Salmon Survival

This lesson plan was produced by the Gulf Islands Centre for Ecological Learning in 2016 as part of the Nature Discover Project.

Funding was provided by:

Victoria Foundation

CRD Making a difference...together

Gulf Islands Centre for Ecological Learning

Activity Name: Salmon Survival Game

Ages: 6-12 (also works for older students as well)

Activity Level: medium to high

Length of time: 60-90 minutes

Number of Participants: 30

Concept: This game is a simulation of the life cycle of salmon.

Materials Required: large field or open area, pine cones (participants often collect these), rope or logs or cones to mark the different habitat zones. (Attach picture of game set up).

Introduction: Explain to participants that this game or activity is a simulation of the life of a salmon: starting out as fry (or baby salmon) and ending as adult salmon to spawn again.

Methods: Ask for volunteers to take on the following roles (the more participants, the more roles there can be; generally you would need at least one or two roles in the out-migration and in-migration channels and 3 or 4 roles in the ocean): heron and mergansers (out-migration channel); fishers and orcas (in the ocean); and bear and First Nations fisheries (in-migration channel). The rest are salmon.

Role	Instructions
Heron	The heron can must remain on the edge of the out-migration channel and try to tag salmon. If it tags one, it receives a fir cone (representing a life). Then it must count to 5 before tagging another salmon. (Representing that heron's only eat one at a time). They are full at 5, so must step out and rest for a couple of minutes.
Mergansers	Mergansers can be anywhere in the out-migration channel and operate under the same principles as the heron.
Orcas	Orcas try to tag salmon in front of the in-migration channel. They take one pine cone at a time.
Fishers	Fishers wear a bucket on their foot to represent their boat and that they don't chase the salmon like the orcas do. Their territory is in front of the in-migration channel and in the ocean. If they tag a salmon they take all of their "lives" (fir cones).
First Nations fisheries	First Nations fisheries stay on shore and try to take salmon coming up the channel. They also take one pine cone at a time. Counting to 5 after tagging a salmon.

Bear	Stays on shore and tries to tag salmon. They take one salmon at a time and count to 20 after tagging a salmon (representing a bear taking a salmon to shore to eat before fishing again)
Salmon	The salmon each have 5 lives (fir cones). They leave the start and run down the out-migration channel trying to avoid the herons, etc. When they get to the estuary they run once around the estuary zone (this simulates acclimatizing from fresh water to salt water). Next they run back and forth across the ocean four times and pick up one token (beans) at each side to represent years in the ocean. Next they run up the in-migration channel trying to avoid all of the hazards. If they make it back to the start with one or more lives (fir cones) they made it! If they loose all of their lives (fir cones) at anytime in the game, they return to the beginning and start with five new lives.

Debrief: discuss experiences of the participants. Link these experiences to real life salmon. If you can keep a rough track of the number of "lives" in the game it's a great visual to count the number at the end of the game and see how many made it and how many didn't (which is why two adult salmon create 1200 eggs and less than 1% return). You could also discuss what might happen if there are more predatory roles in the game or in the natural environment.

Tips for Teachers:

•This game is quite complex so it often will take the participants a couple of times to play before they really understand the concept. It can also take a little while to explain. It's often better to explain the game, then go into more detail about the life cycle of a salmon during the debrief.

•Starting out with a few roles simplifies the instruction and makes it easier for participants to understand the game. Adding more roles as the game goes on keeps the challenge level high!

Literature Cited:

Adapted from:
Project WILD Aquatic K-12 Curriculum and Activity Guide Student pages Copyright Council for Environmental Education 2004