PLEASE DO NOT WRITE ON THIS DOCUMENT. YOU MAY KEEP IT UNTIL YOU HAVE FINISHED THE LAB WRITEUP. YOU MAY FOLD IT IN HALF TO FIT IN YOU LAB BOOK.

Lab #1: THE TRAGEDY OF THE COMMONS

Objective: Harvest as many fish as possible for as long as possible.

Procedure:

1. Each group will have four to five members

2. You are not allowed to talk to any other member of your group . . . in fact, you don't even speak the same language or have the same customs!

3. The fish represent resources that can be harvested from the ocean. Each fish is worth

1pt of your grade. The more fish you catch, the higher your grade.

- 4. Each team may fish for 10 seconds. You must catch at least one fish to stay in business for the next round. Feel free to knock someone else's fish off their straw as long as they are over the ocean (bowl) if they go out of business, more fish for you! Each fishing session/year represents one generation of fish.
- 5. At the end of each session, a new fish will be added to the ocean for each fish remaining at sea. The total number of fish in the ocean cannot exceed the carrying capacity of 40.

6. Number of years for fishing is unknown (could be 3 - might be 8!!)

7. A bonus of ten points will be given to the student in each group who has accumulated the most fish at the end of the entire simulation with <u>another</u> ten points for the high student in the class - ties result in no bonus being awarded.

Results/Data: (a data table will be provided)

Data Table: Number of fish caught each season.

Group Member	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	TOTAL
Total # of fish for this year									

Fish Harvest Graph: Create a graph of the yearly fish harvest of your group. (This should be at least $\frac{1}{2}$ page in size). Be sure to label your axis and provide a title.

The x axis (horizontal) is the independent variable (the one that does not change).

The y axis (vertical) is the dependent variable (the one that changes)

Analysis: Answer these questions.

- 1. Define a commons or common-property resource and list at least 3 commons.
- 2. Define carrying capacity.
- 3. What was your initial strategy? How did it work out for you? Your group?
- 4. Define Sustainable Yield.
- 5. Explain Sustainable yield using this activity. (i.e. what was the best strategy and why?)