosystems. Although the oceans surrounding Antarctica have been ruthlessly exploited for their marine life in the past, the continent itself has remained relatively unexplored and undeveloped. This makes Antarctica unique amongst continents.

Apart from a number of scientific bases and related research projects, the continent has little human habitation and has been largely spared from resource exploitation. Although tourists have been visiting the Antarctica since the late 1950s, their numbers have tended to be small and manageable. This situation however has changed dramatically over the last decade. For example between 1990/1 and 2000/1 tourist totals rose from 4,842 to 12,248. Projections for the 2005/6 summer season are even more staggering with tourist numbers expected to be up somewhere between 15,500 and 22,000.

Attracted by Antarctica's remoteness, awesome scenery and abundant wildlife, the increasing number of tourists are inevitably having environmental impacts on the continent's fragile ecosystems. Serious doubts are being raised about whether or not Antarctica can continue to sustain further increases in tourist numbers. If the environmental values of Antarctica (the world's last great wilderness area) are to be upheld and protected for future generations this issue must be addressed.

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Acknowledgements

This work is the product of a visit to Antarctica in October/November 2002, as part of an Education Initiative in Antarctica supported by Antarctica New Zealand. Thanks to Antarctica New Zealand and the individuals who willingly gave of their time to discuss management issues, share their opinions and talk about their values.

Antarctica: Keep the tourists out!

Is tourism a threat to Antarctica's pristine wilderness?

Unit Plan

Writer: Murray Fastier

Geography Syllabus Connections

Year Level: 12

Type of Study: School Selected Study/Contemporary Geographic Issue

Setting: Antarctica

Focusing Questions:

- 1 Why is Antarctica becoming a popular tourist destination?
- 2 What are the impacts of tourism on Antarctica?
- 3 How can future tourism growth be managed wisely to ensure that the environmental values of Antarctica are upheld for future generations?

Knowledge

- 1 Antarctica is a pristine wilderness largely isolated from a world of development and change.
- 2 Antarctica's unique ecosystems are vulnerable to human interference.
- 3 Uncontrolled growth of tourism has the potential to cause disturbance to wildlife habitats and to result in the loss of a pristine environment.
- 4 New Zealand and other nations have a responsibility, under the Antarctic Treaty to protect Antarctica and ensure its wilderness integrity is sustained.

Geographic Ideas: Change, Perception, Interaction, Sustainability, Resource Management

Maori Concepts: Kaitiakitanga, Taonga, Aroha

Key Skills:

Practical: mapping, statistical analysis, inquiry,

Valuing: recognizing and explaining different viewpoints, identifying potential conflicts, compromises and areas of consensus

Social: participation and contributing to class discussions, group work, debates

Thinking: identifying, examining, explaining, analysing, evaluating, decision making and justifying

Assessment:

Level 2 Geography Achievement Standard 90336

Explain a contemporary geographic issue and evaluate courses of Action (2.6.)
Credits 3

Major Student Learning Outcomes

Students will:

- 1 Use visuals and a class survey to identify Antarctica's tourist attractions.
- 2 Use statistics to help identify and explain both current and projected tourist trends (re tourist numbers, modes and costs of travel, destinations and future scenarios).
- 3 Construct a diagrammatic model to summarise impacts of tourism on Antarctic's fragile environment.
- 4 Explain why different viewpoints are held in relation to the future growth of tourism in Antarctica.
- 5 Evaluate different scenarios for the future directions of tourism in Antarctica and write a report recommending one course of action over the others.

Teaching Notes

- 1 To assist students complete assessment activity AS 2.6 it is recommended that they all first gain and understanding of a) the geographic setting of Antarctica and b) the nature of tourist related activities. The initial learning activities in the Unit of Work aim to provide this background information.
- 2 As with most unit plans teachers are free to pick 'n' mix the learning activities provided to best suit student needs and the class time available. While the suggested tasks may be modified or replaced care should be taken to retain the 'core tasks' targeted towards preparing students attempting the achievement standard 2.6 assessment activity. The core learning activities are considered to be tasks 6, 7, 8 and 12. The 'non-core' tasks (used for reinforcement and extension and / or to enhance geographical skills/ideas and student interest) are those that could be left out if the unit needs to be reduced in terms of time or content.
- 3 The availability of the following resources in class may benefit students:
 - Atlases or texts showing the location of Antarctica and its main geographical features.
 - A detailed wall map of Antarctica for display in the classroom.
 - Brochures from travel agents, magazines and/or web sites about attractions, costs, departures dates, itineraries etc.
- 4 It is possible for the NCEA assessment activity for AS 2.6 to be integrated into the unit plan. Each of the three assessment tasks can be undertaken separately as stand alone tasks, following relevant learning and formative feedback opportunities.
- 5 The assessment activity has the potential to be applied at Level 3 with only minor modifications necessary to step it up from 'Explain a contemporary geographic issue' to 'Analyse a contemporary geographic issue.' The TKI website has a template available to enable this. This may be of particular interest to schools teaching 'Tourism' at Year 13 as an extension of their study of a 'cultural process'.
- 6 Useful web sites for up to date information are included in the reference section at the end of the unit plan.

Teaching and Learning Activities

1 Prior Knowledge - What do you already know about Antarctica?

Check how many students know family, friends, or friend(s) of a friend who have travelled to Antarctica? (Possibly share this knowledge with the class.)

Group Task

Divide the class into groups of three to four students.

Provide each group with an A3 sheet of paper and marker pens or crayons.

Instructions

- In the centre of the page draw a large outline of Antarctica to indicate its size and shape. Also locate and label the approximate location of Australia, New Zealand, South Africa and South America in relation to Antarctica.
- Locate and name on your map as many geographical features you can think of associated with Antarctica (can include human features such as scientific bases and historical huts).
- Record around the map as many types of wildlife, including marine creatures that you associate with the Antarctic continental area.
- On the reverse side of your A3 sheet, brainstorm as many words your group can think of to describe Antarctica.
- Collaboratively select 5 descriptors all group members agree on. Use these to write a summary statement about Antarctica.
- Take turns to share your findings with the rest of the class.

What summary statements do groups have in common?

Are any statements factually incorrect?

E.g. there are *no* polar bears, Eskimos or igloos and the climate is extremely dry.

Check the accuracy of your map with those in atlases and websites.

An OHT template **Copy Master A** for use in conjunction with Task 1 is provided

2 First and Second Definitions

Listed below are a number of terms you will need to be familiar with by the end of this topic. In the spaces provided, write down what you think these terms mean in terms of tourism in Antarctica. Review and rewrite as second definitions at the end of the topic.

Terms	First Definition	Second Definition
Wilderness region		
Pristine environment		
Fragile ecosystem		
Sustainable management		
Ship-based tourism		
Scenic over flights		
Adventure based tourism		
Environmental protocols		
Scientific Bases		

3 What attracts tourists to Antarctica?

Antarctica is no place for sun worshippers, the temperatures are freezing, there are no restaurants, theatres or art galleries and sites of historical interest are few and far between. So what attracts tourists?

Perception Activity

Prepare and present to the class 6 -10 different visual images of Antarctica.

These could include examples of spectacular scenery, wildlife, historic sites, scientific research stations, harsh climatic conditions, a sense of remoteness etc.

Format could be in the form of photos, slides, video clips, CD-Rom or a Power Point Presentation. (Refer to Reference Section for information sources)

Survey the students re:

How they rate each visual as a tourist attractions. (E.g. high attraction/low attraction)

Do they find the Antarctica to be an attractive/unattractive holiday destination? Why? Why not?

Continuum- If you had the resources and the opportunity, would you visit want to visit the 'real thing' someday as a tourist? Set up the following continuum along the front of the class.

