# REEF RESCUE: DIVING DEEP INTO THE DOCUMENTARY

## Time

Approximately 90-120 minutes. Can be divided over numerous learning blocks.

## Overview

This guide is designed to be used with *Reef Rescue*, a Canada/France co-production by Merit Motion Pictures, Capa Presse/Films à Cinq, and ARTE France, in association with Vulcan Productions and CBC's *The Nature of Things*. It can be screened on CBC Gem*. This documentary explores the biodiversity of coral reefs and their necessity not only to marine life but to all life on Earth, including humans. Coral reefs are disappearing at an alarming rate worldwide due to rising water temperatures. It is a race against time to save these coral reefs before they disappear. *Reef Rescue* takes the viewer to different reef locations around the world where scientists are trying new and innovative ways to save coral reefs.

Why should we care? What are scientists doing and is it helping? How are we connected to coral reefs? Use this guide along with the documentary to spark a discussion with your class about coral reefs, new approaches to preserving biodiversity, and how climate change is impacting our oceans. This guide splits the documentary up into "chapters." You can stop the documentary after each chapter and use the discussion questions and activities to deepen your students' understanding of coral reefs and the issues presented in the documentary.

**Reef Rescue* can be screened on CBC Gem until January 2025. After that date, please contact info@cangeoeducation.ca for access.

## Documentary Discussion

**Before you watch:**
Engage students in a discussion about coral reefs to gauge students' knowledge and experiences with reefs and ask them why they think coral reefs are important. Explain to students that coral reefs are critical to the health of oceans, playing an important part in the nurturing and development of marine life.

Sorting Activity: Divide students up into small groups and give each group six random Species cards. Ask students to divide the cards into two groups: those that rely on coral reefs and those that do not. Have a discussion about why students placed cards in certain groups and why there might be differing opinions among students (for example, some bird species might rely on fish as a food source and others may not). Ask them to remember their choices while watching the documentary.

Ask students to think about the following questions as they watch the documentary:

- How are humans connected to coral reefs?
- What would happen if coral reefs disappeared?
- How and why is reef conservation a worldwide collaboration?

**Chapter 1 (0:00-13:53) - The reality: What is happening to the world's reefs**

- What are your thoughts after looking at the 2014 and 2016 images of the reef?
- What impact do you think this had on animals and people?
- What is causing the global loss of reefs?
- Why are coral reefs important?
- What is coral: animal, plant, or mineral?
- What mystery did Julia Baum discover?
- Why do you think that some coral can survive bleaching while others cannot?

**Chapter 2 (13:54-23:35) - Assisted Evolution: A new hope?**

- What is assisted evolution?
- Why should seeking solutions be an international effort and what could hinder these efforts?
- Why is adaptation an important area to explore to save coral?
- How is assisted evolution being carried out with coral?
- Have you seen an approach like this before?
- Why are algae essential for coral?

Activity: In pairs or small groups, discuss how assisted evolution could be used to help another species at risk of extinction. How could assisted evolution connect with the study of biology? How might biologists in different areas (including human biology) use this approach?

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## Subject/Topic

Social studies, science, climate change, coral reefs

## Grade Level

Grades 7-12

**Chapter 3 (23:36-30:00) - Creating heat resistant coral**

- Where is the Great Barrier Reef located and what is it?
- How has it been impacted by climate change?
- What is the Australian Institute of Marine Science doing to help preserve reefs?
- How is Madeleine van Oppen hoping to help the coral?
- What are the risks of this endeavour?

Activity: In pairs or small groups, discuss how losing the Great Barrier Reef could impact Canadians (if at all).

**Chapter 4 (30:01-37:24) - Can coral recover?**

- What is Andrew Baker studying in the hopes of saving coral reefs?
- How are coral reefs essential to humans?

Activity: Create a food web involving one of the coral reefs presented in the film. Are humans included in this food web?

**Chapter 5 (37:25 - 44:07) - "The urgency cannot be overstated."**

- Why is it so urgent to help coral reefs adapt and survive?

**Post Documentary**

- What is your reaction to the documentary?
- Were you aware that this type of loss was occurring?
- If we lose coral, what would the Earth look like?
- Which of the approaches presented do you think holds the most promise for the future? Why?

Activity: As a class or in small groups, brainstorm all the ways individuals are contributing, directly or indirectly, to coral bleaching. Explain to students that although we have names for the various ocean basins, such as the Atlantic and Pacific, there is actually only one connected global ocean. What happens in one area of the ocean is not isolated and has an impact thousands of miles away. Then, discuss immediate actions students can take to help reduce individual and global impacts. Have students create a pledge of one action they will dedicate themselves to for one week.

Activity: Using the Map Template, locate and draw the reefs discussed in the documentary. Discuss the unique situation of each of the reefs, taking into consideration the geography, population, culture, politics and economy of each area.

