



Jamaica is a small island, but boasts one of the largest natural harbours of the world, the *KINGSTON HARBOUR*



Uses of the Harbour





fishing



Recreation

Industry

Uses of the Harbour



Shipping





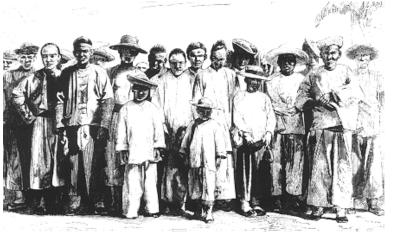
Early eighteenth century map of Kgn. Harbour, taken from Stanley Consultants' 1967 Storm Surge Study

1768 Map of Kingston. Note Port Royal was an island!

People who came

- Port Royal was known as the jewel of the Caribbean and was the main port of entry for African slaves coming across the middle passage.
- The Indians and Chinese were later brought to be indentured servants once the African slaves were freed. The Indians and Chinese were usually transported around the island by sea.





Port Royal

- During the slave trade and the English/Spanish wars, Port Royal was the Headquarters of some of the most blood thirsty pirates such as Henry Morgan, Captain Kidd, Blackbeard the Pirate and 'three-fingered' Jack Rackham.
- Port Royal was once called "the richest and wickedest city in the world" and was the capital of Jamaica.

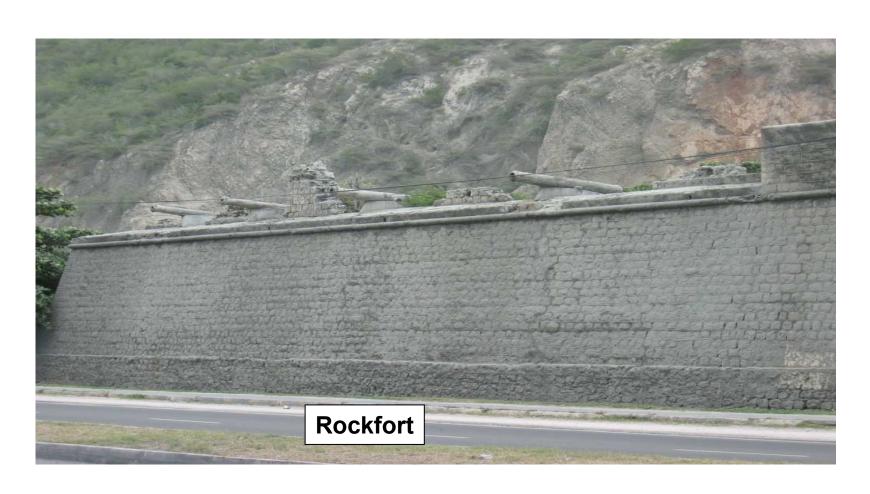




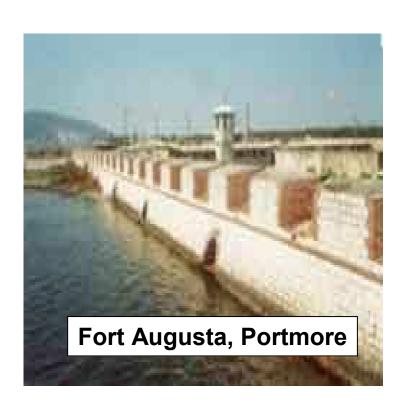
Port Royal

- Ever since the capture of Jamaica by the English from the Spanish in 1655, the need for fortification became immediate because of the constant threat of foreign invasion
- As a result, several forts were built along the coast of Kingston Harbour to defend the country, some of which still stands today.
- The forts were built on high ground overlooking the sea, however, some were on flat lands and sometimes very close to the sea.
- Jamaica had about 20 forts