Just say when!

Not for me!

|-----|

Students move to a place on the continuum i.e. where they stand in relation to travelling to Antarctica as a tourist. They must be prepared to justify their position.

Discussion

Suggest reasons for why varying perceptions of Antarctica as a tourist destination exist.

4 Design and conduct a tourism survey for use in the local community.

Purpose to find out whether people are attracted to Antarctica as a tourist destination and if so, why?

Steps for students to follow should include:

- 1 *Plan and pre-test* the survey design
- 2 *Conduct the survey* (Individual students to conduct 5 surveys each. Ideally respondents should be representative of a range different age groupings).
- 3 *Collate class findings*.
- 4 *Categorise the findings* under different headings such as wildlife, scenery, environmental, spiritual/ mood, historic, scientific attributes.
- 5 *Present results* in a graphic format
- 6 *Summarise conclusions* as generalisations.
- 7 *Compare the findings* with the surveys results shown in **Copy Master C**
Ship based tourist images of Antarctica 1995- 96. (Figure 5)
- 8 How are the class results similar? Different?

5 How do tourists get there?

Chances of making a once in a life time trip to Antarctica are slim. Tourists are unable to hitch a ride in one of the military Starlifters or Hercules aircraft that depart from Christchurch on 7 plus hour trips to the ice. These flights are reserved for scientists and conservators. However other options are available at a cost. Up to a dozen tour operators offer visits to the ice on cruise ships during the summer months, private yachts can be chartered and overflights currently operate out of Australia. Private airborne and overland expeditions into the continent with companies such as the former Adventure Network International are also available, providing the tourist and their wallets are in great shape!

Task

Examine Antarctic different travel related brochures, websites, newspaper advertisements or promotional videos. Identify and describe the different marketing promotional strategies used to attract Tourists. Evaluate the effectiveness of each.

Copy Master B provides some examples of advertisements and websites.

Extension Activity

Imagine you were the winner of a 3 week voyage on a cruise ship to Antarctica and have just returned. Write a report outlining the highlights of your trip, difficulties experienced and precautions taken to reduce environmental impacts.

Encourage students to use computer layout and graphic software packages.

Many real itineraries can be found using websites such as

<http://www.heritage-expeditions.com>

<http://www.antarcticconnection.com/antarctic/travel>

<http://www.auroaexpeditions.co.au>

6 Tourism trends – Stats and Facts

Analyse the Statistical information provided on Antarctic Tourism on **Copy Master C**

- 1 Refer to Figure 1. Construct a line graph to show the increase in tourism numbers from the 1990-91 summer season to 2005-06 summer season.

Calculate the % increase in tourist numbers between 1990-91 and 2000-01 and between 2000-1 and 2005-06.

Extend the trend line on your graph for another 5 years and estimate the likely number of tourists for 2010-2011 summer season.

- 2 Refer to Figure 2. What currently are the two most popular modes of travel used by tourists to view Antarctica? If adventure tourism increases in numbers, as it is predicted to do, which category do you think is most likely to undergo a significant increase in growth? Support your answer with a reason.
- 3 Refer to Figure 4. Construct a pie graph to show the main areas visited by tourists. Provide three reasons why the Antarctic Peninsular is the more popular destination. **Copy Master D** will help provide the answers.
- 4 Refer to Figure 3. Suggest why Antarctica is such an expensive place to visit.

Why do you think the lowest price trips departing from New Zealand are more expensive than the lowest price trips departing from South America?

7 Impacts of Tourism

Refer to **Copy Masters D and E**

Task

Design a concept model/diagram to summarise the impacts of tourism on Antarctica. Your model should include both positive and negative impacts and include references to specific examples where possible.

Other useful references;

- <http://www.coolantarctica.com>. Section on tourism – threats to the environment.
- Rubin, J. 2000. Lonely Planet Antarctica - Section on Ecology and Environment p55 and Environmental Impacts of Tourism p170-2.

Additional questions for class discussion and debate:

Why is tourism in Antarctica becoming a major issue?

What groups are involved in this issue?

How do the impacts of tourism compare with those of science?

Discuss the advantages and disadvantages of combining permanent tourism facilities with research stations.

Should tourism be concentrated at specific sites or be spread out?

Can increases in tourism numbers proceed without putting Antarctica's pristine environment at risk?

Is tourism sustainable in Antarctica? If so, on what scale?

In groups brainstorm **the good the bad and the ugly** of uncontrolled tourism for Antarctica as a travel destination.

(Assessment Task 1 could now be attempted if following an integrated approach.)



Weddell seal pup

8 Conflicting Viewpoints

Contrasting viewpoints regarding the impacts of tourism in Antarctica exist. Role plays can help students to understand the reasons behind the varying viewpoints or stances. The two role play activities provided below will help the students become familiar with the assessment related resources Copy Masters E and F(i) –(vi), although they are not part of the formal assessment activity.

Role Play One

Read **Copy Master E** 'Antarctic tourism walks a tightrope.'

Work in pairs

Person A is to take the role of Dr. Alan Hemmings, senior advisor to the Antarctic and Southern Ocean Coalition (ASOC).

Person B is to take the role of Rodney Russ owner of the Christchurch-based Heritage Expeditions that takes tourists to Antarctica and also a member of the International Association of Antarctic Tourism Operators (IAATO).

Tasks

- a) Each person in role should clarify:
 - What viewpoint they hold relating to the issue of tourism in Antarctica.
 - Why they hold this view point.
 - How they would like to see the future growth of Antarctic tourism managed.
- b) Prepare an oral presentation to give to your partner, outlining the viewpoint you hold based on the three points above.
- c) Pair share presentations. Make notes on the key points presented and be prepared to either ask and/or answer questions to help clarify the differing viewpoints given.

Role Play Two

Divide the class up into six groups.

Allocate each group one of the six interview transcripts re 'Perspectives on Tourism in Antarctica' recorded at Scott Base during November 2002. **Copy Master F (i) to (vi)**.

Tasks

- a) Group members study closely the content of the interview transcript allocated, and then go through the steps bullet pointed for Role Play One above.
- b) Each group to perform an 'in role' presentation to the class representing the viewpoint of the person they have been allocated.
- c) Students to record key points from each of the presentations.

Extension Tasks

- 1 Locate each of the six individuals represented on the values continuum below according to their different perspectives.

Support Tourism	Uncertain	Against Tourism

- 2 Construct a Triple Venn summary diagram to record the views held in common by all six individuals, if any, as well as the main points of difference.
- 3 Conduct a debate about the differing tourism perspectives addressing a neutral chair.

(Assessment task 2 could now be attempted if using an integrated assessment approach.)

9 Managing the Impacts of Tourism

Design a poster to educate tourists on how they can best minimise their impacts on Antarctica while they are there.

The poster should include basic **guidelines** about what tourists should do to:

- be safe
- protect Antarctic wildlife
- respect scientific research and protected areas
- keep Antarctic pristine

A useful resource is the International Association of Antarctic Tour Operators' Guide for Visitors to the Antarctica at http://www.iaato.org/visitor_guide.html

Extension Questions

What do you think of the guidelines laid down by the IAATO for regulating the impacts of tourism?

How successful have these regulations been to date?

How do the impacts of tourism compare with the impacts of scientific research?

10 Future Scenarios

Tourism is likely to continue to grow and diversify in the future.

Three possible short term scenarios for the future of tourism are listed below.

- 1 Tourism is confined to cruise ships with no land based facilities. Over flights permitted.
- 2 Similar to 1. above but with some temporary land based facilities available for cruise ships and short term summer accommodation permitted.
- 3 Cruise and airbourne tourism with supporting land based facilities, including commercial airstrips and luxury hotels, permitted.

