

Conservation in Bahamian Ecosystems

What is an ecosystem?

An Ecosystem is an environment which is formed from the interaction between communities of living things and their physical environment.

What categories of organisms are found in an ecosystem?

All ecosystems have the following categories organisms:

- (a) Producers
- (b) Consumers
- (c) Decomposers

Bahamian ecosystems and their economic importance

Coral reef - prevents erosion of beach and land since waves break on it;
- many fish captured from reef;
- tourists dive for recreation;
- sponge collected for commercial use;
- habitat for lobsters which bring in revenue;
- highly productive area;
- glass bottom boaters use it for tours for tourists.

Mangrove swamp - protects land behind it since it is a buffer between land and sea
- builds land seawards
- purifies water since plants photosynthesize and add oxygen to water
- nursery ground since commercially important species breed in swamp
- decay of plants and branches of stems to form peat

Rocky shore - protects the land behind it since it is a buffer between land and sea
- habitat for commercially important species
- place for fishing as a hobby
- several species are present which are important parts of food chains
- used in lieu of a dock
- used for picnics where beach is not available

Sandy beach - recreation for tourist
- recreation for natives
- habitat for organisms e.g. crabs
- protects the land behind it thus preventing erosion
- sand on sparsely populated islands is used for construction of buildings --
- small boats launched where ramp or dock is not available

Effects of nature on the ecosystems and their adaptations

ECOSYSTEM	ENVIRONMENTAL PROBLEMS	HOW ORGANISMS OVERCOME PROBLEMS
Coral reef	hurricanes strong wave action	Corals move inside skeleton; worms move into tubes; fish move into crevices; some molluscs attached by holdfast; others by muscular feet; some fish partly bury themselves in sand where available;
	changing salinity;	Some animals osmoregulate eg. one-shelled molluscs; salt are absorbed or excreted; blood concentration becomes the same as the water; some mobile animals move to water where salinity is suitable;
Mangrove Swamp	shortage of livable space	Animals like barnacles and oysters grow quickly on mangrove roots; other animals grow over them; some live in clusters of algae which form microhabitat; snails and crabs move up and down the stems and roots of plants
	oxygen shortage in mud	Crabs build burrows in mud above high tide mark; and move to water to wet gills when necessary; animals live on roots above mud to get periodic wetting
Rocky Shore	strong wave action	Shells hard; shells flat with hold fasts; muscular foot to prevent being dislodged; move to cracks and crevices
	alternate wetting and drying	Holds bubble of water for periods; uses mucus to prevent drying; move under rocks for moisture
	Changing salinity	Osmorogulate; move to suitable salinity in sea water (osmorogulation is the same for animals in coral reef
Sandy Beach	Shifting sand	Donax burrows; crabs burrow also or live under rocks to prevent movement by sand; some worms build hard tubes
	Sand dries out	Some animals live under rocks where it is moist; some bivalves have water in shells when they burrow; some move to wet areas