Name:_____

Lab: Forest Dilemmas

Background:

In North Carolina, 50 million tree seedlings are planted annually and nature plants millions more. It is a six billion dollar industry for our state. Forest management by all landowners (public and private) is changing to reflect an understanding of the forest as an ecosystem that contains many interacting parts, all of which need to be considered to have a healthy forest. One tool of forest managers is fire. Instead of trying to put out every fire, foresters now know that fire is part of the forests' natural cycle, and may use it in managing the forest. North Carolina's forests have a variety of owners and managers, including the federal governments (Forest Service, Bureau of Land Management), state government (North Carolina Forest Service), private industry, and private non-industrial landowners. Each of these land managers must work with the others to sustain the best possible management of North Carolina's collective forests. Best Management Practices are used to protect water quality and maintain healthy forests to sustain the many benefits desired from our forests, not just now, but for hundreds of years to come.

Instructions:

1. Each student chooses a game piece (tree) and places it at the start. Then each student chooses a character card (CEO, Forester, Hydrologist, Wildlife Biologist or Fishery Biologist) to represent their perspective as they approach the management decisions ahead.

2. Each student begins with $95,000 and zero Sustainability Points (SP). Sustainability Points represent the long-term sustainability of the decisions you make. *The goal is to accumulate money and sustainability points while staying true to your character's philosophy on forest management.*

3. Students also begin with additional assets based on their character, as indicated on the back of the card.

- CEO begins with an additional $500,000 for a total of $595,000 and 0 SP
- Forester begins with an additional $300,000 & 1 SP for a total of $395,000 & 1 SP
- Hydrologist begins with an additional $100,000 & 2 SP for a total of $195,000 & 2 SP
- Fishery Biologist begins with an additional 3 SP for a total of $95,000 & 3 SP
- Wildlife Biologist begins with an additional 3 SP for a total of $95,000 & 3 SP

4. Students may go in debt with money and/or Sustainability Points. However, if a student reaches -$750,000 they become bankrupt and must immediately return to the starting line with $95,000 and zero Sustainability Points. Other students are not affected by this bankruptcy.

5. Each lap around the board is equivalent to one year. Keep a running tally of your money, SP and years in the chart provided on the right.

6. At the conclusion of each lap, STOP at the starting line and decide on a management technique for your forested land. You may continue at the start of your next turn.

7. The game concludes after the number of years (laps) or at the specific time announced by Mr. Rush/Ms. Magee. Record your final results below.

Money ($)	Sustainability Points (SP)	Years (laps)

Results:

	Player 1		Player 2		Player 3		Player 4		Player 5	
	$$	SP	$$	SP	$$	SP	$$	SP	$$	SP
Job Title										
Beginning Balance										
Ending Balance										

Analysis:
It's time to calculate the success of your forestry corporation!
1. Transfer your ending balance of money to row 1 and your ending balance of sustainability points to row 2.
2. Sustainability points represent your *investment in future forest harvests* and, as such, are also assigned a monetary value. Each Sustainability Point is worth $200,000. Calculate this value and enter this in row 3 of the table below.
3. Calculate your Total Net Worth by adding rows 1 and 3.

		Player 1	Player 2	Player 3	Player 4	Player 5
1	**Amount of Money ($) at end of game**					
2	**Number of Sustainability Points (SP) at end of game**					
3	**Value of Sustainability Points for Future Profit (row 2 x $200,000)**					
4	**TOTAL NET WORTH (add rows 1 and 3)**					

Analysis Questions:

1. Did any players experience debt? If so, how much was the greatest total debt?

2. What was the greatest amount of money earned by the end of the game? What factors were most responsible for this success?

3. What was the greatest amount of Sustainability Points accumulated by the end of the game? What factors were most responsible for this success?

4. Did the monetary value of the Sustainability Points change who "won" the game?

5. If you knew the monetary value assigned to Sustainability Points at the beginning of the game, how might this have changed the choices you were making?

6. We often talk about how environmental solutions frequently cost more money in the short term but save money in the long term. Relate this concept to Sustainability Points in this lab (what might Sustainability Points represent in real life)?

7. Identify two environmental problems with known solutions that would cost more money in the short term but save money in the long term.

8. Describe two challenges faced by forestry corporations when the desire for profit conflicts with the need for conservation.