**Wildlife Management Simulation**

* You will manage a moose population. The carrying capacity of the habitat is 100 animals.
* Everyone will start with 100 moose. If your population exceeds 200 or falls under 10, you no longer have a viable herd. You get a one-time immigration or emigration save of 25 moose from your teacher.
* Dice will be used to simulate chance.
* 3 condition cards will cause your herd to change:
	+ ***Reproduction*** cards (9) Pink card - Spring
	+ ***Management*** cards (9) Yellow card - Fall
	+ ***Condition*** cards (18) Green card – Winter & Summer
* Each round (year), you will draw cards in order, according to the season(lay cards on table as shown below):
	+ Fall = ***Management*** card Yellow

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* + Winter = ***Condition*** card Green
	+ Spring = ***Reproduction*** card Pink
	+ Summer = ***Condition*** card Green

Summer

Spring

Winter

Fall

* You will play for 9 rounds (years)

Pre-Lab Questions:

1. What factors might cause the carrying capacity of a population to change?

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2. List 3 limiting factors.

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3. List 3 density dependent factors and 3 density independent factors.

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4. What is meant by population density?

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5. Math practice for a herd of 100 that is increasing: Multiply 2 and 3. Turn this number into a decimal. (this means it becomes .06) Multiply this number by 100. What number do you get? Add this number to 100. What is the total population now?

Moose Management Data Table

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|  | Starting  | 100 |
| Year 1 | Fall = *Yellow* |  |
|  | Winter = *Green* |  |
|  | Spring = *Pink* |  |
|  | Summer = *Green* |  |
| Year 2 | Fall = *Yellow* |  |
|  | Winter = *Green* |  |
|  | Spring = *Pink* |  |
|  | Summer = *Green* |  |
| Year 3 | Fall = *Yellow* |  |
|  | Winter = *Green* |  |
|  | Spring = *Pink* |  |
|  | Summer = *Green* |  |
| Year 4 | Fall = *Yellow* |  |
|  | Winter = *Green* |  |
|  | Spring = *Pink* |  |
|  | Summer = *Green* |  |
| Year 5 | Fall = *Yellow* |  |
|  | Winter = *Green* |  |
|  | Spring = *Pink* |  |
|  | Summer = *Green* |  |
| Year 6 | Fall = *Yellow* |  |
|  | Winter = *Green* |  |
|  | Spring = *Pink* |  |
|  | Summer = *Green* |  |
| Year 7 | Fall = *Yellow* |  |
|  | Winter = *Green* |  |
|  | Spring = *Pink* |  |
|  | Summer = *Green* |  |
| Year 8 | Fall = *Yellow* |  |
|  | Winter = *Green* |  |
|  | Spring = *Pink* |  |
|  | Summer = *Green* |  |
| Year 9 | Fall = *Yellow* |  |
|  | Winter = *Green* |  |
|  | Spring = *Pink* |  |
|  | Summer = *Green* |  |

 Discussion Questions:

1. Describe what the impact was for each of the cards used in the simulation.

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| Condition -  |
| Reproduction -  |
| Management-  |
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2. Did population “managed” under different strategies by different students show different trends? (compare graphs)

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3. Would you “manage” the population differently if given a second chance? Explain your answer.

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4. What parts of this activity seemed realistic, and which did not?

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5. What are ways that habitat can be improved in both the short term and long term?

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6. Is it really necessary for humans to manage wildlife populations? Explain your answer.

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7. Name four factors that can affect the size of a wildlife population.

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8. Wildlife management is a difficult job. What are some societal concerns that a person with this job has to manage as well as wildlife?

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