Forts still standing around Kingston Harbour

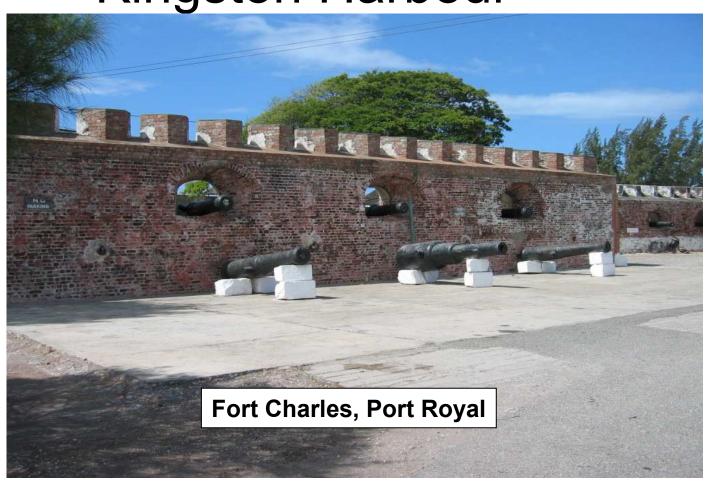


Forts still standing around Kingston Harbour





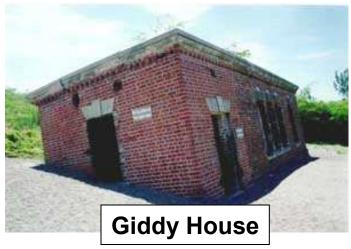
Forts still standing around Kingston Harbour



Remnants of Spanish/English Militants

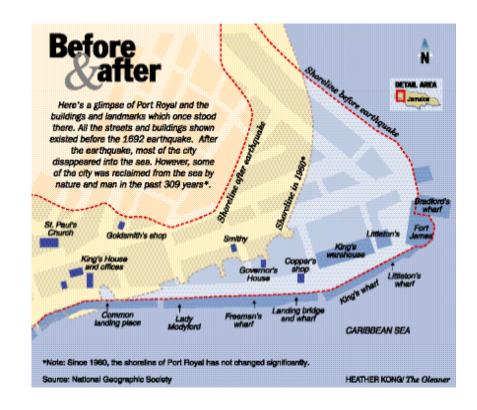






Port Royal

- In 1692 the town was destroyed by an earthquake which caused 60% of the land to be engulfed by the sea.
- The earthquake sealed in everything that was going on at 11:43 a.m. on June 7, 1692. The precise time is known because a pocket watch, its hands frozen at the instant of disaster.

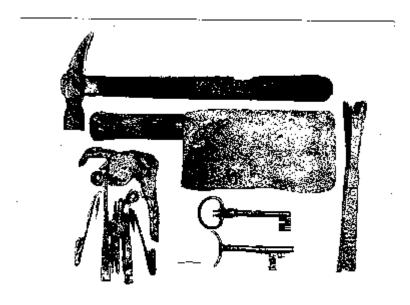


Port Royal Undersea

 Treasures of silk, silverware and gold looted from Spanish ships were swallowed beneath the sea.



