Bridge DATA: Ghostbusting in the Chesapeake

http://www.vims.edu/bridge/ghostpots.html

Student Worksheet

Gear Data

1. How many total items were removed from water?

2. Which item was removed in the greatest numbers?

3. Calculate the percentage-of-the-total for each of the gear types and other debris
   Crab pot =   *Eel pot =*   *Other debris =*
   Peeler pot =   *Nets =*

4. Calculate the percent change in each gear type between the two years. Be sure to indicate whether the change is positive or negative.
   Crab pot =   *Eel pot =*   *Other debris =*
   Peeler pot =   *Nets =*

Catch Data

5. What two animal species were caught in the highest numbers in both 2008-2009 and 2009-2010?
   a.
   b.

6. What percentage did each of these two species account for in each year's total catch?
   i. 2008-2009
      a.
      b.
      Total % =

   ii. 2009-2010
      a.
      b.
      Total % =

7. Calculate the percent change in the number caught of these two species between the two years. Be sure to indicate whether the change is positive or negative.
   a.
   b.

Catch per Unit Effort (CPUE) Data

8. Fill in (a) and (b) in the table below to calculate the average number of pots recovered per waterman during the two project-years:

Table 1. Number of watermen and total pots removed.

	2008-2009	2009-2010
Participating watermen	58	66
Total pots removed	8790	9479
Pots removed per waterman	a)	b)

Economic Data

9. Based on Table 1 above, how many total pots (no nets) were recovered during the two years?

10. If we assume that 50 crabs per season are caught in each ghost pot, how many crabs are saved, per season, by removing two year's worth of ghost pots?

11. If 6.6 crabs yields 1 kilogram of crabmeat:
    i. How many kilograms of crabmeat can be potentially saved for the future years' harvest?

    ii. Convert the kilograms of crabmeat to pounds? (1kg=2.2 pounds)

12. Crabmeat sells, on average, for $1.00 per pound (wholesale). How much is the saved crabmeat potentially worth?

Discussion
1. Based on Figure 1, why do you think there was an increase in the removal of most types of gear in Year 2 of the project?

2. Why was a substantially higher number of crab pots removed than any other type of gear in both years of data?

3. Based on the available data, what might you expect the graph to look like if 2010-2011 data were added?

4. If more shallow areas were the focus in Year 2 of the project, why might this explain the lower number of nets recovered in Year 2?

5. Based on Figure 2, why do you think the watermen recovered more female blue crabs than male blue crabs in both years?

6. What is it about the toadfish and whelk's life histories that make them susceptible to being caught in the different types of crab and eel pots?

7. Describe the advantages and disadvantages of the derelict crab pot removal program.

8. Discuss additional ideas for removing derelict crab posts and other marine debris.