Task

Consider the merits of each of these scenarios in terms of responsible Antarctic management i.e. retaining its pristine wilderness status.

Method: Use De Bono's 6 Thinking Hats. **Copy Master G** provides a template to make cards representing each of De Bono's 6 Thinking Hats.

Either

Students are to work in groups of six. Each group member being required to consider the 3 scenarios above, according to the view of the thinking hat allocated. Following feedback from all group members, the group is to reach a consensus re which scenario or compromise they think is best and why.

Or

Student groups could each be allocated a different thinking hat and asked to consider the three scenarios above from that standpoint. This could then be followed by a whole class discussion/ debate on the issue as to which scenario or compromise is best and why.

Alternatively if the class is small students could instead conduct a PMI (plus factors/minus factors interesting factors) for each scenario and then make a recommendation about which option they think is best and why.

Extension Activity

Other relevant references on managing the future of tourism could be used to jigsaw information using experts groups. Many relevant resources can be found on search engines such as Google using search terms such as *Antarctica*, *Tourism* and *Future*.

(Assessment task 3 could now be attempted if following an integrated approach.)

11 That's a Wrap

Time for reflection.

a) Complete the following statement.

The most important thing I have learnt from doing this unit is ...

b) Each student to prepare two A4 sized cards using text and visuals to show:

- How they personally would like to see the future of tourism in Antarctica.
- What they think is the most likely future of tourism in Antarctica.

or

- Briefly describe how they would like to see Antarctica be made accessible for their children and grand children.

c) Winners and Losers

- Compare your ideas for b) with other members of the class.
- Consider who is likely to benefit/win and who is likely to lose in each of the different student responses.

12 Over to You

What action can you take to make people more aware of the issue concerning the increasing tourist numbers visiting Antarctica?

Some starter suggestions for social action have been listed below.

Brainstorm as a class other forms of social action you could get involved in. Commit yourself to one of these actions.

Examples of Social Action:

- Write an article for the school magazine or to the editor of the local newspaper about your concerns.
- Contact the community radio for possible airtime for members of your class to present their viewpoints on the topic.
- Design a T-Shirt, Letter or Rap Song to convey your opinions. Organise to have T-Shirts printed and worn. Perform your Rap at a school assembly.
- Create a comic strip, painting or slogan for display in the school library or entrance foyer.
- Design a board game with rules and a clear message for use with a junior social studies class.

Send your ideas to Antarctica New Zealand for sharing.

13 NCEA Internal Assessment Activity - 'Keep the tourists out!'

Are increasing tourist numbers providing a threat to Antarctica's pristine wilderness?

This achievement standard activity can be undertaken if not already completed in stages during the unit.

References

Books and Journals

- Dove, J. 1997. *Antarctica, tourism's last frontier*. *Geography Review*, 10, (4), pp14-18.
- Bauer, T. 2001. *Tourism in Antarctic: opportunities, constraints, and future prospects*. The Haworth Hospitality Press.
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- Ministry of Foreign Affairs and Trade, 1996. *New Zealand and Antarctica*. The Information Bulletin Series No. 59 April 1996. Falcon Print Limited.
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- Peryer, R. 2003. *Antarctica...our last wilderness?* *Geography Review*, 16, (4), pp21-23.
- Rubin, J. 2000. *Lonely Planet Antarctica*. Lonely Planet Publications Pty Ltd.
- Tetley, G. (Ed.) 1998. *Antarctica 2010: A notebook*. Proceedings of the Antarctic Futures Workshop 28-30 April 1998. Antarctica New Zealand.
- Waterhouse, E. (Ed) 2001. *Ross Sea Region 2001: A state of the environment report for the Ross Sea Region of Antarctica*. New Zealand Antarctic Institute.

Newspaper Articles

- Janes, A. 2003. Antarctic tourism walks a tightrope. *Sunday Star Times*. Sunday July 20, D3.
- Moss, S. 2003. Tourism brings fear for a frozen asset. *The Press*. Wednesday January 29, B4.

www – general

- www.anat.canterbury.ac.nz (Gateway Antarctica, University of Canterbury)
- www.anatarctcia.ac.uk (British Antarctic Survey)
- www.antarcticanz.govt.nz (Antarctica New Zealand)
- www.antarcticconnection.com/antarctic/travel (Antarctica Online Travel Guide)
- www.antdiv.gov.au (Australian Antarctic Division)
- www.auroraexpeditions.co.au (Aurora Expeditions)
- www.coolantarctica.com.
- www.heritage-expeditions.com (Heritage Expeditions)
- www.iaato.org (International Association of Antarctica Tour Operators)
- www.lonelyplanet.com/destinations/antarctica/antarctica (Lonely planet)

All internet links are valid as of July 2003

GEOGRAPHY

Level Two

Achievement Standard 2.6

AS90336

Explain a contemporary geographic issue
and evaluate courses of action

Credits: 3

Internal Assessment Resource

‘Keep the tourists out!’
Is tourism providing a threat to Antarctica’s
pristine wilderness?

Teacher Guidelines:

The following guidelines are supplied to enable teachers to carry out valid and consistent assessment using this internal assessment resource.

Context/setting:

This assessment examines the issue of how to best manage the environmental impacts resulting from increased tourism numbers visiting Antarctica, the world's last great wilderness. It is considered an advantage for students to have prior knowledge of the nature and growth of tourism in Antarctica. The resources and suggested activities included with this resource package can be studied as part of a School Selected Study or integrated as non-assessed part(s) of the assessment activity. If the latter suggestion is adopted then the time allocation will need extending.

Conditions:

Option 1

A formal classroom activity allowing appropriate time for the three assessed components to be completed. Students should have time to examine the resources in detail prior to the assessment, and may take the resource sheets home to read and familiarise themselves with them. The assessment is then to be completed in class individually. Assessment work should be collected in at the end of each period and returned to the student at the start of the next in order to help ensure authenticity.

Option 2

The activity is integrated into the unit of work with each of the assessment tasks being undertaken separately once the appropriate learning has been covered. Students should still be given time to read and become familiar with any relevant resource sheets first, and the task(s) being assessed are then to be completed individually.

Timing

Teachers will need to set appropriate limits for the completion of the assessment tasks. In doing so the quality of the evidence the students present should be the most important deciding factor. Deadlines set should not restrict students from completing work thoroughly.

Resource Booklets

The resource sheets should be given to the students the night before to read. It is suggested that Geography Departments photocopy the resources for this issue into a booklet, and reuse them with future students as long as the issue remains contemporary.

Additional information:

In preparation for this assessment activity students should have some understanding of the concept of contemporary geographic issues and these how can be explained. For example prior teaching instruction should have covered:

- explaining the nature of a geographic issue,
- identifying and explaining peoples viewpoints that relate to an issue,
- arguing a case in favour of one proposal/course of action versus several others and making a justified recommendation.

The skills and geographic ideas relating to this assessment activity should also have been covered. This should be done through the use of prior formative activities and the appropriate use of feedback on similar types of tasks.

GEOGRAPHY 2.6

Level Two

Explain a contemporary geographic issue

Achievement Standard AS90336

Credits: 3

‘Keep the tourists out!’

Is tourism providing a threat to Antarctica’s pristine wilderness?

Student Instructions Sheet

- This activity assesses your ability to explain a contemporary geographic issue.
- You should have already had time to familiarise yourself the resource material.
- You must complete all three tasks. Ask your teacher for clarification if needed.
- Work is to be done individually as this is a formal assessment activity.
- Class time will be made available for the three tasks involved. Your teacher may have:
 - 1) decided to integrate the three tasks into your unit of work and to assess each task separately **or**
 - 2) may have decided to provide a set amount of assessment time (e.g. 2-3 hours) for the completion of all three tasks at the end of your unit of work.
- If work on a task extends over one period your work will be collected in at the end of the period and returned to you at the start of the next.