Treasures from Underwater



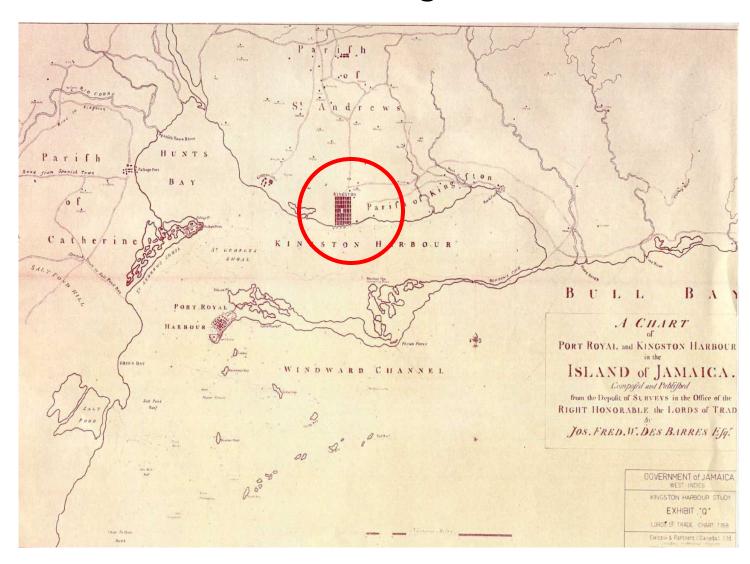


Treasures from Underwater





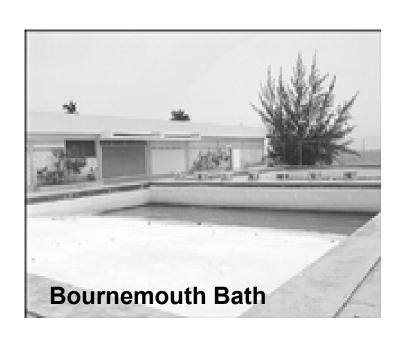
Extent of Kingston



Kingston

- The "Towne of Kingston" was founded after the destruction of Port Royal by the earthquake of 1692. Approximately four days after the earthquake the Legislative Council decided to build a new town. The area designated for this construction was Lord Beeston's Hog Crawle (a place where pigs are kept).
- In 1872 Kingston became the capital of Jamaica.

Historic Recreation Sites

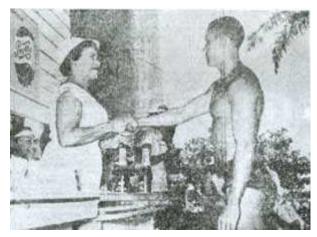




Myrtle Bank Hotel



Ski Competitions



Cross the Harbour Swimming



Cruise Shipping

GunBoat Beach

- The bathing beach and recreation park along the Palisadoes Road, in the area known as Gun Boat began in 19551.
- The beach was named after the rusting hulk of a Haitian Gun Boat3. It was opened at 5 pm on the 30th June 1959 by Irish King, Major of Kingston4
- Bathing beauty contests and water skiing displays were features of the inaugural celebration of Gun Boat Beach.



Then & Now





Then & Now

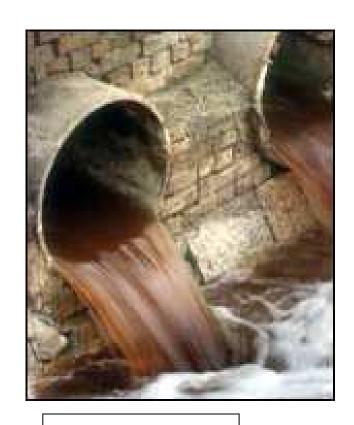


First Ship Ports



New Shipping Port

We are Damaging our Heritage



Water Pollution



Air Pollution

What is the environment?

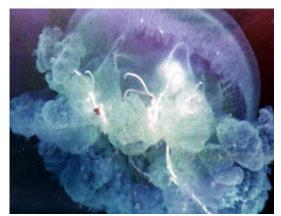
NATURAL ENVIRONMENT





- Living things like plants and animals,
- •Beaches and mountains,
- •The air we breathe,
- •The sunlight that provides warmth,
- •Water that we use in our homes, schools, and businesses

