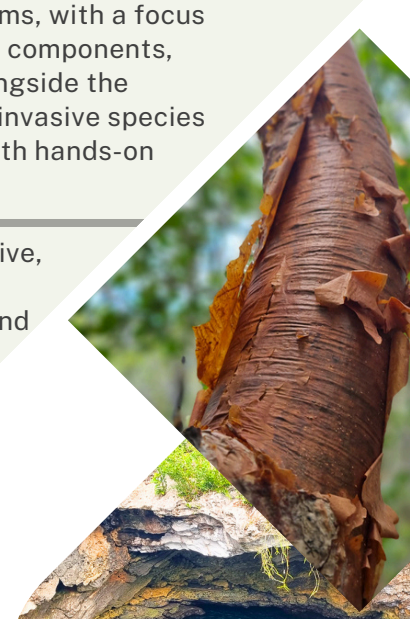
BAHAMIAN TERRESTRIAL WILDLIFE AND ECOSYSTEMS

COURSE OVERVIEW

This twelve (12) week course provides an in-depth exploration of The Bahamas' ecosystems, with a focus on its unique terrestrial environments and wildlife. Participants will study key ecological components, including Bahamian birds, reptiles, amphibians, arthropods, snails, plants, and fungi, alongside the geological factors influencing biodiversity. Participants will also explore the impacts of invasive species and the importance of conservation efforts. The course blends lecture-based learning with hands-on fieldwork, independent research, and case studies.

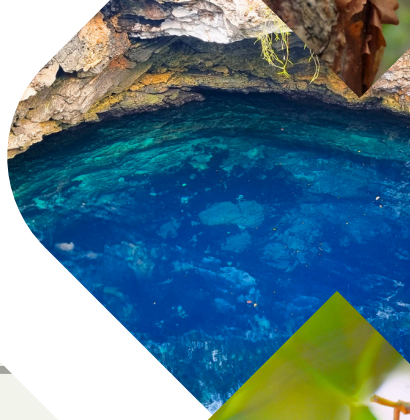
Focus Area: Bahamian terrestrial environments, Bahamian wildlife both endemic and native, Invasive Alien Species (IAS) flora and fauna, Habitat and ecosystem conservation.
Target Audience: Wildlife enthusiasts, students, and professionals in ecology, biology, and conservation.
Format: Virtual lecture, interactive activities, and field observation.



LEARNING OUTCOMES

By the end of the course, participants will:

1. Understand the fundamental components and functioning of Bahamian terrestrial ecosystems.
2. Identify key species of flora and fauna native to The Bahamas.
3. Evaluate the impacts of invasive species on local biodiversity.
4. Conduct field research and apply ecological theories to Bahamian wildlife conservation.
5. Critically analyze ecological issues such as habitat loss, climate change, and species conservation in The Bahamas.



RESOURCES

- The Natural History of The Bahamas and Turks and Caicos.
- Binoculars, spotting scope, snake hook, probing equipment, nets.
- Handouts on conservation strategies and local regulations.
- Scientific papers and case studies

TERMS AND CONDITIONS

- At the end of the course participants are required to have achieved a grade average of 75% and have completed 40 hours of fieldwork in order to pass the course.
- Terms and conditions will apply once participants have enrolled in the course. Please read our **terms and conditions** and **privacy policy** before enrolling into the course.

CONTACT INFORMATION

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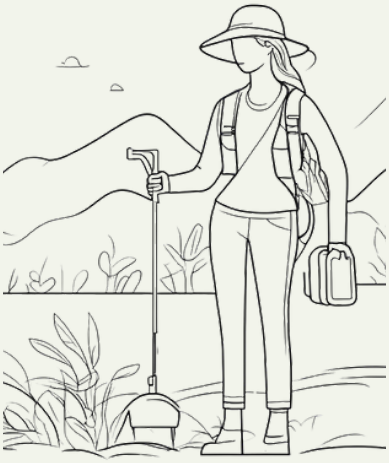
COURSE SCHEDULE



EXAM 1.