Introduction

In the last decade, the number of tourist visiting Antarctica has increased dramatically.

From 1990/1 to the 2000/1 season, the number of tourists rose from 4,842 to 12,248. Projections for the 2005/6 summer season estimate tourist numbers will be somewhere between 15,500 and 22,000.

Attracted by Antarctica’s remoteness, awesome scenery and abundant wildlife, rising tourist numbers are inevitably having environmental impacts on the world’s last great wilderness. It has been calculated that estimated pool for Antarctic travel could be as high as 1.5 million by 2010!

There are serious doubts about whether Antarctica can sustain further increases in tourist numbers. If the environmental values of this continent are to be upheld and protected for future generations the issue of how to best manage the growth of tourism must be addressed.

Task One: Explain the geographic nature of the issue.

Setting the scene

Imagine you are a geographer who has been invited to an Antarctic New Zealand Conference to participate in a workshop looking at the issue of 'how to best manage the future impacts of tourism in Antarctica'. You have been asked to prepare both a diagram and **explanatory notes** to help the people attending the workshop understand the geographic nature of this issue.

(Note that although your diagram and explanatory notes will form part of this assessment, you will not actually be required to give an oral presentation).

Resource Materials

Copy Master D	Impacts of Tourism
Copy Master E	Antarctic tourism walks a tightrope.

(a) The Diagram

With reference to the above resource materials provided, draw a diagram to show the geographic nature of this issue. Your diagram should clearly show how pressure resulting from the predicted increases in tourist numbers visiting Antarctica can impact on

- The natural environment (including wildlife)
- People working in Antarctica and
- Historic sites/attractions.

Your diagram should include specific examples of impacts, include labels and show interactions between the different parts. The diagram should be completed on a sheet of paper (A4 size minimum) and be suitable for use on an overhead projector or enlarged for display as a poster. Possible formats for your diagram could include:

- A concept map
- Flow chart
- Mind map
- Boxes and arrows

(b) Explanatory notes

Write out brief notes approximately 2/3rds of an A4 page that could be used to explain your diagram to the people at the workshop. These notes should explain the different types of impacts shown in your diagram and where in Antarctica they are most likely to be experienced.



Weddell seal pup

Task Two: Viewpoints related to the issue

Setting the scene

Workshop members were well aware of varying viewpoints held in regard to the increased growth of tourism in Antarctica. They were keen to understand the various reasons behind peoples thinking, before making recommendations about future courses of action. To speed up this process the chairperson allocated different tasks to conference members. Your task is as follows.

- (a) Read the interview transcripts Copy Masters F(i) to (vi) of the individuals listed alphabetically below. These interviews were recorded at Scott Base during the 2002–2003 Summer Season.

Jim Cowie	- Operations Manager, Scott Base
Lisa Holliday	- Field Training Instructor
Christine Elliott	- Scientist
Brent Sinclair	- Scientist
Keith Springer	- Operations Co-ordinator, Scott Base
Peter Wederall	- Base Engineer

- (b) From this list of individuals:

- Identify **two** people who are **supportive** of tourists visiting Antarctica and **fully explain** their viewpoints (outline what they think and why).
- Identify **two** people who **express concern** about tourists visiting Antarctica and **fully explain** their viewpoints (outline what they think and why).

To make your presentation to the workshop more visual record your findings in the speech bubbles like the example on page 6.

- (c) Use **codes**, such as underlining, to highlight

- 1 Where the two individuals **supporting** tourism express similar reasons/viewpoints, and
- 2 Where the two individuals expressing **concerns** express similar reasons/viewpoints.



Tourists transported to landing sites by small inflatable boats.

Explanation - I think ...

Name:

Viewpoint:

Task Three: Evaluate courses of action and make a justified recommendation

Setting the scene

By the end of the meeting the workshop agreed that tourism was a legitimate activity in Antarctica and one that would continue to grow and diversify in the future. They believed:

- 1 Tourism would need to be wisely managed with an emphasis on 'responsible tourism' if Antarctica was to retain its pristine and wilderness status.
- 2 Strong regulations would be needed over the next decade regarding tourist numbers, frequency of visits, places visited and the types of tourism that Antarctica could best sustain.

Again different tasks were allocated to workshop members.

You have been asked to evaluate all of the material made available on **the type(s) of tourism that Antarctica could best sustain over the next decade** and to prepare a report recommending one of the courses of actions listed below or any combination that you think is best.

- 1 Antarctica is confined to cruise ships with over flights permitted, no permanent tourism-related land infrastructure allowed
- 2 Similar to 1. above but with a number of temporary land based tourist facilities for cruise ships and short term accommodation for use over the summer season.
- 3 Antarctica to support both cruise tourism and airborne tourism with supporting land based facilities, such as commercial airstrips on the ice and luxury hotels, permitted.



Tourist ship with Adelie Penguins in the foreground

Your report should note:

- the possible impacts of each of the above courses of action on Antarctica
- recommend one course of action
- justify why the course of action selected is better than the others.

All three bulleted criteria above will be assessed.

You have a choice about how you present your report. You may present your findings as a:

- Word processed document
- Power point presentation
- Video
- Annotated diagram/poster

Assessment schedule: Geography 2.6 – AS90336

‘Keep the tourists out!’ Is tourism providing a threat to Antarctica’s pristine wilderness?

task or question	evidence towards achievement	evidence towards achievement with merit	evidence towards achievement with excellence
Task 1 Explain the Geographic nature of the issue.	<p>The diagram and supporting notes should indicate that the student understands and can explain the geographic nature of this contemporary issue.</p> <p>The following requirements should be met by the diagram and notes. There should be a clear indication that:</p> <ul style="list-style-type: none">the issue is set within a fragile wilderness environmentincreasing tourism numbers have the potential for<ol style="list-style-type: none">detrimental impact on the natural environment including wildlife;disruption of other legitimate activities particularly scientific research;increased damage to historical sites or attractions.tourists can be advocates for protecting AntarcticaFor any two of the above provide a valid explanation why and include a specific example for each. Specific examples can include named locations.		

<p>Task 2 Explain viewpoints related to the issue.</p>	<p>The findings should include:</p> <p>An acknowledgement that different viewpoints exist.</p> <p>One person that supports and one person who is concerned about tourists visiting Antarctica are identified and their viewpoints explained.</p> <p>These could include:</p> <p>Supportive (NB similarities in viewpoints coded by underling and * or ♦ etc.)</p> <p>Lisa Holliday - Tourist operators seen do a good job, do less damage than science*, tourists go back as good ambassadors♦ keen to protect the Antarctica.</p> <p>Brent Sinclair - tourists extremely well behaved, short stays, follow rules, not approach wildlife, less impact than scientists*.</p> <p>Keith Springer - tourists become ambassadors for Antarctica♦. Have less impacts than scientists* or year round bases. Take all effluent with them. Tourist operators will not allow the environment to be compromised.</p>	<p>The findings should include:</p> <p>An acknowledgement that different viewpoints exist.</p> <p>Two people that support and two people who are concerned about tourists visiting Antarctica (or vice versa) are identified and their viewpoints explained i.e. breadth</p> <p>Or Three people (at least one supportive and one concerned) are identified and their viewpoints are explained in detail.</p> <p>Detail involves further expansion of the reasons for their viewpoints, rather than just a statement.</p>	<p>The findings should include:</p> <p>An acknowledgement that different viewpoints exist.</p> <p>Two people that support and two people who are concerned about tourists visiting Antarctica are identified and their viewpoints are explained in detail.</p> <p>All explanations must include a valid reason for the viewpoints expressed.</p> <p>An example of coding of similar views shared by two different people should also be given.</p>
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Task 3 Evaluate Courses of action and make a justified recommendation.	<p>Concerned</p> <p>Peter Wederall - anti tourism, potential environmental disaster, represent a threat to the environment✕, should be protected for science.</p> <p>Jim Cowie - concerned if tourism goes beyond use of cruise ships✓. Land bases facilities would leave a bigger footprint, problems of waste disposal. Increased stress on coastal regions and associated bird and marine life✕.</p> <p>Christine Elliott – concerned if goes beyond ship tourism✓, adventure tourism e.g. skiing, mountaineering will inevitably result in greater impacts.</p>		
	Evaluates two different courses of action outlining their possible impact on Antarctica.	Evaluates three courses of action and their possible impacts or Evaluates in detail two different courses of action and outline their possible impact on Antarctica The course of action or compromise recommended is stated and supported with a valid justification. Includes why the course of action selected is better than the others course(s).	Evaluates in detail three different courses of action and outline their possible impact on Antarctica. The course of action or compromise recommended is stated and supported with a valid justification. Includes why the course of action selected is better than the courses.