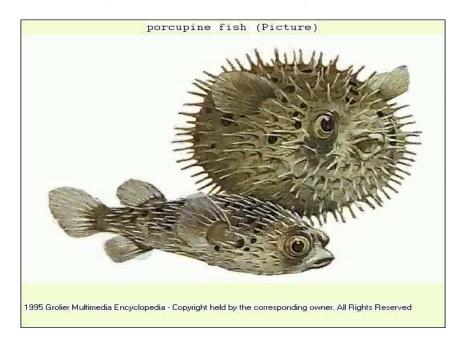
Jelly fish



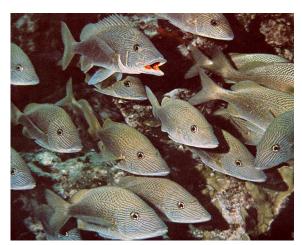
Sea Horse



Porcupine/Puffer/Sour Sop Fish



Grunts



Starfish



Black Mangrove





Sea Grass



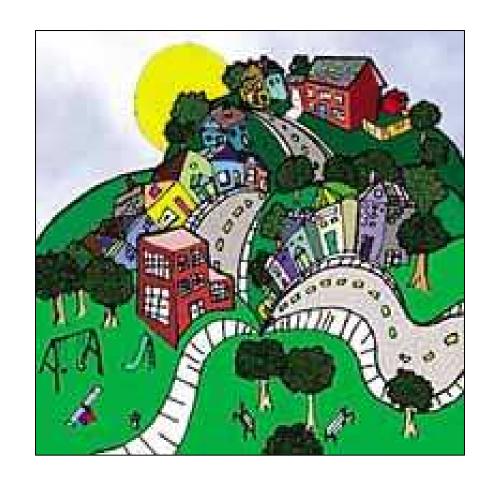
Man-made or Built Environment.



•Urban Settlements

- •Cities
- •Roadways and Railways
- Markets
- •Hospitals
- •Universities and Colleges



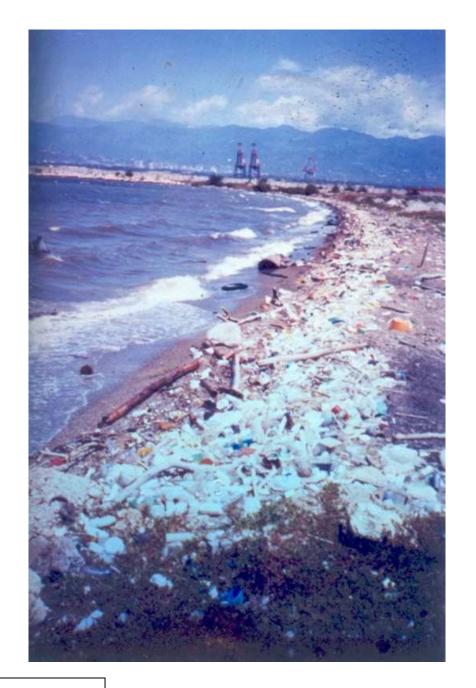


Everything that surrounds us is part of the environment.

