

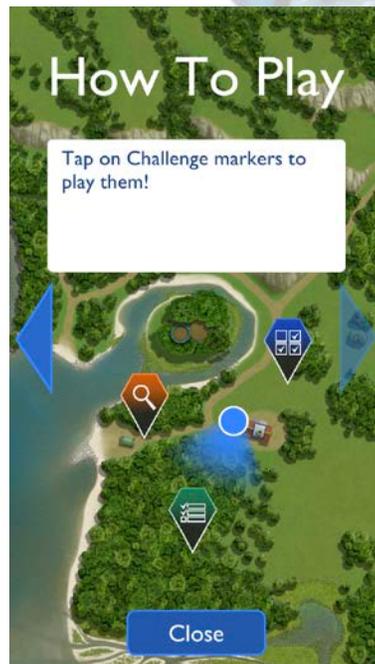
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| Topic/Lesson: | Sea-Run, Go! Wild Atlantic Salmon |
| Subject: | Atlantic salmon restoration and recovery |
| Authors: | Jolvan Morris, Sarah Bailey, and Jean Higgins |
| Overview: | In this lesson students will use the Agents of Discovery™ app on their mobile devices to learn about the wild Atlantic salmon. Students will complete challenge activities within the Sea-Run, Go! Mission which were developed to increase general knowledge of wild Atlantic salmon; promote understanding the species' conservation and recovery needs; and to encourage environmental stewardship. |
| Objectives: | <p>Students will be able to:</p> <ul style="list-style-type: none"> • Demonstrate their knowledge of wild Atlantic salmon migration patterns as well as their motivation to do so • Identify potential risk factors that wild Atlantic salmon face during migration • Relate wild Atlantic salmon to other sea-run fishes • Differentiate between farm-raised and wild populations of Atlantic salmon • Understand food webs and how migratory fish help to keep rivers healthy by bringing nutrients from oceans to rivers and forests • Identify basic adaptations and life cycle stages of wild Atlantic salmon • Identify how species and their habitats are classified under the Endangered Species Act • Understand that humans can help wild Atlantic salmon by keeping rivers and oceans clean and healthy • Recognize wild Atlantic salmon as a NOAA species in the Spotlight • Recognize 2019 as the International Year of the Salmon |
| Background Knowledge: | <p>Wild Atlantic salmon are one of eight NOAA Fisheries' Species in the Spotlight, which is an initiative to spotlight and save those species at the greatest risk of extinction. Almost 500,000 wild Atlantic salmon once lived in the rivers and ocean from New York to the Canadian border. Due to a variety of anthropogenic threats to this species and their habitats, wild Atlantic salmon are now an endangered species with fewer than 1,000 animals returning to just a few remaining rivers in Maine each year.</p> <p>The Sea-Run Go! Mission coincides with the Greater Atlantic Regional Office of</p> |

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| | <p>NOAA Fisheries’ contribution to the International Year of the Salmon (IYS) in 2019. IYS is a celebration of salmon to promote, restoration, recovery and research. Sea-Run, Go! is a technology-based educational tool that encourages students to learn, explore, act, protect, and share (L.E.A.P.S) and become an active participant in endangered species conservation.</p> |
| <p>Materials:</p> | <ul style="list-style-type: none"> • wild Atlantic salmon/IYS presentation with script • Personal or school-issued mobile devices • Printed Sea-Run, Go! QR codes |
| <p>Vocabulary:</p> | <ul style="list-style-type: none"> • Adult salmon • Alevin • Camouflage • Conservation • Consumer • Dam • Endangered species • Fish-friendly river • Fry • Habitat • Migrate • Predator • Recover • Redds • Restoration • Smolt  |
| <p>Procedures:</p> | <p>Before students arrive:</p> <ol style="list-style-type: none"> 1) Print and cut out Sea-Run, Go! QR cards. 2) Display cards at various locations around the classroom or venue. <p>Day of Activity:</p> <ol style="list-style-type: none"> 1) Begin class by having students use their mobile device to download Agents of Discovery™, a free mobile app available through Apple App™ Store and Google Play™ Store. (Note: Having students download the app prior to coming to class is an effective time-saving strategy.)    |

- 2) After a presentation on wild Atlantic salmon (or a discussion to activate prior background knowledge of the species and related issues), have students download the **Sea-Run, Go!** mission in the Agents of Discovery™ app.
- 3) Instruct students to begin the game by selecting the **“Play”** option.



- 4) Students will then see the **“How to Play”** screen with instructions on how to play the game by tapping on Challenge markers. Students should then tap the **“Close”** button to access the next screen.
- 5) Students will be welcomed by Agent IYS Sammy.