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Antarctic Tourism: Stats and Facts.

Figure 1

Tourist Numbers in Antarctic

Summer Season	Total
1990-91	4,000
1995-96	9,367
2000-01	12,248
2006-06	15,500 – 22,000 (estimates)

(Source: IAATO (2002))

Figure 2

Means of travel 2000/01 Summer Season

11,997 travelled aboard commercially organised tour vessels

112 travelled aboard chartered yachts

139 participated in land based expeditions with air support

12,248 tourists in total

In addition 2,041 passengers took over flights without landings
(6 flights all departing from Australia)

Figure 3

Approximate Costs

<i>Cruises departing from Argentina or Chile</i> depending on luxury level	US\$3,500 –US\$20,000
<i>Cruises departing from Bluff (NZ) or Hobart</i> depending on luxury level	US\$9,500 – US\$14,500
<i>Overflights from Sydney or Melbourne</i> depending on seating/views	A\$900- A\$4,200
<i>Private overland expeditions into the interior</i>	US\$10,000- US\$20,000

Figure 4

Main areas visited by ship voyages

125 went to the Antarctic Peninsular

5 went to the Ross Sea Region

131 Antarctic ship voyages in total

Figure 5

Ship based Tourist images of Antarctica 1995-96

Images	After %	Before %
Wildlife (e.g. penguins, whales, seals, birds)	29	37
Ice Features (e.g. icebergs, glaciers, ice and snow)	20	24
Scenic (e.g. mountains, oceans scenery)	16	9
Mood (e.g. beauty, solitude, awe, peaceful)	9	3
Environmental (e.g. unspoilt, hostile, cold, windy, light)	14	16
Scientific (e.g. scientific bases, pollution, research)	2	0
Historic (e.g. Historic sites, early explorers)	1	3
Other	3	8

(Based on 480 responses)

Adopted from survey results Bauer T. (2000)

Introduction

A **wilderness** is an area free of human exploitation and without evidence of human activity. Antarctica is often perceived as being the last true wilderness on the planet.

Although the oceans surrounding Antarctica have been ruthlessly exploited for their marine life in the past, the continent has remained **relatively unexplored and undeveloped** due to isolation and extremes of climate. Antarctica contains some of the world's most pristine (original) ecosystems. Such **pristine** environments are valuable for scientific research. Antarctica has **no indigenous people** and no permanent communities of people. This makes it unique amongst continents. It is only recently that people have inhabited Antarctica. First there were the explorer and hunters, now there are scientific researchers and tourists. Scientists comprise the most significant numbers. Antarctica also has **no recognised owners** and therefore does not belong to any one country.

Nature of Antarctic Tourism

Tourism in the Antarctic context can be defined as all human activities other than those directly involved in scientific research and the normal operations of government bases. This covers commercial tourism operations, private expeditions (e.g. to climb mountains or retrace historic journeys) and the recreational activities of base personnel.

Very few tourists reside on the Antarctic continent itself. The majority (approximately 97%) view Antarctica from luxury cruise liners departing from Chile, Antarctica, New Zealand and Australia. From their ships, tourists make short 2-3 hour trips to the shore in inflatable boats. Nearly all tourists see the edge of the continent, with only a handful getting to visit the interior and/or the South Pole. The mildest and most visited part of the continent is the Antarctic Peninsular, which experiences summer temperatures of around 0°C. The Antarctic Peninsular is also the closest part of Antarctica to other land masses and the ports of South America.

In addition to **ship based tourism** there has been a strong growth in **scenic over flights** to Antarctica departing from Australia and in the past from New Zealand. Some organisations offer **land-based expeditions** to the interior. Activities include mountaineering, camping at a penguin colony, skiing and trips to the geographic South Pole.

Growth of Antarctic Tourism

Tourists have been visiting the continent since the late 1950s. Initially the numbers tended to be small and reasonably manageable. However recently improvements in technology and higher levels of disposable income have led to a marked increase tourism numbers, particularly since the 1990s, and this is becoming a major concern.

Impacts of Tourism

All human activity, whether conducted by tourists or scientists, inevitably has an impact on the Antarctic environment. The impacts are compounded by a number of factors such as the fragile nature of the environment, seasonality, location, type of human activity involved and the political geography of Antarctica.

Fragile Ecosystem

The Antarctic ecosystem is so fragile that the nature of any disturbance is likely to be long lived. Footprints on slow growing moss for example can last for decades. At least 60% of all land based, and 70% of all marine species are native to the continent making Antarctica a very important place to study and preserve. Although the non-marine ecosystems may not appear to have any economic potential, their simplicity makes them ideal for testing hypotheses about the nature of ecosystem dynamics. Tourists can easily and unwittingly spread bird or plant diseases or introduce new kinds of organisms that can affect the fragile ecosystem.

Seasonality and Location

Unfortunately the Antarctic summer tourist season coincides with peak wildlife breeding periods. This can result in potential disruption to breeding and nesting grounds. Also due to the lack of ice-free locations available on the continent, there is competition between the wildlife found in these areas and the land-

based installations which accompany tourist development. The building of permanent onshore tourist facilities and airstrips pose the biggest current threat to the environment and wildlife habitats. Sites like those on King George Island (Antarctic Peninsula) create problems related to the disposal of waste and the demand for fresh water.

Tourist Activities

The extent of environmental impacts varies with the nature of tourist activities. **Tourist flights** over Antarctica cause minimal land impact. However these low flying aircraft can result in penguins stampeding or deserting their nests. This can result in eggs being crushed or scavenged by skuas (predatory birds). In addition to the noise pollution there is also concern about the impacts of the exhaust gases from the jet engines on wildlife.

Seaborne cruises create different impacts. For example, tourists wearing bright red parkas, travelling ashore in black zodiacs present a fearsome sight to penguins. Emissions from outboard motors and spills can pollute the air and discolour the water. Concern is also growing about the pressure increasing visitor numbers are placing on cultural heritage sites such as whaling and sealing stations and early exploration bases such as Scott's 1902 Discovery Hut. There have been examples in the past where tourists have, removed historic artefacts and geological souvenirs, caused damage to heritage sites, and have left litter.

There have been a number of boating and aircraft mishaps. The worst was in 1979, when a New Zealand jet crashed, killing all 357 aboard. The oil spill resulting from the grounding of the tourist and supply ship the *Bahai Parasio* had major environmental consequences. Such incidents raise issues concerning the risks associated with inexperienced people coping with hazardous weather, the difficulty of mounting rescue operations after an emergency, and the associated interruption of research projects.