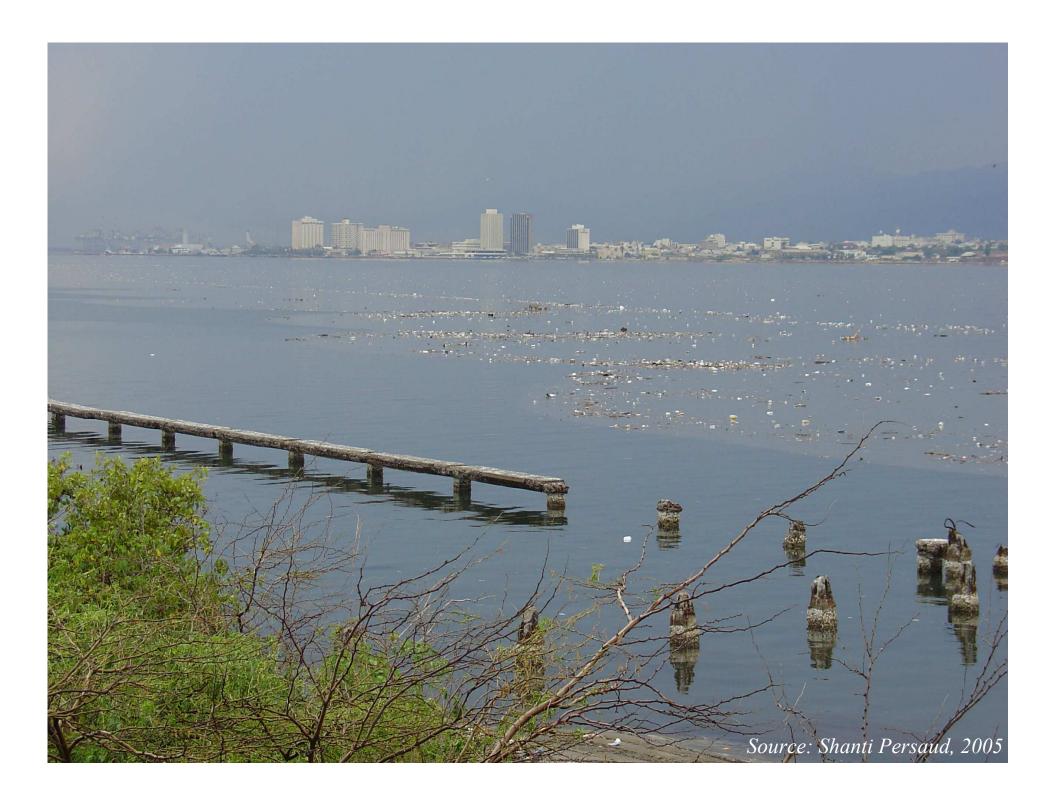


Solid Waste Pollution





Solid Waste Pollution





Major Marine Pollutants – Solid Waste

- A large portion and great danger is nonbiodegradable Plastic
- 46,000 pieces of floating plastic/sq mile of ocean surface off the N.E U.S. coast.
- Sea turtles mistake plastic bags for jellyfish and die from internal blockages.
- Seals and sea lions starve after being entangled by nets or muzzled by six-pack rings (decomposition time 400 years).
- Plastic debris kills 100,000 marine mammals and 2 million sea birds die annually