- 6) Students will rotate through a series of eleven “Challenge” activities that can be unlocked using the QR codes that are displayed around the room. Solving Challenges earns players “USBees,” the game’s currency and point system.



AR Catch
Interact with virtual objects in an Augmented Reality environment.



AR Scavenger Hunt
Search for virtual items strategically placed in a mixed reality environment.



Color Picker
You are the artist. Color in the object.



Detective
Fill in the blank [Image clue available].



Image 50/50
Choose the correct image. You have a 50/50 shot.



Image Checklist
Choose **ALL** the correct images.



Player Response
Answer by writing or collecting data.



Player Response
Answer by taking photos.



Sound Matcher
Match the correct image to the correct sound.



Text 50/50
Choose the correct phrase or word. You have a 50/50 shot.



Text Checklist
Choose **ALL** the correct text-based answers.

- 7) Students will need to zoom out in order to see Challenge makers on the custom map.



- 8) Hint: The “How you can help” AR catch challenge can be difficult for some players. In order to successfully complete the challenge, instruct students to walk towards the bottles and position them near the bottom of the screen. Students can then use one finger to swipe up and throw their glove at the floating bottles to collect them.



- 9) Once students complete all of the challenges, they’ll be rewarded with the **L.E.A.P.S** award.



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| <p>Accommodation/ Modifications:</p> | <ul style="list-style-type: none"> • Peer partnering • School-issued tablets |
| <p>Resources:</p> | <p>NOAA Fisheries Webpage: https://www.fisheries.noaa.gov/species/atlantic-salmon-protected</p> <p>Year of the Salmon Video: http://www.nasco.int/iys_video.html</p> |

Sea-Run Go! QR Code Cards



Adaptations



Atlantic Salmon's Story



Conserve, Restore, Recover

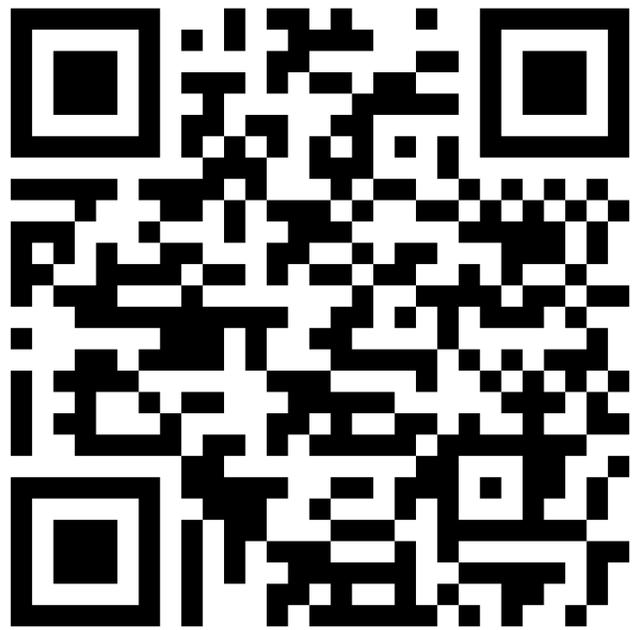


Consumer Confusion





Endangered Species Act

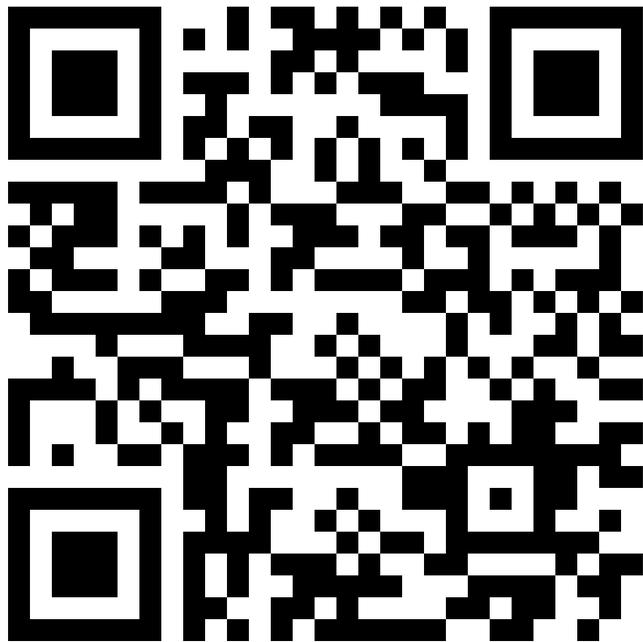


How you can help





Journey to the Ocean



Salmon Life Cycle





Salmon Neighbors



Web of Life





Wild Atlantic Salmon