Political Geography

No nation has legal sovereignty over any part of Antarctica. Several countries do have territorial claims but these are not recognised by the international community. As a result enforcement of any tourist code of behaviour is difficult. Antarctic Treaty parties and tour cruise operators have responded to the increased growth in tourism by developing a set of guidelines for acceptable practice. The International Association of Antarctic Tour Operators (IAATO) for example limits the numbers of passengers who can go onshore at a time, do not allow visits to Sites of Special Scientific Interest (SSSIs), operate with only qualified experienced staff and make recommendations concerning the disposal of waste at sea. Unfortunately not all tourist companies are members of the IAATO and some may choose not to comply with the standards.

Although the IAATO guidelines recommend that tourists not to remove materials found onshore or leave litter behind and that they stay within 5 metres of wildlife such as penguins and 15 metres from seals and guides remind tourists of these 'rules', accidental and deliberate infringements do occur. For example visitors may mistake wildlife for rocks or become over-zealous in their attempts to photograph penguin chicks.

While tourism is still relatively limited in Antarctica, with increasing interest in the frozen continent and the investment from tour operators, there exists the potential for considerable growth. Questions that arise relate to the impacts that further tourism development may have on Antarctica and how this growth can be managed/controlled to ensure that the environmental values of Antarctica can be upheld for future generations?

Based on information contained in an article "Antarctica -Tourism's last frontier" by Jane Dove in the *Geography Review* March 1997, Vol.10, pp14-18.

Other relevant material can be found on Antarctic New Zealand website <http://www.antarcticanz.govt.nz> School Resources - Information Sheets - Tourism in Antarctica.



Sunday Star ★ Times July 20, 2003

Antarctic tourism walks a tightrope

Rising tourism is threatening Antarctica's pristine wilderness. Andrew Janes reports on balancing business with conservation on the ice.

Environmentalist fear growing Antarctic tourism could lead to airstrips and hotels being built on the frozen continent.

NEW ZEALAND is leading the way in talks to regulate tourism operations to Antarctica, seeking a balance between allowing businesses to thrive and maintaining the icy wilderness.

Modern technology means the continent is now accessible to increasing numbers of sightseers, and New Zealand, along with Australia, Norway, France and Argentina, is worried about the impact.

A century ago, distance and extreme cold conspired to make Antarctica the domain of only the most brave – some would say foolhardy – of explorers.

Now cruise liners with up to 1000 passengers ply Antarctic waters while Goretex-clad modern-day adventurers pay top dollar to kayak in Antarctic bays and inlets and extreme-ski down polar mountains.

Only in the past decade has the Antarctic tourist trade taken off. In the early '90s about 5000 tourists a year travelled to Antarctica, mainly in small, ice-strengthened vessels. Next summer, the International Association of Antarctic Tourism Operators (IAATO) estimates around 22,000 tourists will visit.

Achieving a balance between tourism and managing the pristine wilderness is worrying environmentalists such as Dr Alan Hemmings, senior adviser to the Antarctic and Southern Ocean Coalition (ASOC), an umbrella organisation made up of representatives from 200 environmental organisations.

Hemmings is concerned not just by the rising number of tourists but by the changing nature of Antarctic tourism. Increasingly, large cruise liners, run by companies such as P&O and Cunard operating out of South American ports, are entering the Antarctic tourist trade. These thin-skinned (non-ice-strengthened) ships carry vast quantities of heavy bunker oil, one of the worst marine pollutants. The consequences of one sinking or running aground would be disastrous, says Hemmings.

And while the environmental consequences of 50 tourists turning up at a penguin colony or historic hut may be minimal, 800 to 1000 is a different story.

But the spectre of airborne tourism is Hemmings' greatest worry. "Increasing tourism to Antarctica rode on the back of the collapse of the Soviet Union as it sold off its fleet of ice-strengthened Arctic vessels.

"As those vessels age, they have to be replaced and operators may balk at the cost and switch to airborne tourism. This would entail a need for commercial airstrips and the tourism industry would probably then seek to build hotels alongside the airstrips, exponentially increasing the scale of Antarctic tourism."

Hemmings offers an analogy with the situation in the Himalayas. "You can now stay in a four-star hotel at what was once a base camp and that's happened in less than 50 years. We could see the same thing in Antarctica in the space of a generation."

Then there's the burgeoning adventure tourist trade of extreme sportsmen and women seeking risky activities such as mountain climbing, kayaking, diving, skydiving and skiing.

New Zealand adventure tourists need authorisation from the Ministry of Foreign Affairs and Trade to carry out activities in the Ross Sea dependency. While they can be turned down on environmental grounds, the ministry has limited ability to turn them down on safety grounds, says the head of its Antarctic unit, Trevor Hughes.

Foreigners can simply get an authorisation from the US if turned down by New Zealand. "Last year we had a party of Japanese who wanted to extreme ski down Erebus," says Hughes. "As the law currently stands, they don't need insurance so in the case of an accident, either us or the Americans would have to rescue them, costing a lot of money and putting the rescuers in danger."

Even if New Zealand passes a law requiring people to get insurance, this will only be applicable to Kiwi citizens, says Hughes.

"The current tools we have for managing tourism in Antarctica are very limited," he says.

Antarctica is managed by the Antarctic Treaty of 1959. The 12 original signatories and 14 other member states meet annually to manage the continent and look at emerging issues. The treaty is remarkably far-sighted, especially considering the Cold War environment in which it was drafted, but it did not anticipate burgeoning tourist numbers.

An environmental protocol to the treaty was set up in 1991 but again tourism was ignored. "A year after that, about half a dozen countries said we missed something - we need an annex dealing with tourism," says Hughes.

In response to this situation, New Zealand, Australia, Norway, France and Argentina have started working to try to set up a treaty-wide regulatory regime for tourism.

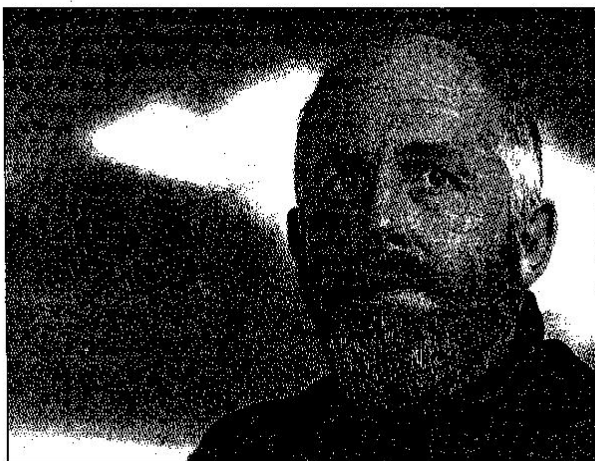
"There's an increasing sense among the consultative parties that the expansion and diversification of tourism is posing some new challenges," says Hughes, who represented New Zealand at the most recent treaty meeting in Madrid in June.

The Antarctic Treaty parties agreed in Madrid to meet in Norway in March to discuss tourism issues. From that meeting, a report will be drawn up for the next Antarctic Treaty meeting in Cape Town in May for consideration and possibly action.

However, not everyone is convinced of the need to regulate the tourist trade.

Rodney Russ, the owner of Christchurch-based Heritage Expeditions, has been taking tourists to Antarctica in his ice-strengthened boat since 1994.

Russ is an IAATO member and thinks the organisation's code of conduct and guidelines for activities such as kayaking, diving and mountain climbing have served the continent well.



Rodney Russ says his trips help protect Antarctica.

Photo: Martin Hunter

He must fill out a detailed environmental evaluation before each expedition, listing his activities, their impacts and mitigating measures that will be taken.

