

Question 19:

Refer to the stimulus material on Pages 2 and 4 of the Broadsheet regarding Hamilton Island and the Galapagos.

- (a) Compare and contrast human impacts on Hamilton Island and the Galapagos Island. (4 marks)

- (c) Outline one method of collecting data and the reason for its collection in any environmental study of the Galapagos Islands. (2 marks)

Section III

Total marks (60)

Attempt Questions 20 – 22

Allow about 1 hour and 50 minutes for this section

Answer EACH question on your own paper or writing booklet, if provided. Start each question on a new page.

In your answer, you will be assessed on how well you:

- present a sustained, logical and well-structured answer to the question
 - communicate geographical information, ideas and issues
 - refer to appropriate case studies, illustrative examples and the Stimulus Booklet where appropriate
-

Question 20:

Discuss the biophysical interactions of TWO ecosystems at risk.

Question 21:

Evaluate the growth, development, future trends and ecological sustainability in a large city selected from the developed world.

Question 22:

Evaluate the ecological and political influences on a global economic activity and how it is impacting on this activity now and in the future.

End of paper

2008

Senior Geography Stimulus Booklet Hamilton Island and Galapagos Isles



Source A – Map locating Hamilton Island
Source B – Aerial view of Hamilton Island

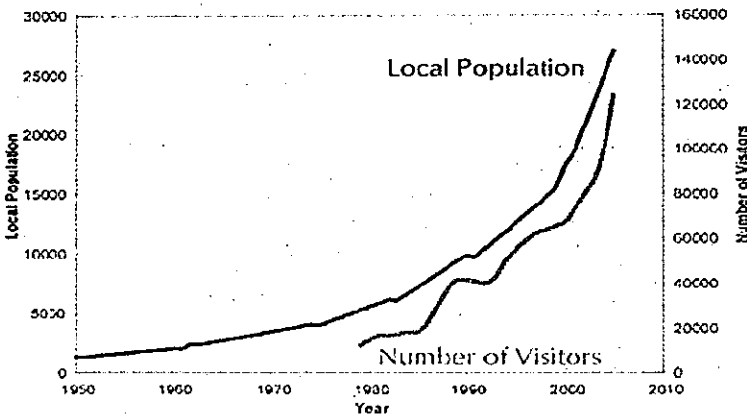
Source B



Threats to the Galapagos.

The Galapagos Islands and surrounding marine sanctuary are home to a number of unique and endangered species. They are currently under threat from feral animals, illegal fishing activities and other problems of development. The growth of both the tourism industry and local populations, due to high birth rates and immigration, threaten the wildlife of the area. The recent grounding of the oil tanker *Jessica* and the subsequent oil spill brought this threat to world attention.

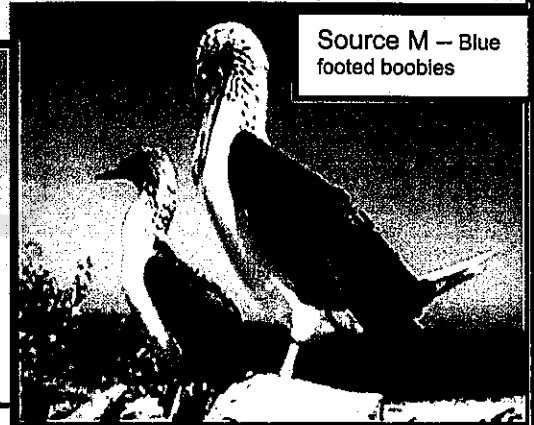
Source K – Population and tourism growth in Galapagos