PRE-EXAM

- Participants will be tested on their knowledge of Bahamian terrestrial wildlife and ecosystems before the first lecture commences

MODULE 1-BAHAMIAN ECOSYSTEMS AND BIODIVERSITY

WEEK 1.

INTRODUCTION TO BAHAMIAN ECOSYSTEMS AND THEIR ROLE IN BIODIVERSITY

LECTURE:

- Geography and biogeography of The Bahamas: Islands, climate, and habitats.
- Overview of Bahamian terrestrial ecosystems: Pine forests, coastal zones, mangroves, and the Bahamian dry (Coppice) forest.
- Ecological principles of island biogeography and species endemism.
- Importance of conservation areas: National Parks and Marine Protected Areas (MPAs).

FIELD WORK:

- Mapping the local ecosystems in a nearby nature reserve or protected area.

MODULE 2-INVERTEBRATES IN THE BAHAMAS

WEEK 2.

SNAILS IN THE BAHAMAS

LECTURE:

- The role of snails as detritivores and their relationship with plants and animals.
- Overview of malacomorpha diversity in The Bahamas (e.g., snails in mangroves, forests, and gardens).
- The importance of snails in plant health and ecosystem stability.
- Threats to Bahamian snails.

FIELD WORK:

- Study of snail species in Bahamian forests or residential areas .

WEEK 3.

BAHAMIAN ARTHROPODS

LECTURE:

- Overview of arthropods in The Bahamas: Insects, crustaceans, arachnids, and myriapods.
- Ecological roles: Herbivores, pollinators, decomposers, and predators.
- Endemic arthropods of The Bahamas: Bahamian Cicada, Bahamian Tarantula, Bahamian Stick Insect, and others.
- Invasive arthropods: Their impact on native ecosystems.

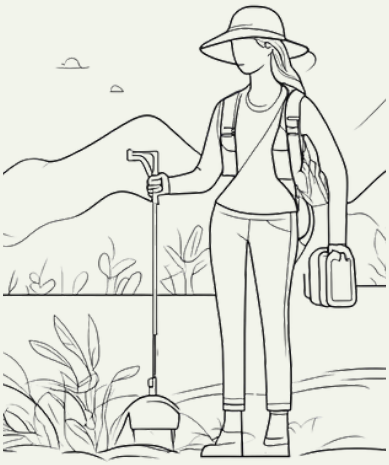
CLASS ACTIVITY:

- Group presentation on the ecological roles of a selected arthropod species.

ASSESSMENT 1.

ASSESSMENT-MODULE 1 & 2

- Participants will be tested on the information learnt from Module 1 and 2



MODULE 3-BAHAMIAN FAUNA EXPLORATION

WEEK 4.

FUNGAL ECOLOGY AND SYMBIOTIC RELATIONSHIPS IN THE BAHAMAS.

LECTURE:

- The role of fungi as decomposers and their relationship with plants and animals.
- Overview of fungal diversity in The Bahamas (e.g., fungi in forests, and soils).
- The importance of mycorrhizal fungi in plant health and ecosystem stability.
- Fungal diseases affecting local flora and fauna.

FIELD WORK:

- Study of fungal species in Bahamian forests.

WEEK 5.

AVIAN DIVERSITY AND ECOLOGY IN THE BAHAMAS

LECTURE:

- Overview of Bahamian bird species: Endemic, migratory, and resident species.
- Avian Biogeography.
- Key species: A look at the Bahama Parrot, Bahama Oriole, Kirtland's Warbler, and Piping Plover.
- The role of birds in ecosystem services such as pollination and seed dispersal.

CLASS ACTIVITY:

- Students select a Bahamian bird species to research and present.

FIELD WORK:

- Bird watching and identification in forest area.

WEEK 6.

REPTILIAN BIODIVERSITY AND CONSERVATION IN THE BAHAMAS.

