

Name _____

Date _____

Water Chestnut Graphing

How has the water chestnut invasion changed the Hudson River ecosystem? By completing the following graphing activity, you should be able to answer this question to some degree. First, create a graph showing the changes in the dissolved oxygen saturation of water chestnut (*Trapa natans*) beds over a one-day period on June 29, 2003. Time goes on the x-axis. Add the other two variables on the same graph, or make a second graph for the channel dissolved oxygen (taken from the middle of the Hudson River channel) and the water celery bed data (*Vallisneria americana*). Based on your graph, answer the questions below.

Time	Trapa DO%	Channel DO%	Vallisneria DO%
0:00:00	75.4	99.3	127.5
1:00:00	81.8	100.9	119.4
2:00:00	82.3	103	110
3:00:00	80.8	104.9	103
4:00:00	78.7	105.9	98.8
5:00:00	69.9	104.3	95.6
6:00:00	48.9	101	94.6
7:00:00	40.3	99.1	95.4
8:00:00	27.4	97.1	97.4
9:00:00	16.6	96.6	103.9
10:00:00	18.6	96.7	116.1
11:00:00	25.4	97.8	133.8
12:00:00	30.1	97.9	142.8
13:00:00	43.5	102.3	143.4
14:00:00	72.8	102.7	149.6
15:00:00	71.8	106.2	148.5
16:00:00	75.1	105.3	142.1
17:00:00	68.6	108.8	135
18:00:00	58.2	106.1	132.6
19:00:00	38.4	103.1	132.9
20:00:00	24.7	101.3	132.2
21:00:00	16.3	100.9	130.2
22:00:00	14.7	100.7	127.5
23:00:00	18.2	100.9	120.6

1. What happens to the level of the dissolved oxygen saturation for each of the three sample sites: water chestnut, open channel, and water celery?
2. Where is there more dissolved oxygen? How might this affect the aquatic organisms in the Hudson River?
3. At about what time does the lowest percent of dissolved oxygen occur for all three samples sites? Why do you think this happened?
4. Why do you think the water chestnut beds fluctuate in dissolved oxygen more often than the water celery beds?
5. Do you think there could be any positive aspects of the water chestnut plant? How would you find out?
6. What do you think should be done about the plant in the Hudson River? Explain your reasoning.