

# Return of the Wolves: Isle Royale National Park

## “Lessons from the Wilderness”

### Teacher Notes (MSSCI\_1)

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6-8<sup>th</sup> Grade Middle School Science

Film to be used: Return of the Wolves broken into three segments linked to lesson plans.

[Download Full Video](#) | [Download Part 1](#) | [Download Part 2](#) | [Download Part 3](#)

Film Viewing Guide: This document has teachers’ notes on viewing guide. Before starting into the lesson plans read this document and prepare Student viewing worksheets for students:

[MSSCI\\_1\\_ROW\\_Student\\_Viewing\\_Guide](#).

Additional Materials: Worksheets listed as SCIMS (Middle school Science) \_ #: there are embedded links in each document to help you, as the teacher, or as part of the lesson plan to help students. In addition, there are the three lesson plans one for each film segment.

This viewing guide is intended to be used before, during, and after each of the three sections of the video. The prompts are designed to help students interact with the information in the video to meet these [Next Generation Science Standards \(MSSCI\\_2\)](#) performance expectations:

[MS-LS2-1 Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.](#)

[MS-LS2-4 Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.](#)

[MS-LS2-5 Evaluate competing design solutions for maintaining biodiversity and ecosystem services.](#)

A student glossary ([MSSCI\\_4\\_Glossary](#)) and list of sources/resources for teachers ([MSSCI\\_5\\_Sources\\_and\\_Resources](#)) are provided.

Optional lessons with three-dimensional activities are provided to follow each of the three sections of the video.

- [MSSCI\\_1\\_ROW\\_Lesson\\_1\\_Teacher](#)
- [MSSCI\\_2\\_ROW\\_Lesson\\_2\\_Teacher](#)
- [MSSCI\\_3\\_ROW\\_Lesson\\_3\\_Teacher](#)

Guidance, support, and suggestions for implementing this student viewing guide:

### Part 1

1. Before starting the video, give students the viewing guide. Show the first 1:54 of the video and stop when the title appears. Ask students to complete the See, Think, Wonder visible thinking organizer.
2. Before starting the rest of Part 1 of the video, organize students into groups of four (table groups or other.) In each group, one student should be responsible for taking notes on one of the parts of the Isle Royale ecosystem: abiotic, moose, beaver, and wolves. You may need to help students define “abiotic” parts of the ecosystem first.
3. After viewing Part 1, students work in their groups to share what they recorded for their ecosystem component with others in their group, using a [Jigsaw](#) approach.
4. Conduct a whole class discussion to come to consensus on the important points for the parts that the abiotic factors, the moose, the wolves, and beaver play in the Isle Royale ecosystem. Help students describe a food chain that involves plants, beaver and moose, and wolves, and the transfer of energy from the sun through the other organisms to the wolves.
5. Ask students to describe the decision the National Parks System had to make regarding the wolf population. What did they decide? Do you agree with their decision? What questions do you still have about their decision?

### Part 2

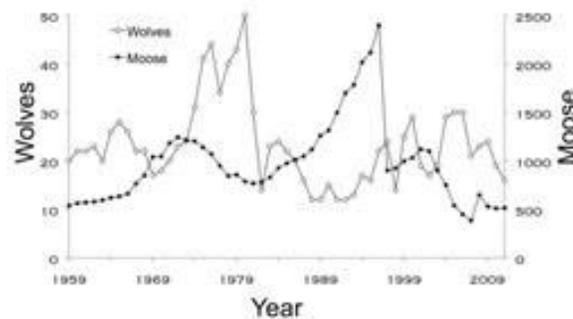
1. Before watching Part 2, ask students to predict answers to the three questions in the table, and to add one question and predicted answer of their own choice.
2. Students record their own answers to all four questions as they watch the video.
3. Following Part 2 of the video, students should meet with two or three other students to compare answers and add to or revise their own answers. This can be accomplished using Clock Buddies or similar routine.

Clock Buddies Description: This strategy is used for quick partner work. Students get a copy of a clock (with hours 1-12 on it). Students set up appointments with their classmates for three specified times, writing their appointment’s name next to the time on their clock face. Students need to make sure that they are writing each other down at the same time (for example if Walt and Shelley want to set up an appointment for 2 o’clock, Shelley writes her name on Walt’s 2:00 space, and Walt writes his name on Shelley’s 2:00 space.)

Students are then directed to meet with their first appointment, where they compare notes. Several minutes later, when the teacher asks them to switch, they meet with their

second appointment, and so on. The teacher decides how many switches are beneficial - usually two or three.

4. Conduct a whole class discussion to come to consensus about the importance of wolves as an apex predator, and about the research methods employed to count wolves and moose.
5. Ask students to describe what they heard in the video about the pattern or cycle of wolf/moose population changes. Consider showing them a graph similar to this one from the [Wolves and Moose of Isle Royale website](#), and ask for their observations regarding the pattern.
6. Maps for project are found in [MSSCI\\_6\\_Isle\\_Royale\\_Park\\_Map](#).



### Part 3

1. In this final section, students will collect evidence regarding the decision of the National Park Service to relocate wolves to Isle Royale in 2019. The evidence will be used in Lesson 3 to complete a Claim, Evidence, Reasoning statement. Students should attempt to list evidence in each of the eight question boxes for this section while watching the video.
  - You may consider showing this section of the video twice for students to get all the information they need.
  - You may alternatively allow students to complete this section and the CER with a partner, which will relieve the responsibility of gathering every piece of information accurately on their own.
  - A third option is to hold a whole-class discussion around the eight question boxes after watching the video, to allow students to gather information they may have missed.
2. After students have watched the video and completed the student guide, ask them to “vote with their feet.”
  - Designate one area of the classroom as the place for students who agree the NPS did the right thing in introducing new wolves to Isle Royale.
  - Designate another area for those who disagree with the NPS decision.
  - Designate a third area for students who are still not sure or would like more information.

- Ask students to move to the area that represents their opinion.
3. When students have “voted,” ask them a series of questions designed to help them identify supporting evidence for their position. They may use their viewing guides as reference notes.