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## SPECIES CARDS

HUMAN

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## SPECIES CARDS

FISH

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## SPECIES CARDS

LOBSTER

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## SPECIES CARDS

TURTLE

## SPECIES CARDS

KANGAROO

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## SPECIES CARDS

BEAVER

## SPECIES CARDS

FROG

# REEF RESCUE: DIVING DEEP INTO THE DOCUMENTARY

## SPECIES CARDS

SHARK

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## SPECIES CARDS

SEAWEED

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## SPECIES CARDS

ELEPHANT

## SPECIES CARDS

BIRD

## SPECIES CARDS


DOLPHIN

## SPECIES CARDS

SQUIRREL

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## SPECIES CARDS

POLAR BEAR

## SPECIES CARDS

OSTRICH

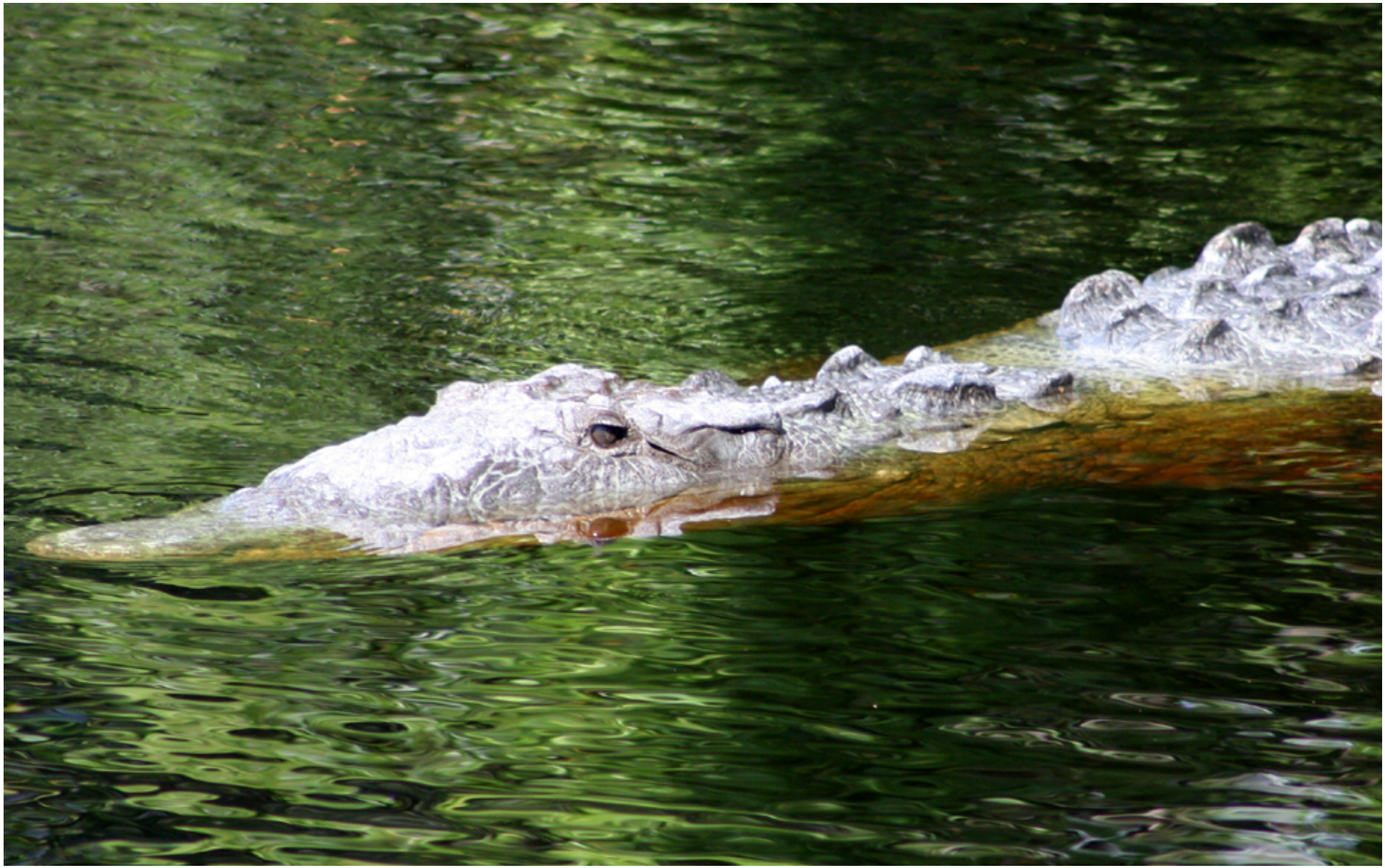
## SPECIES CARDS

WHALE

## SPECIES CARDS

CATERPILLAR

## SPECIES CARDS



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## MAP TEMPLATE