

# Crossbills



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**Activity Name:** Crossbills

**Ages:** 6-12 (and older)

**Activity Level:** high

**Length of time:** 60 minutes

**Number of Participants:** 30

**Concept:** This activity represents a forest food web and can be adapted easily to represent a marine ecosystem.

**Materials Required:** different colored head bands (to be worn around participants' arms) and a fairly large area (could be a field or forest) with many places to hide.

**Introduction:** Participants have the physical space boundaries of the game explained to them and the process. They will begin at different places in the food chain and move up the chain if they become tagged. The levels are seeds to crossbills to hawks. Variations include adding a human or a disease to the top layers. If anyone is tagged, they return to "home base" and move up the food chain by adding another arm band.



**Methods:** most participants are seeds. They run and hide somewhere in the playing area. Once they are hidden they cannot move. Their goal is to stay a seed for the whole game. After 1 to 2 minutes (depending on the size of the playing area) 2 crossbills are released (they are wearing an arm band to identify them as such). Their goal is to tag as many seeds as possible and stay a crossbill for as long as possible. Next, after 5-10 minutes a hawk is released, identified with two armbands. Their goal is to tag as many crossbills as possible and remain a hawk for as long as possible. If the seeds get tagged, they return to home base and become a crossbill (one arm band). Then they return to the game to tag as many seeds as they can. If a crossbill is tagged, they return to home base and receive another arm band, transforming them into a hawk, they return to the game to tag as many crossbills as they can. (Hawks do not tag seeds).

If a human is added to the game they often might be identified with two arm bands and a headband. They can tag seeds, crossbills, and hawks. Same idea if a disease is added - they can take everything and might be identified by a headband (no arm bands).

Allow the game to run until most participant have moved up the food chain. Call game over to see how many participants were able to remain a seed throughout the whole game.

Debrief their experiences and how this game simulates a real ecosystem and how it might not (ie. do many humans hunt crossbills and hawks?).

**Background facts and information:**

- Crossbills have a special pincher beak (that is crossed, hence their name) that allows them to pry open cones to get at the seeds.