Bycatch- Catching the wrong species:

Objective: In this lab you will work on designing a net that minimizes by catch. You will test your net's ability to reduce by catch by going "fishing" in a sea with many types of "fish".

1. Define Bycatch:

2. Why is bycatch an issue?

Directions: You will be assigned a type of fish from the fish bucket. Your job is to create a net that will only catch that type of fish and nothing else. First you will **individually** think of an idea for a net prototype. Draw a sketch of your idea.

Individual prototype sketch:

Lab Group prototype sketch:

Step 2: Get with your group and discuss your prototypes. Try to take the best ideas from each prototype to come up with a group design. Draw your group design in the box above.

Step 3: Test your initial prototype by fishing in the bucket. Record your results in the first row of the chart below

Step 4: Make a change to your prototype and again go fishing in the bucket. Record your results in the 2nd row of the chart.

Repeat step 4 two more times and record your results on the chart.

	# of target species caught	# of non-target species caught	Total # of fish caught	% of target species (#target/#total*100)	% non-target (#nt/#total*100)	# of different types caught
Original Net						
Change 1						
Change 2						
Change 3						

Follow up questions:

1. What types of fishing instruments would create the most bycatch?

2. Why would commercial fishing industries ignore bycatch?

3. What is sustainable fishing?

4. Why is sustainable fishing important?

5. Which of your prototype runs was the most successful?

6. What made that run so successful?

7. Were any of your changes not successful (made your net catch more non-target species)?

8. If yes, why do you think that change was not successful?

9. How can engineering design help to improve the problem of bycatch?

10. How can scientists and engineers work together to ensure that fishing remains sustainable?

11. How would you convince a commercial fishing company to adapt a design like your prototype?