Russ must also carry a government observer on board, taking a berth worth \$US350 a day. He's worried a regulatory regime for tourism will add an extra layer of bureaucracy, imposing additional costs on his business.

Only a fraction of Antarctic tourists go to the Ross Sea, with most travelling to the Antarctic Peninsula adjoining South America, says Russ. "We pick our landing sites carefully, keep the number of passengers down to small groups, take away all our rubbish, adhere to minimum approach distances from penguin colonies and have a guide-to-passenger ratio of 1:12-14," he says.

"We do a lot more for the protection of Antarctica through showing it to people who go on to be advocates for protecting Antarctica."

But Hughes doesn't think IAATO is up to the challenge of the changing environment. "IAATO has done a great job on self-regulation and promoting high standards but it can't address the problems of operators such as the big cruise ship companies that refuse to join."

He says the move to set up a regulatory framework is not intended as an attack on tourism but is a move to take a more responsible role in managing it.

Hemmings is optimistic the treaty parties can reach agreement on regulating tourism. "The task is convincing countries such as the US that a regulatory regime is not going to be the end of the free market. I'm reasonably hopeful it can be done."

Peter Wederall - Base Engineer

Perspective on Tourism in Antarctic



Q: What are your feelings about tourism in Antarctica?

A: I'm a little bit anti... no I'm not a little bit anti, I'm bloody anti about opening up Antarctica to tourism. It's not a good thing. The impact of tourism would just be disastrous down here. You would get tourists coming down, often passionate about visiting and having spent thousands of dollars to visit. They're going to walk around and be pretty bloody arrogant... "well we paid forty god damn thousand dollars to come down here, we'll do what we want"...you know. No I wouldn't like to see tourism. Antarctica should be protected to a certain extent for science because scientists tend to be in touch with what's going on round them.

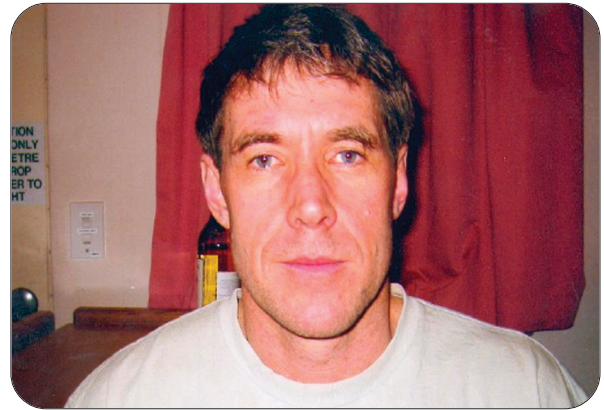
Q: What about small-scale eco-tourism as opposed to large scale cruise liners?

A: Yeah, where do you draw the line though? Yeah... I mean, if somebody wants to kayak over from Tierra Del Fuego and along the Parlour peninsula I'm not going to turn around and say no you can't do it ... I guess there's got be some sort of balance. They get the odd cruise ship come down here. They've also got commercial fishing boats come down. I don't think that should be happening. It's too close. Unnecessary shipping down here represents a potential environmental disaster. I think science is what this place should be about...not much of anything else...just enough tourism maybe to keep people interested and to keep the dollars flowing to support what's happening here.

Summarised from interview, Nov. 2002

Interview with Keith Springer – Scott Base Operations Co-ordinator

Perspectives on Tourism in Antarctica



Q: What are your views on about tourism in Antarctica?

A: A lot of people particularly scientists tend to be very negative about tourists and their effect. However I don't buy into the 'all tourists are bad scenario'. To me every tourist that pays for the privilege of coming to Antarctica generally leaves with a very deep and lasting impression of their visit. This makes them more likely to be an advocate in a ground swell of global support for protecting what they have seen. I don't think its realistic to believe that people will protect something that they don't have a concept of or value. So with out tourism in Antarctica you just won't have that sort of pool of people who are aware enough to want to protect the place.

Having worked on a tourist icebreaker has given me another look at that tourist side of things. The tourists are not blind or dumb and they look at Bases such as Mc Murdo and ask how come it is us who are accused of having an impact? We go to places that are totally pristine and we leave no trace and our impact is minimal yet you say tourists have more impact than scientists do. We discharge no sewerage or rubbish it all goes back with us. I think this is a valid view point, which a lot of scientist just don't accept because there tends to be a level of academic arrogance amongst scientists that work in Antarctica that they should be the only ones here. I tend to take the tourist view point. They have far less impact than the maintenance of a year round base with all it's inevitable impact. Tourist ships come and go and they take all there effluent with them and in terms of energy consumption it takes a lot less diesel to run a ship down here for a couple of weeks than it does to run a base for a year.

My views have also changed having worked for the tourist side of things. I haven't got any information from the Antarctic Peninsular where the tourist pressure is higher and a greater number of operators are involved. In the Ross Sea area there are only 3 tourist operators, 2 of them are regulars. One I do know is very environmentally conscious and wouldn't do anything to have an impact that he could avoid at all. I acknowledge that that is largely a commitment on his behalf, but those are the sort of people you want running tourist operations down here. They are determined that they wont interfere with what they have come to see, and if it means that people won't get the opportunity to see something they wanted to then so be it, he wont compromise his environmental commitment. So I am impressed by that, there is obviously good and bad tourist operators like there are good and bad scientists but I don't hold with the prevailing scientist views that all tourists are a menace, which is a common outlook.

Summarised from interview, Nov 2002

Interview with Christine Elliott – Scientist

Perspectives on Tourism in Antarctica



Q: What are your feelings about tourism in Antarctica?

A: Oh that is a difficult question to answer. Although I'm here doing science, I've always wanted to come and see Antarctica, so therefore I feel a bit bad about saying we should keep tourism to a minimum. Antarctica is becoming more and more accessible as technology improves, plus there are increasing numbers of people with sufficient money wanting to go somewhere new and different or seek adventure tourism ... for them Antarctica would be an ultimate destination. I really am in two minds about increased tourism.

Q: When you talk about 'adventure tourism' are you thinking about some form of eco-tourism?

A: I think the eco-tourism would be a way forward, but no I was thinking more about skiing, mountaineering re tracing historic journeys ... that sort of thing.

Q: Do you think such adventure tourism would be desirable?

A: I don't know, I can't sort it out inside my head. I feel as a scientist that I am in a privileged position and that it's not really right for me to say no more tourists just because I have had the chance to come, and to deny them. The more adventure tourists that come will inevitably mean greater impacts on Antarctica. While tourism remains mainly ship based involving only a few locations impacts can be contained a bit more but once you get into people skiing and mountaineering etc. then you start getting into a different ball game.

Summarised from Interview, Nov 2002

Interview with Brent Sinclair – Scientist investigating springtails

Perspectives on Tourism in Antarctica



Q: What are your feelings about tourism in Antarctica?

A: I think that some of the people who have the least impact are tourists. I mean the tourists that I've seen have been extremely well behaved compared to say scientists. At Cape Bird we had a bunch of tourists that came ashore from a ship when I was there. They were there for a very short period of time, they followed all the rules, they washed their boots, they behaved in a very orderly manner, they didn't approach the penguins and then they were off again. Whereas as scientists we occupy this area for a hundred and twenty days and we traipse around and eventually create some little tracks that we know will go away in a few years but it is still an impact that happens. I think a lot of the hoo-ha about tourism can perhaps be left alone compared to the people that really occupy the place thinking harder about how they behave.