Source L – Marine iguana

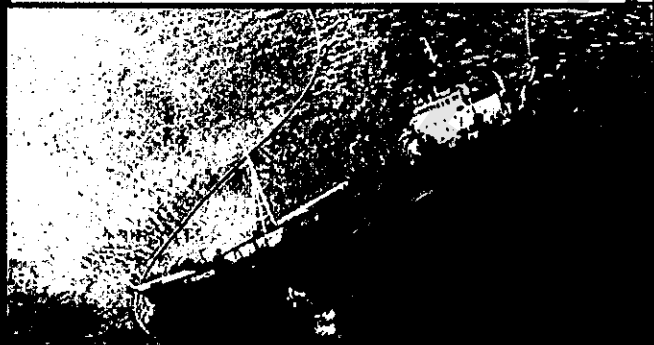


Source M – Blue footed boobies

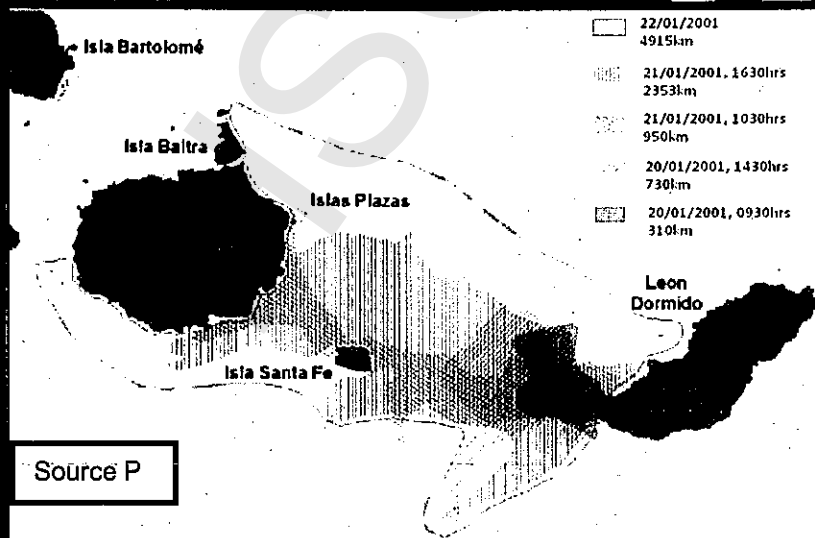


The Galapagos Isles were listed as a "World Natural Heritage" site in 1978. Ongoing seismic and volcanic activity reflect the processes that formed the islands. Located over 1,000 km from South America, they have been described as a 'living museum and showcase of evolution'. Since then, the threat from invasive species such as rats, feral pigs, and goats have caused the Galapagos Islands to be listed as 'endangered'. Recently, a form of malarial disease has threatened the penguin population.

Source N – Stricken oil tanker "Jessica" off Isla San Cristobal 2001



Source O – Galapagos foreshore



Source P

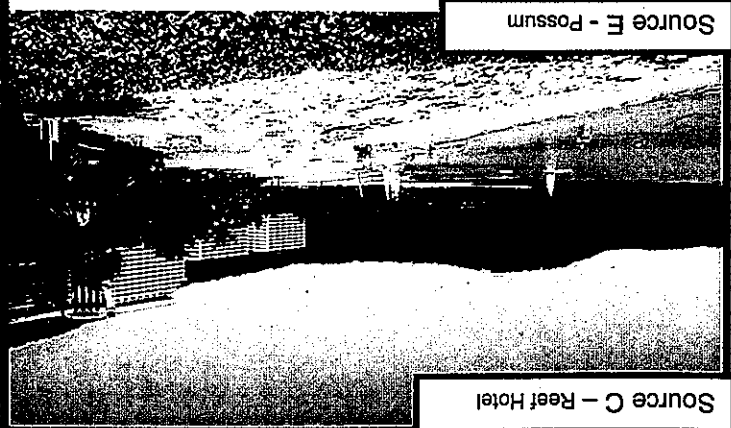
Spread of oil following grounding of the tanker "Jessica". Increasing areas with different hatching indicate the progressive spread of 900,000 litres of oil.

