Harmful Algal Blooms: Guiding Questions

Answer the following questions on a separate piece of paper as you read the "Harmful Algal Blooms" article. These will be turned in to your teacher **at the start of class**.

1. What are the names of the three major types of harmful algal blooms (HABs) that occur in Florida?
2. What makes algae beneficial to an ecosystem? Why are HABs different/what makes them bad?
3. Why are HABs becoming more common?
4. During what seasons are HABS most common? Why?
5. List 1 major effect of each of the 3 major types of HAB discussed in the article.
6. List 1 major cause of each of the 3 major types of HAB discussed in the article.

Think about the following questions and make notes that you can talk about in class. As a class, you will talk through each question and come up with answers. Your written answers to the questions will be turned in **at the end of the discussion**.

1. You have learned that there are many things that lead to proliferation of harmful algae and bacteria. Harmful algal blooms are becoming increasingly common and have nasty effects. If they are so bad, why do we let them continue to happen? Let's review what science has revealed about HABs, and discuss what needs to be done to prevent them from happening.
    a. Where do the nutrients that lead to HABs come from?
    b. What are the major effects of different HABs?
    c. What needs to be done to prevent HABs?

2. Environmental politics are tricky. When scientists identify a problem that needs fixing, the solutions often end up impacting other people. Fisheries management is a great example of this. When scientists monitor a fish population and use data to see that the fish are diminishing, they might recommend that fishermen catch fewer fish. But if those fishermen are catching and selling those fish for their income, they will be very unhappy when they suddenly can't catch as many fish anymore. Their incomes will be limited. But if they continue to catch and sell the fish, the fish population will continue to decline. Fixing problems like this requires balance, consideration of all the people being impacted, and collaboration. Keeping this in mind, answer the following:
    a. Who would be affected if you implemented the HAB prevention ideas you just discussed? Consider both the "costs" (the negative impacts) and the benefits.
    b. How could you mitigate some of the "costs"?

3. Keeping your previous answers in mind, brainstorm a plan to reduce HAB abundance (or get rid of them entirely) around Florida. Is there other information you need to make this plan? If so, you may decide that you cannot create a management plan without this information, and plan a scientific study that would give you this information instead.