Types of Wetlands

- Bogs Inland
- Swamps Coastal
- Marsh Coastal
- Morass Coastal



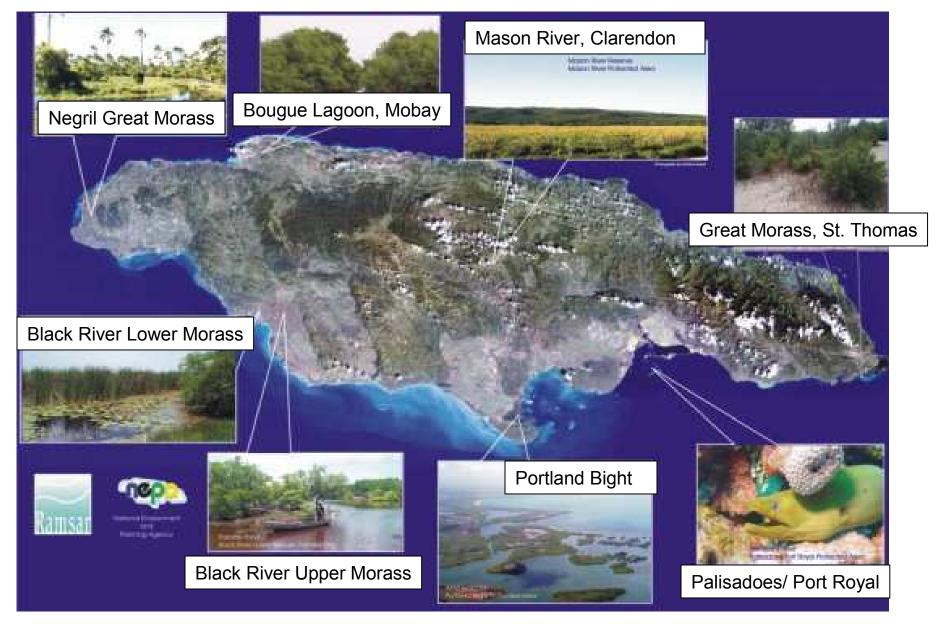
Seagrass beds - Marine





Coral reefs - Marine

Some Jamaican Wetlands



Wetland functions and benefits

- 1. Flood control Wetlands act like a sponge to soak up storm water from inland protecting coastal areas.
- 2. Ground water replenishment They help to hold rain water and allow for gradual (slow) release through rivers
- 3. Shoreline Stabilization and Storm Protection
 - They act as a buffer from hurricanes to protect inland areas from storm surge and the plants help to hold soil together preventing erosion.
- 4. Sediment and Nutrient Retention and Export
 - They are like sieves (strainers) that prevent the "dregs" from land from reaching the sea
- **5. Climate Change Mitigation** Wetlands act as a sink for gasses that cause global warming and hold the land preventing sea level rise



Wetland functions and benefits cont'd.

- 6. Water Purification They are the kidneys of the land and act as filters of that cleans up
- 7. Reservoirs of Biodiversity Home to many species some as yet undiscovered
- 8. Wetland Products Used to make many things (charcoal, dyes, medicines, fish, fruits, oysters, crabs etc)
- Recreation and Tourism great potential as a tourist attraction (bird watching, kayak tours etc)
- 10. Cultural Value Home to many earlier peoples (Tainos, early European settlers)



Threats

- Wetlands are among the world's most threatened ecosystems, owing mainly to;
 - drainage,
 - conversion,
 - pollution,
 - over-exploitation





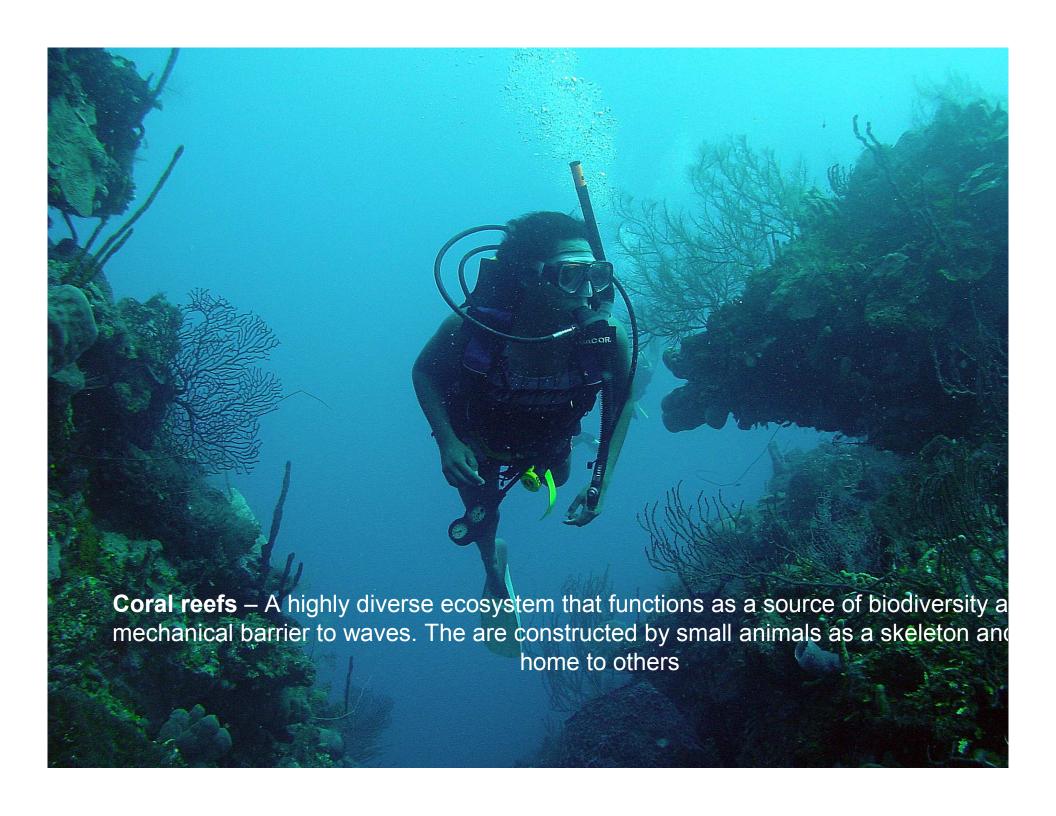
Hurricane impacted fringe of coastal forest at the edge of The Great Morass