LECTURE:

- Overview of Bahamian reptiles: Turtles, lizards, snakes.
- The impact of invasive species (e.g., Feral cats, Raccoons) on native reptile populations.
- Anoles: Key players in Evolutionary Biology
- Reptile conservation in The Bahamas. Bahamian Boas and Bahamian Rock Iguanas

CLASS ACTIVITY:

- Study reptile behavior and adaptation to island environments.

FIELD WORK:

- Field study of native reptile populations.

WEEK 7.

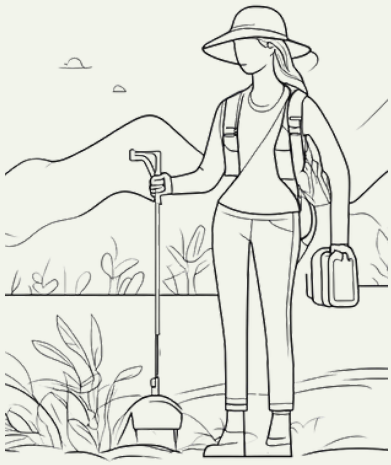
AMPHIBIAN ECOLOGY IN THE BAHAMAS.

LECTURE:

- Overview of Bahamian amphibian species: Hyalids and Eleutherodactylus
- Ecological roles of amphibians in wetland ecosystems.
- Endemic amphibian species in The Bahamas.
- The impact of environmental changes (e.g., habitat destruction, pollution) on amphibians.

FIELD WORK:

- Observation of amphibians in wetland areas.



MODULE 4-FLORA OF THE BAHAMAS

WEEK 8.

PLANT DIVERSITY AND CONSERVATION IN THE BAHAMAS.

LECTURE:

- Overview of Bahamian flora: Endemic plants, species diversity, and plant adaptations.
- Conservation issues and protected plants.
- Important plant species: Lignum Vitae, Caribbean Pine, Gum Elemi, Fig, Pigeon Plum, Poisonwood and others.
- Role of plants in ecosystem services.

FIELD WORK:

- Visit to a National Park and pineland to observe native plants.
- Plant identification, medicinal and poisonous plants.

ASSESSMENT 2.

ASSESSMENT-MODULE 3&4

- Peer review of bird-guiding role-play.
- Participants will be tested on the information learnt from Module 3 and 4

MODULE 5-GEOLOGY OF THE LUCAYAN ARCHIPELAGO

WEEK 9.

GEOLOGICAL PROCESSES SHAPING BAHAMIAN ECOSYSTEMS.

LECTURE:

- Geological history of The Bahamas: Formation, limestone, karsts, and blue holes.
- The relationship between geology and biodiversity.
- Environmental disturbances and its effect on Geology.
- The significance of Blue Holes and caves in local biodiversity.
- The implications of climate change for Bahamian geology.

FIELD WORK:

- Visit to a blue hole, cave or any limestone formation.

MODULE 6-INTRODUCTION TO INVASIVE ALIEN SPECIES IN THE BAHAMAS

INVASIVE SPECIES BIOLOGY AND MANAGEMENT IN THE BAHAMAS.

WEEK 10.

LECTURE:
- Overview of invasive species: Feral cat, Raccoon, Green iguanas, Shiny cowbirds, Cane toads, rats, plants.
- Management and control efforts: Eradication programs, biological control, and restoration ecology.
- Case study: The impact of the feral cat on Bahamian wildlife.

CLASS ACTIVITY:
- Research: Case study on an invasive species and its management (Allan's Cay rat eradication).

FIELD WORK:
- IAS search, observation and possible removal.

ASSESSMENT 3.

ASSESSMENT-MODULE 5 & 6

- Participants will be tested on the information learnt from Module 5 and 6.

FINAL EXAM

FINAL EXAM

ASSESSMENT:
- Participants will be tested on the information learnt from Module 1 through 6.

FIELD PRACTICAL:
- National Park research and data collection.

REVISION AND CLOSING

Certificate Presentation: Acknowledge participants for their commitment to learning about Bahamian wildlife.

Thank you for your participation!