I think it's a matter of getting people to think from different perspectives. For example, from my perspective I work on animals that live in the soil so I really think about the soil. I make sure that my boots are clean before I leave Scott Base and I make sure that our equipment doesn't have great lumps of moss adhering to it or whatever. Before we leave South Africa we wipe everything down with alcohol to make sure that we're not bringing anything in. But then I'm less sensitive about the penguin colonies. I mean as far as I'm concerned the penguin colonies are these annoying things you have to sort of walk around because people tell you, you have to walk around them...but on the other hand the penguin people don't really care about the soil animals at all.

Summarised from Interview Nov, 2002

Interview with Jim Cowie - Operations Manager at Scott Base, Antarctica

Perspectives on Tourism in Antarctica



Q What do you think is the biggest challenge facing Antarctica say in the short term?

A: I think given the numbers of people that come down here we're making a reasonable effort of trying to be environmentally friendly. A lot of damage has been done in the past but fairly localised. We all know that Antarctica is a place that doesn't recover easily. The biological processes that help break down pollutants and so on in tepid and tropical areas are not here and the whole process is a lot slower. One wouldn't want to see too much more activity that puts stress on this continent if we believe that it truly is a barometer for what's going on in the rest of the world...a benchmark, if you like, for what's going on in the rest of the world...tourism.

Q: What are your feelings about tourism in Antarctica

A: In terms of tourism there are more and more wealthy people in the world or people who have the where with all to come down to Antarctica. Despite predictions I think the real boom in tourism is yet to come. Almost all of the tourism currently is ship based and some would argue that's the only way it should stay. However, from my experience as a New Zealand representative on an exclusive tour ship, the younger people who travel to Antarctica want to make it a requirement not only to step on land but to stay on land...and so that's where the next pressure is likely to be.

It's all very well to do the cruise ship thing but if a lot of people actually want to live on Antarctica to experience it, that's going to be far more difficult to control and to make environmentally friendly. A ship is a unit in itself and can control it's own waste and everything until it gets back to a port where it can be dealt with. If however we start building additional land based facilities the likes of Scott Base or McMurdo you leave a larger footprint on the continent and you have problems with what to do with the waste. Also with more people getting out and about, increased stress will be put on the coastal margins the areas where the penguin rookeries and other bird and marine life is mainly found.

Summarised from Interview Nov, 2002

Lisa Holliday – (AFT) Antarctic Field Training Instructor

Perspectives on Tourism in Antarctica



Q: What are your experiences of Tourism in Antarctica?

A: Prior to working at Scott Base I spent 4 summers working for a tourist enterprise on the Continent itself with a base camp located 80 degrees south which is a lot colder than it is here and quite different from the ship based tours around the edge continent. The company set a summer base camp using tents, employed up to 25 staff and had its own charter planes and pilots. It could cater for 10 to 40 clients who would come for approximately a fortnight at a time.

The company is not widely known and tends to attract only wealthy people who are prepared to pay a hell of a lot of money. Clients consisted of 3 main types. Those people that want to just say hey I have been to Antarctica / South Pole, the people that want a real expedition with all the hardship and everything else (e.g. ski from the edge of the Continent to the South Pole) and then the people who just want to climb a high mountain in an amazing place. I can see this type of tourism increasing and more competitors setting up business.

Q: How did you find peoples attitudes towards tourism in Antarctica?

A: I get really irritated when people talk about “those tourists”. We are all tourists ... most of us are here because we like and want to visit Antarctica ... that’s tourism isn’t it? Most honest scientists admit to you that they dreamt of a project to get them here to visit.

Some people wave the science banner and say oh the tourists are changing everything and oh it used to be nice 20 years ago. If they do not want changes no one should be allowed to come. What is changing Antarctica more than any tourist activities are the permanent bases being built around the perimeter and some on inland to support science. Bases have got enormous effects compared to a transient tourist camps. I think it’s a bit like pointing the finger at other people because we don’t want to point the finger at ourselves.

Having seen some of the tourist operations and having seen some bases I think the tourist operations actually do a lot better job. If you are going to look at the damage to the environment I think tourists do less.

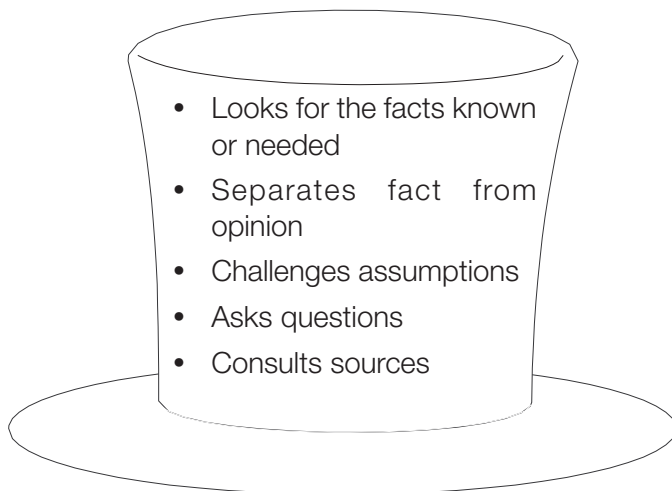
Actually I have found most of the tourists that do come to Antarctica have done a lot of reading before arriving. Their stay also increases their empathy for Antarctica and you could see them going back as ambassadors keen protect it as a place.

Summarised from interview, Nov 2002

Card templates for use with the class. Each shows the different types of thinking De Bono's Hats represent.

White Hat

What are the facts about each scenario?



Red Hat

How do I feel about each scenario?



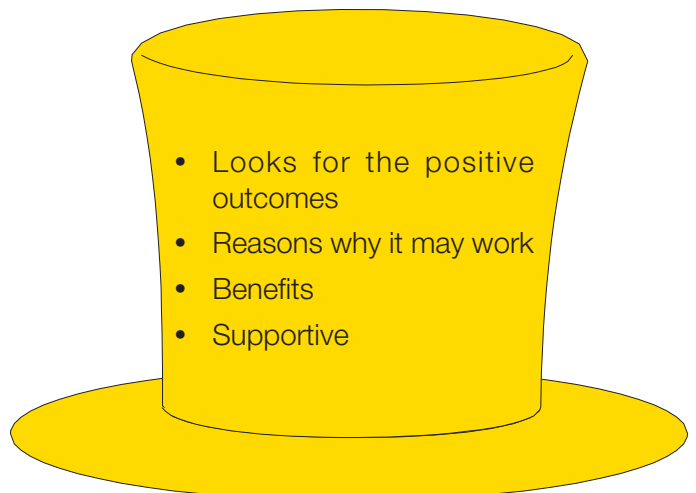
Black Hat

What is wrong with each scenario?



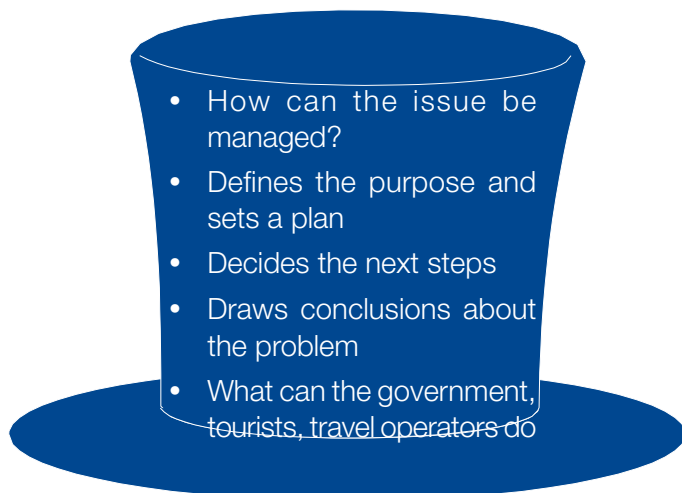
Yellow Hat

What is good about each scenario?



Blue Hat

What thinking is needed?



Green Hat

What better ideas are possible?

