



Live Broadcast: Dive into the life of the Sister Islands Rock Iguana



11th March 2020



1:45pm UTC-5



Age 7-11

Module Summary

This module is not an underwater dive, but a “dive” into the intriguing world of the Sister Islands Rock Iguanas (SIRIs) also known to scientists as *Cyclura nubila caymanensis*. Students will be educated on these endemic Rock Iguanas and are encouraged to ask questions to our CCMI Educator and Host in real time. Students will be given an in-class activity sheet to complete during the live lesson to better assist them with the understanding of our learning objectives. Students will be taught about the SIRI’s, where they are found, what makes them so important to us, what threats they are facing, and how each of us can help ensure their abundant future in Cayman.

Learning Objectives

- Describe a Sister Islands Rock Iguana (SIRI)
- Understand the ecology and life cycle of a SIRI
- Explain why SIRIs are an important part of the Little Cayman and Cayman Brac ecosystem
- Recognise the threats facing the SIRI population and describe how we can reduce them

Cayman Islands Science National Curriculum Alignment: Key Stage 2

- Recognise that environments can change and that this can sometimes pose dangers to living things (Year 4)
- Recognise that living things can be grouped in a variety of ways (Year 4)
- Describe the life process of reproduction in some plants and animals (Year 5)
- Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals (Year 6)

Materials

Pre

- Broadcast link
- CCMI pre-questionnaire (one per student)
- CCMI broadcast lesson plan
- CCMI fun facts sheet

During

- Internet connection
- Laptop
- Projector
- Speakers
- CCMI activity sheet (one per student)
- Pencils/pens

Post

- CCMI post-questionnaire (one per student)

*Please send your questionnaires to education@reefresearch.org

Live broadcast outline (40 mins)

00:00 - 03:00	CCMI host welcomes students and outlines the lesson
03:00 - 10:00	CCMI educator describes SIRI and their ecology
10:00 - 15:00	CCMI educator describes why SIRIs are important
15:00 - 20:00	Questions
20:00 - 25:00	CCMI educator explains threats to the SIRI population
25:00 - 30:00	Questions
30:00 - 35:00	CCMI educator describes how we can keep SIRI populations healthy
35:00 - 38:00	Questions
38:00 - 40:00	CCMI educator recaps the live dive learning objectives and concludes the lesson

Vocabulary List

Sister Islands Rock Iguana Reptile	A critically endangered species of iguana that is only found on Little Cayman and Cayman Brac An animal that produces eggs and uses the heat of the sun to keep its blood warm
Invasive Species	Organisms that are not native to an area or ecosystem but have been introduced; it often spreads rapidly in a new area and outcompetes native species
Food Web	Representation to show how energy moves from producers to consumers in an ecosystem while also showing how these interactions between organisms in an ecosystem can be multi-faceted
Endangered Competition	In great danger or at risk of becoming extinct When living organisms need the same limited resource to survive in a shared environment
Habitat Endemic	Part of the environment occupied by an animal or plant Native to and only found in a limited region

Further Information on Learning Objectives

1) Describe a Sister Islands Rock Iguana (SIRI)

Sister Island Rock Iguanas (SIRI) are endemic to Little Cayman and Cayman Brac. SIRIs are large iguanas that can grow to more than 20 pounds in weight. They vary in colour from almost black to grey or brown, with highlights of orange, cream and sometimes a little blue. All individuals have black front feet as they are part of the rock iguana genus. Males and females can be distinguished from one another by the presence of large muscular jowls on the males, larger body size in males and different body proportions.



2) Understand the ecology and life cycle of a SIRI

SIRIs require habitats that provide a food source, basking areas, retreats and nesting sites. On Little Cayman, these requirements are met in a variety of coastal and interior habitations. Hence, SIRIs are widely dispersed on the island. SIRIs are herbivorous, and their diet primarily consists of grass, leaves, flowers and fruits. However, they occasionally scavenge on animal carcasses or prey on slow-moving insects. Mating occurs through April-June and coincides with the end of the dry season when temperatures are increasing. Females lay a single clutch of 7-25 eggs annually and the nesting season lasts around 6 weeks between May and August. Hatchlings emerge from August to October after an incubation averaging 72 days. Sexual maturity generally occurs at 3.5 years. The maximum age of this species is unknown.

3) Explain why SIRIs are an important part of the Little Cayman ecosystem

SIRIs are the dominant seed dispersers on Little Cayman and are critically important to maintaining plant biodiversity. Without adequate seed dispersion, seeds will be deposited very close to the parent plant. They will, therefore, compete with the parent plant for resources such as nutrients, water and sunlight. If this occurs, the abundance of plant species can be reduced, which will reduce the biodiversity of a habitat and have many negative impacts.

4) Recognise the threats facing the SIRI population and describe how we can reduce them

The key threats facing the SIRI population are habitat destruction, roadkill and feral cats and dogs. Habitat destruction has led to a reduction in burrow and nesting areas, reducing nesting success. Increasing traffic also poses a significant threat and led to over 40 deaths in 2019, despite speed limits being in place to protect the population. An increasing number of feral animals on both Cayman Brac and Little Caymans has resulted in a significant reduction in hatchling survival rate. Invasive green iguanas compete with the SIRI population for resources and nesting sites, hybridization and disease transmission causing further decline. To reduce these threats several measures can be undertaken: 1) Undertake responsible property development, 2) be responsible with pets, 3) be careful when driving and observe speed limits and, 4) report any sightings of green iguanas to the Department of Environment the volunteer initiative Green Go on Cayman Brac and Green Iguana B'Gonna as part of the Little Cayman National Trust on Little Cayman (Iguana Hotline: +1 (345) 925 7625).

Useful resources

- www.reefresearch.org/reefs-go-live
- www.doe.ky
- www.education.gov.ky/education/curriculum
- <https://iguanafoundation.org/>
- <https://www.iucnredlist.org/species/6043/3100030>