

# Invasive Species and Biodiversity

Indigenous Partnerships as a Solution



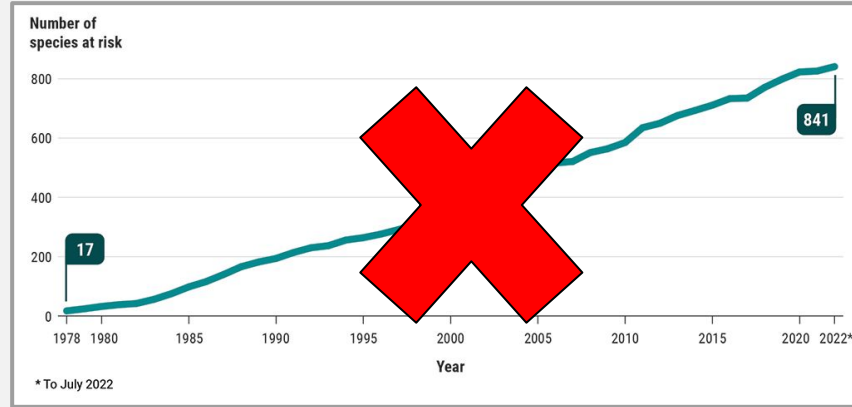
# Biodiversity

- The variety of living species that is found in an area.
- This includes animals, plants, bacteria and fungi.



# Conservation

- **Reducing** or **eliminating** the adverse impacts of human activity on biodiversity
- Basically, minimizing the loss of biodiversity





# 01

## Case Study

Night Birds Returning - Gwaii Haanas



# Invasive Species

- An organism that is not native to a specific area
- I.e. the organism was brought to the area and was not originally there



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# Discussion Questions

- What was the problem presented in the video?
  - How do you think these invasive species got into Canada?
  - What other problems do you think invasive species present to an ecosystem?
  - How do you think conservation can prevent the loss of biodiversity?
  - How do you think a partnership with an Indigenous community can promote conservation?
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**02**

**Biodiversity**





# Extinction

- The disappearance of every member from a species **from the planet**
- About 99% of every species that ever existed is extinct
- The rate at which species are becoming extinct is increasing
- Extinctions can be mass extinctions or slowly over a period of time



# Extirpation

- The disappearance of every member from a species from a local area
- Ex. The swift fox was once common in Alberta, but has been extirpated from all of Canada
- Can be due to a loss of habitat, loss of food and other human factors



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# Natural Causes of Extinction and Extirpation

- The cause of most extinctions in the past
  - Catastrophic events such as volcanic eruptions, meteors, floods and fires
  - Lack of food due to overpopulation or competition
  - Disease
  - **Overspecialization:**
    - A species becomes so specialized to a specific environment that any slight changes to an environment may cause extinction
    - Ex. Pandas only eat bamboo so if all bamboo were to be removed from their environment, the pandas would become extinct
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# Human Causes of Extinction and Extirpation

- The cause of most extinctions and extirpations today
  - Often through doing activities that humans need to survive
  - **Habitat destruction**
    - Through construction, clearing of land, pollution, etc.
  - **Introduction of non-native/invasive species**
    - Can be animals or plants
    - Usually carried by migrating humans
    - Can cause the number of native species to decline through competition for food and land or disease
  - **Over-Hunting**
  - **Over-Harvesting**
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# Effects of Extinction and Extirpation

- Reduction of biodiversity
  - This can affect not just the extirpated/extinct species, but those who interact with them
- Changes in habitats/ ecosystems
- What other effects can you think of?

**Biology**

# **HUMAN IMPACTS ON BIODIVERSITY**





# 03

## Indigenous Partnership in Conservation



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# Why are Indigenous Partnerships Important for Conservation?

- **Indigenous Peoples are considered stewards of the land**
    - The land is sacred to them
    - They respect all aspects of the environment and ensure all use of the land considers the effect on all aspects of the environment
    - They have tended to the land for many years and they have deep rooted knowledge about what an ecosystem needs to be in balance
  - **Liaising with Indigenous Peoples about the land can help reconcile for the negative impacts of colonialism on their land and being**
    - Conservation has traditionally been associated with forced removal of Indigenous Peoples from their land
    - Therefore, liaising builds trust, supports self-determination and allows Indigenous Peoples to reconnect with the land.
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# Indigenous Peoples and the Land



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# Your Task

1. Pick **2** of the assigned Case Studies
  2. Use other sources to complete research on the two studies that you have picked.
  3. Answer the questions on your graphic organizer using thought and detail
    - a. What is the issue? How are Humans Involved?
    - b. How was biodiversity impacted?
    - c. How was the problem solved or minimized?
    - d. Were Indigenous People included and was the result of the inclusion?
      - i. If no Indigenous People were included, hypothesize what would occur if they were included.
  4. Consider the question: “**Why is Indigenous Partnership important to conservation efforts and minimizing the loss of biodiversity?**” in your answers.
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