Mountains to Sound Greenway Trust

Forests and Fins
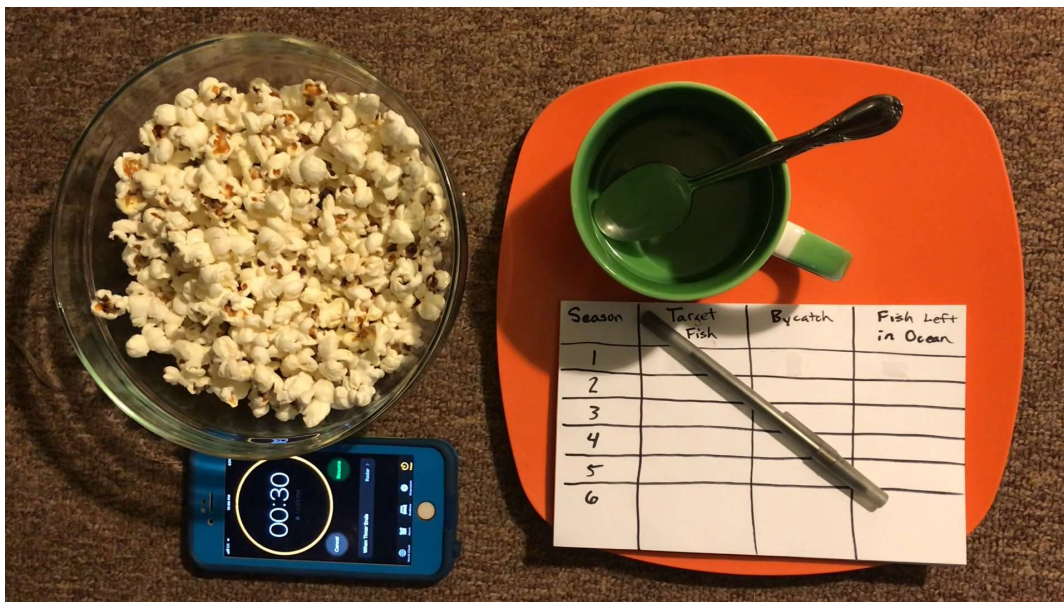
Sustainable Fishing

This activity is adapted from California Academy of Sciences Sustainable Fishing:
https://www.calacademy.org/educators/lesson-plans/sustainable-fishing

Explore how unregulated fishing can lead to depletion of fish stocks. They will also have an opportunity to discuss the factors that may contribute to the depletion and come up with ways (regulations)to better manage their resources. Be sure to watch our video that explains threats to salmon in their adult life stage in the ocean, including overfishing: Forests and Fins: Adult. In this game, play a fisher whose livelihood depends on catching fish. The fish remaining in the ocean after each fishing season represent the reproductive population, and thus one new fish will be added for every fish left in the ocean (plate).

Materials:

1. 40 pieces of popcorn (or similar object) per player. Each piece represents a fish.
2. 1 plate per player. The plate represents the ocean.
3. 1 cup per player. The cup represents the fisher's boat.
4. 1 spoon per player. The spoon represents a fishing rod.
5. 1 Fishing Log per player
6. 1 writing utensil

Procedure:

1. Make sure each player has the above materials. Put 40 popcorn pieces on each player's plate. These are the fish that inhabit their fishing area.

2. Give players 30 seconds for the first "season" of fishing. In this time, players must use their spoon (fishing rod) to move as many pieces of popcorn (fish) as they can from the plate (ocean) to the cup (boat).

3. After the first round, have each fisher count their catch (fish in their cup), bycatch (dropped before reaching the cup), and the total fish left in the ocean (plate). Have them record the data in their Fishing Log.

   a) Note: Bycatch is any fish (or other creature) that is unintentionally caught and wasted. In the game, a "fish" that leaves the ocean but is not placed into the "boat" is considered bycatch and cannot be put back into the ocean or counted as catch.

4. To prepare for the next round, add one new fish for every fish left on the plate, explaining that the fish reproduced in between the seasons. (If you have 10 fish left on your plate, add another 10 fish).

5. Play a second round and have students record catches the Fishing Log.

6. Continue playing more rounds until one player runs out of fish.

7. When you run out of fish, think about what you would do in the real world if you caught all the fish who inhabited their surrounding waters. (One option is to switch to a different profession, and another option is to move to another area to fish. What are the benefits and downsides to each?)

8. Why might sustainability be an important goal for a community? Why might it be difficult to achieve that goal? Brainstorm ways that you might have made the fisheries more sustainable. Some possible ways are catch limits (a certain number of popcorn pieces), marine reserves (an area of the plate where fishing is not allowed), bans against overly extractive gear (no use of spoons).

9. Try playing again with the goal of making your fishery sustainable, where the population stays stable or even grows from one round to the next.