Biology 325, Homework 3 – Community Interactions

1. Read the article by Kappel (2005), posted on the web.

2. (5 pts total) Using the food web diagram on the next page, do the following:
a. (1 pt) Use a highlighter to identify the most direct links in the food web representing the relationships among sea otters, urchins, and kelp.
b. Draw a diagram (model) that explains why kelp forests disappear when sea otters are removed. (2 pts.)
c. Use the food web to predict the effect of decreases in sea otter populations on herbivorous fish, abalones, sea stars, and large crabs. **In writing, explain your reasoning for the predictions, including any assumptions about top-down versus bottom-up control**. (2 pts.)

3. Individual impact (10 pts)
    a. (2.5 pts.) List the five most common seafood items in your diet. If you don't eat seafood, then choose five types that you're curious about.
    b. (2.5 pts.) Indicate the method by which you think the seafood is harvested and any impacts on the environment or other species that might result from this practice.
    c. (5 pts.) Go to the Monterey Bay Aquarium Seafood Watch at www.mbayaq.org/cr/seafoodwatch.asp to look up information on your seafood items and confirm or expand the responses on your table. Which of your seafood selections raises the most serious concerns about environmental effects and which the least? NOTE: You'll need to go deeper than just the summary tables shown on the web site. This is a critical thinking exercise, asking you to differentiate between different harvest types and different fish species and stocks. Are all of them equal in their effects? Can you tell which source your seafood comes from?

BRING TWO (2) **2!** COPIES OF question 2 (a, b, and c) TO CLASS ON WED. 6/2

(5 pts. for in-class exercise)

A. With sea otters, kelp forest food web