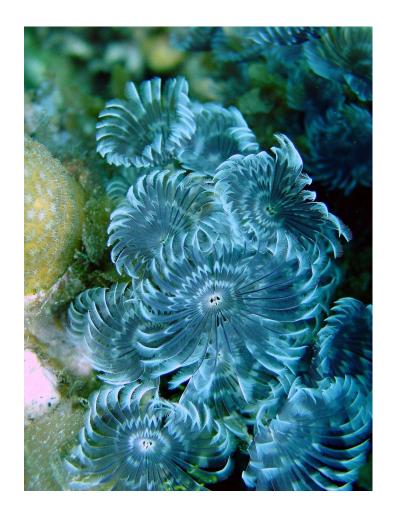




Coral Reef Distribution @QGIS 2008





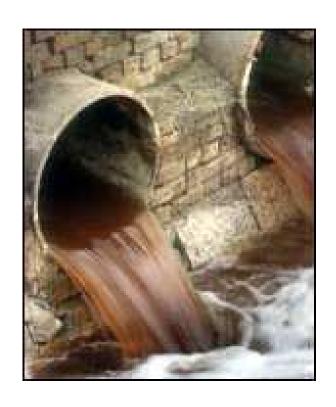


What is Pollution?

Any substance in water, soil, or air that degrade the natural quality of the environment, offend the senses of sight, taste, or smell, or cause a health hazard.