Source Q – Galapagos tortoise



Tourist Brochure Excerpt
Hamilton Island is one of 74 Whitsunday Islands. It has private dwellings, hotels, restaurants, a marina, tourist activities and is the only island in the Whitsunday Group capable of handling jet aircraft. Beyond the resort is the Great Barrier Reef Marine Park. A haven for sailing enthusiasts and people looking for a unique getaway, over 80 per cent of Hamilton Island has been preserved in its natural state. Visitors can enjoy the pristine magnificence of the island's beautiful beaches, nature trails and secluded hideaways. The island has glorious weather, azure waters, brilliant beaches, awe-inspiring coral reefs, fascinating flora/fauna, fine food and wine.

Source C - Reef Hotel

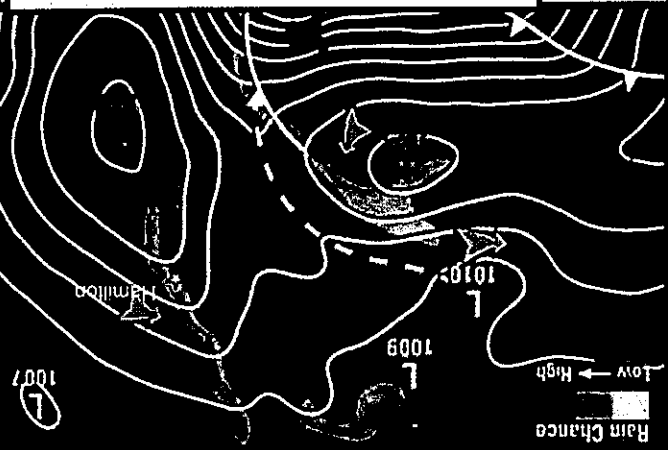


Source E - Possum

Hamilton's fragile ecosystem

Hamilton Island and the surrounding marine park are home to a range of wildlife including koalas, possums, dugongs, dolphins and turtles. Native vegetation and the Great Barrier Reef have been badly damaged by over-population of species such as the possum. Over time, a large of number of animals stripped vegetation in many areas and silt has run onto the Great Barrier Reef. This is a concern in a World Heritage-listed area. The island's management are looking at programs to restore ecological balance to this delicate environment.

Source G - Synoptic Chart

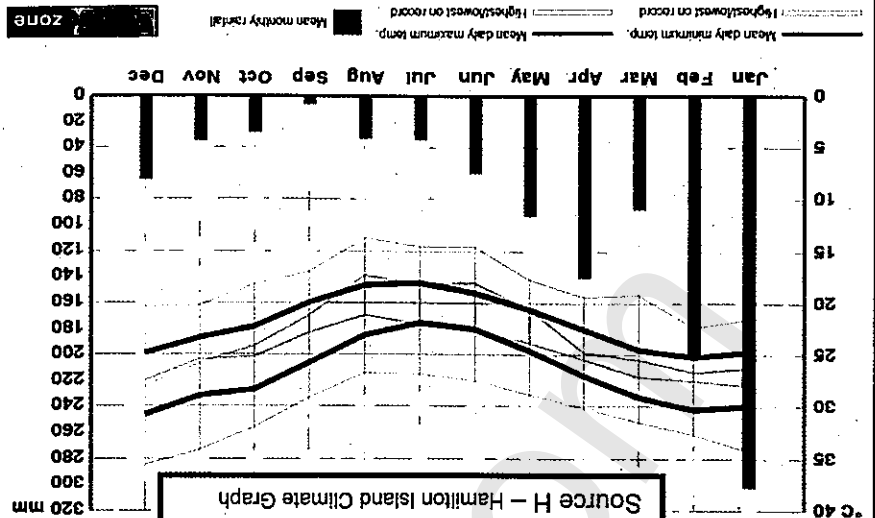


Source F - Aerial view of Great Barrier Reef



HAMILTON ISLAND AIRPORT

Source H - Hamilton Island Climate Graph



Source I - Flight over Heart Reef, near Hamilton



