

## Human Impact

How has human activity affected different ecosystems?



**Vocabulary:**

*System:* A set of things working together in an interconnecting network.

*Ecosystem:* A community of organisms interacting with each other and with the nonliving environment.

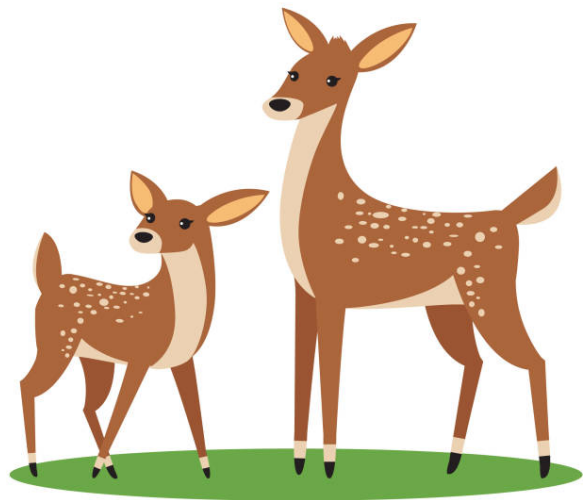
### Part 1. Forest Ecosystem Model

**Ecosystem Model Terms:**

*Home Range:* Coned off section of the playground

*Deer Population:* Amount of Ziploc bags held by students

*Deer Casualties:* Amount of Ziploc bags on the ground



**Ecosystem Model Rules:**

- One year equals one minute.
- Deer food is represented by pasta.
- Deer that eat 5-10 pieces of pasta, in one year, live and have one offspring.
- Deer that do not eat 5-10 pieces of pasta, in one year, either overeat or starve and therefore, die and must drop their Ziploc bag on the ground.

Year	Number of Deer at Start of Year	Number of Deer that Survived	Explanation
1			
2			
3			
4			

1. **Year 2**, started with \_\_\_\_\_ deer and \_\_\_\_\_ survived. The number of deer in that year increased stayed the same decreased because \_\_\_\_\_  
Circle One

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2. **Year 4**, started with \_\_\_\_\_ deer and \_\_\_\_\_ survived. The number of deer in that year increased stayed the same decreased because \_\_\_\_\_  
Circle One

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3. What were the parts of this ecosystem? \_\_\_\_\_

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4. Do the parts of the ecosystem affect each other? (Circle One)      Yes              No

**Part 2: Observing Human Impact**

**Directions:** Your group will be assigned an ecosystem to investigate. You will get two maps of the same location each showing a different time period.



5. What ecosystem was your group assigned?  
 \_\_\_\_\_
6. Look at the oldest map of your ecosystem and describe the different land, water, and plant features in the area. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
7. What parts of your ecosystem changed (living and nonliving)? \_\_\_\_\_  
 \_\_\_\_\_
8. The changes to the ecosystem during the given time period were:      Positive      Negative  
Circle One
9. What human activity or activities caused these changes? \_\_\_\_\_  
 \_\_\_\_\_

**\*\*As a class review human impact vocabulary.\*\***

10. Get post-it it note from your teacher. Write the following on your post-note:
  - a. Name of your ecosystem
  - b. Human activity(ies) that impacted the ecosystem
  - c. Indicate with a + or – if it was a positive or negative change

Be prepared to share this information with the class and place the post-it note on the correct location on the world map.

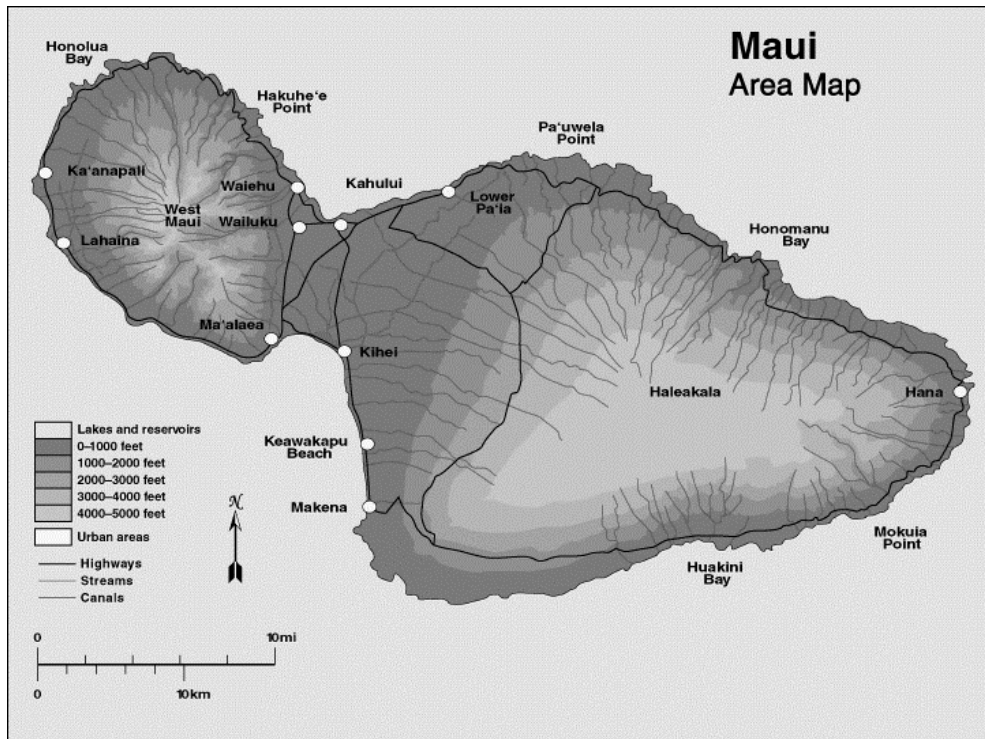
11. For each location decide which of the following categories influenced the observable changes and/or the environment. Mark each box with a (+) for a positive change and a (-) for a negative change. Then put the letter next to the location name on the world map below.