Water Pollution





The Eutrophication of Kingston Harbour is due to pollution fro

Poorly treated/untreated sewag

•Industrial effluents



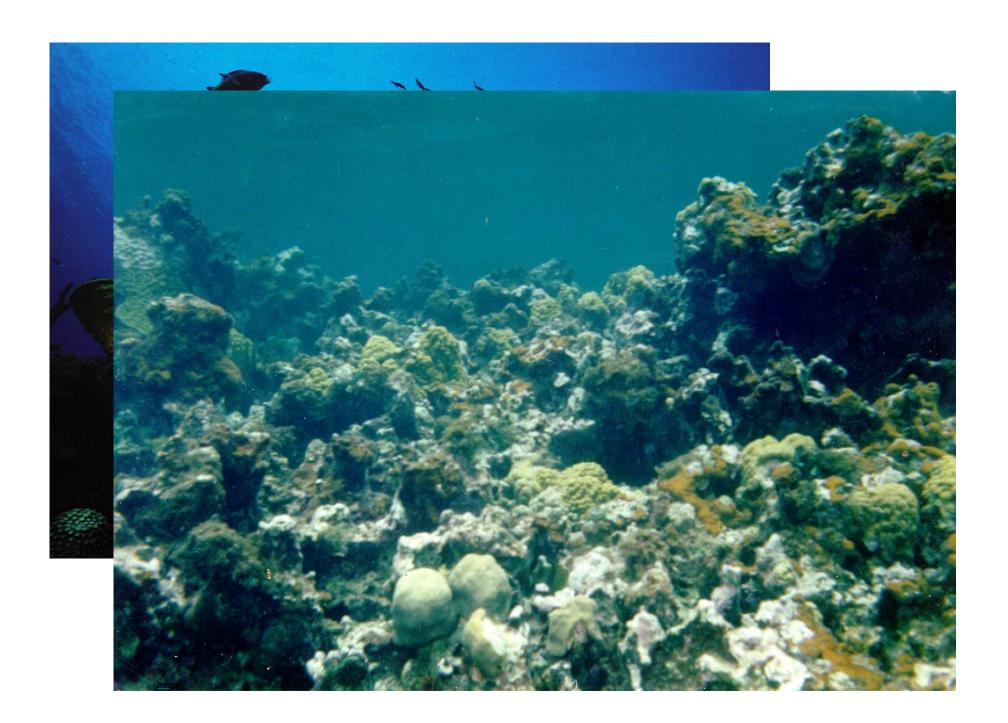


The Eutrophication of Kingston Harbour is due to pollution fro

•Impacts from ship traffic







Air Pollution





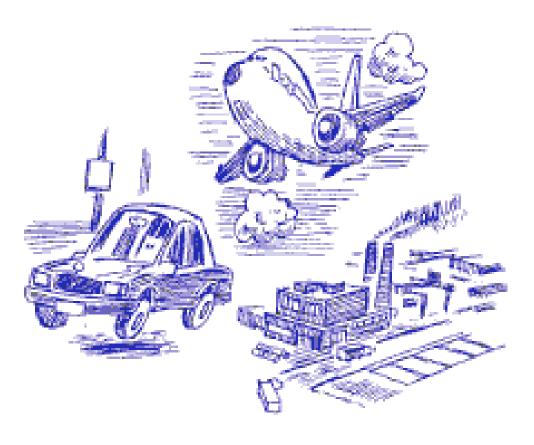


Global Warming



An increase in the average temperature of the earth's atmosphere, especially a sustained increase sufficient to cause climatic change.





Noise Pollution





Solid Waste Pollution

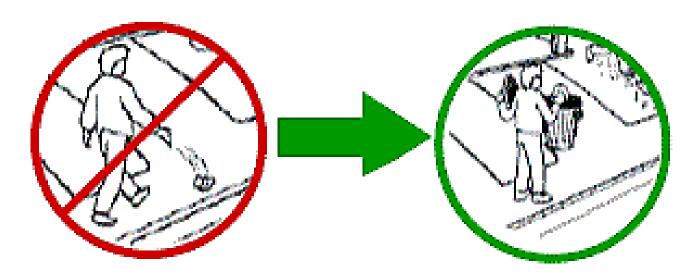


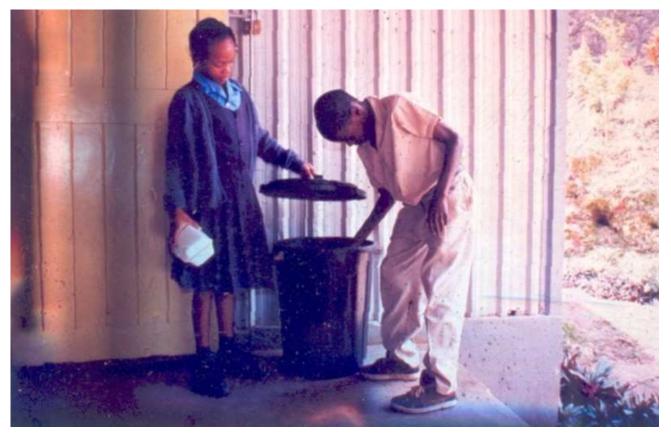


How can YOU help!









RECYCLE





















This crocodile, measuring about 10 feet, was caught yesterday on the playing field of the Greater Portmore Primary School in St Catherine. It was taken to the Hope Zoo in Kingston by Lancelot Thompson, Jermaine Graham and Dwayne, who helped in its capture.

(Photo: Garfield Robinson)

Careers In Environment

There are many opportunities to work in environmentrelated fields. Some jobs include:

- •Artist/ Graphic Designer
- Atmospheric Scientist
- •Computer Programmer
- •Chemist
- •Engineer
- •Forest Ranger





Geologist

- •Internet Designer
- Lawyer
- Meteorologist
- •Oceanographer/ Marine Biologist
- •Politician/Lobbyist
- •Writer

Thank you for your Attention!

