

THREATS TO BIODIVERSITY CONT'D

• GLOBAL CLIMATE CHANGE

It is widely accepted that global temperature is rising. A change in global temperature can affect the breeding cycle as well as other life process of living things. Also living places (habitats) are predicted to change drastically hence becoming unsuitable for some kinds of species.

BIODIVERSITY CONSERVATION IN GUYANA

Guyana has signed the **Convention on Biological Diversity (CBD)**, the most important convention for the conservation of biodiversity. Guyana has also signed other conventions which relate to biodiversity conservation e.g. the Convention to Combat Desertification and the Convention on International Trade in the Endangered Species of Flora and Fauna (CITES).

Steps towards biological conservation:

Guyana has taken a number of steps for the conservation of biodiversity. The more notable ones are:

- Formulation of a National Strategy for the Conservation and Sustainable Use of Biological Diversity.
- Development of a National Biodiversity Action Plan.
- Establishment of a National Biodiversity Advisory Committee for review and approval of proposals for research on Guyana's Biodiversity.
- Passing of the Protected Areas legislation.
- Establishment of a National Protected Areas Commission.
- Passing of Species Regulations.
- Development of draft Wildlife Management and Conservation Regulations.
- Establishment of four National **Protected Areas**.
- Designation of 360,000 hectares of forest (Iwokrama) for **research** in the sustainable use of rainforest forest.

CONSERVATION ORGANIZATIONS IN GUYANA

Ministry of Natural Resources and the Environment:

- Environmental Protection Agency;
- Protected Areas Commission;
- Guyana Forestry Commission; and
- Wildlife Management Authority.

Non-Governmental Organisations (NGOs)

World Wildlife Fund:

- Conservation International;
- Iwokrama International Centre for Rainforest Conservation and Development;
- Guyana Marine Turtles Conservation Society;
- Guyana Amazon Tropical Birds Society; and
- Guyana Mangrove Restoration Project.

Others

- Centre for the study of Biological Diversity; and
- School of Earth and Environmental Sciences, University of Guyana.
- Environmental Clubs of Guyana



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BIODIVERSITY

THE WEB

OF LIFE



WHAT IS BIODIVERSITY?

The term ***biodiversity*** is short for biological diversity and it simply refers to all the different living things in the world and their relationship with each other and their surroundings.

Biodiversity can be discussed at three levels:

- **GENETIC DIVERSITY** - refers to the differences among organisms of the same kind e.g. long grain and short grain rice or Brahman and Holstein cattle.
- **SPECIES DIVERSITY**— refers to the number of different types of living things in a natural area or region e.g. forests have more species diversity than a polluted river.
- **ECOSYSTEM DIVERSITY** - is the variety of ecosystems in a given place. An ecosystem is a community of living things interacting with each other and their surroundings. An ecosystem may cover a large area such a forest or small area such as a pond.

GUYANA'S BIODIVERSITY

Guyana's biodiversity has not been studied widely. A survey carried out in 1992 and an update of the species inventory in 1996 remain the major attempts so far, of assessing our species richness. Guyana's known biodiversity includes:

- Plants— more than 6000 species
- Birds— more than 700 species within the boundaries of Guyana
- Mammals— more than 200 species
- Fishes— more than 700 species
- Reptiles and Amphibians— more than 200 species
- Invertebrates— unknown.

Although much of Guyana's biodiversity is unknown, our natural forest cover of more than 75% is an indicator of great biological wealth.

WHY CONSERVE BIODIVERSITY?

Biological conservation refers to the use of biodiversity in a manner that will result in the support of large enough numbers of species to reproduce and survive. Conservation of biodiversity aims to ensure :

- ♦ The presence of the resource for present, future and potential use.
- ♦ That Earth is kept in a state that continues to support human life.
- ♦ The continued existence of all living species.

IMPORTANCE OF BIODIVERSITY

Biodiversity is important to the life of humans and other living things. In other words, we need biodiversity and biodiversity needs itself. Important uses of biodiversity include:

FOOD — Rice, meat and vegetables are essential to human diet and are all obtained from living things.

CLOTHING — Cotton and linen are important fabrics for the warmer climates and are obtained from plants.

MEDICINE — drugs extracted from our surrounding biodiversity are used to treat major diseases e.g. quinine derived from the Cinchona plant found in Guyana is used to treat malaria.

INSPIRATION — the beauty of nature e.g. the Kaieteur Falls, is a source of inspiration for painters, writers and humankind at large.

JOBS — Almost every job on Earth is linked to biodiversity e.g. agriculturists, food processors, researchers, foresters and many more.

SOME THREATS TO BIODIVERSITY

Despite its importance to life on Earth, biodiversity faces a number of threats. These include:

• HABITAT LOSS AND DESTRUCTION

As more and more land is cleared for housing agriculture, industries etc. Animals and plants lose their homes. Some animals flee to other areas and many perish. Plants that are unique to a particular area may become lost forever.

• POLLUTION

When harmful chemicals such as acid gases, some kinds of pesticides, oil, etc. are released into the environment, they can be toxic or hazardous to biodiversity. Aquatic biodiversity face additional danger from hot industrial waste discharge and from high quantities of fertilisers present in runoff from farms.

• OVER – EXPLOITATION

When biodiversity is harvested too quickly, young plants and animals are not given a chance to grow and mature. This means that few new members are added to a species' population and as a result the species may disappear from Earth. Over-exploitation occurs as a result of poverty, and in many cases, ignorance and poor management of resources.

• INTRODUCTION OF EXOTIC SPECIES

Some new (foreign or exotic) species when introduced into an area can upset the balance of the food chain. This can result in native species perishing as they are unable to compete with the exotic ones for basic necessities such as space, light, shelter, food and mates.