Location	Deforestation	Pollution	Resource Extraction (e.g.: mining)	Land Development	Climate Change	Increasing Human Population
A. US: New Mexico						
B. Japan						
C. US: Alaska						
D. Kenya						
E. Brazil						
F. US: California						
G. US: Virginia						
H. Australia						
I. Romania						
J. US: New York						



**Part 3: Predicating Human Impact:**

12. Look at the map of Maui. The white areas represent cities known as urban areas. Make a claim about how people have influenced the natural system in Maui.



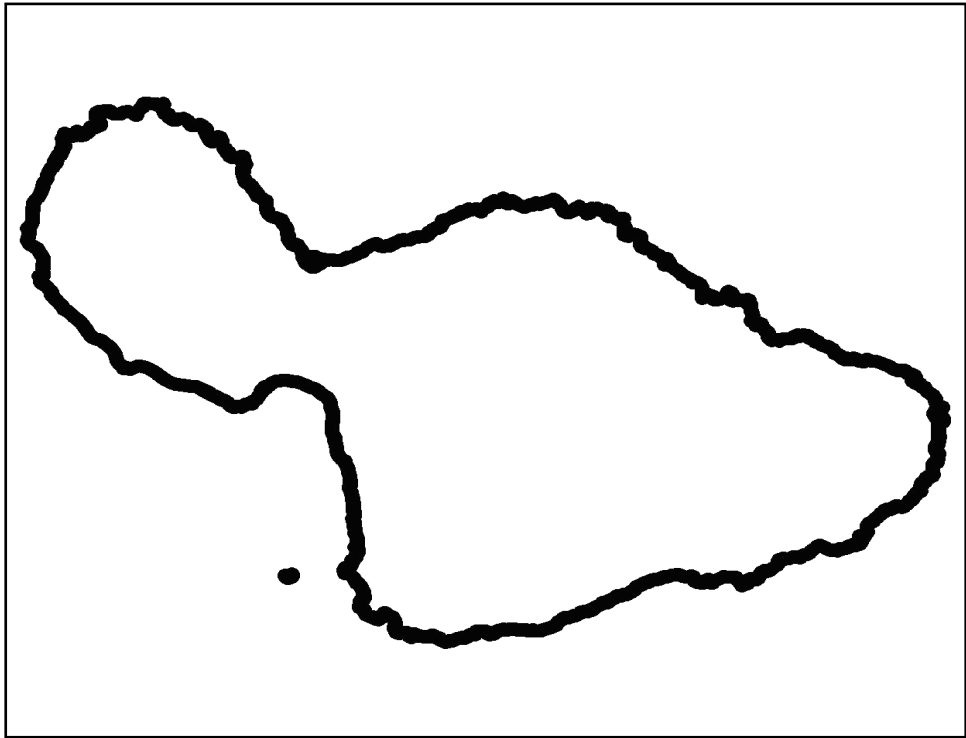
(Claim) We think people have \_\_\_\_\_

(Evidence) We reached this conclusion because in \_\_\_\_\_ Location

between \_\_\_\_\_ Date and \_\_\_\_\_ Date we saw \_\_\_\_\_

(Reasoning) This shows \_\_\_\_\_

13. Draw a model of Maui Island with the changes you predict will happen to the island's ecosystem if the population doubles. Shade the populated areas with pencil and color in the forested areas green.



14. Explain your drawing: \_\_\_\_\_

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