

List 3 ABIOTIC factors that may influence population size

rain/precipitation^I
water^D space^I Fire^I
climate^I pollution^I
urbanization sun^I

List 3 BIOTIC factors that may influence population size

of predators^D
of prey^D
Competition^D disease^D
producers (plants)^D
Size of organism

The maximum population size an ecosystem can support is called...

Carrying Capacity

Exponential Growth

High Density Population

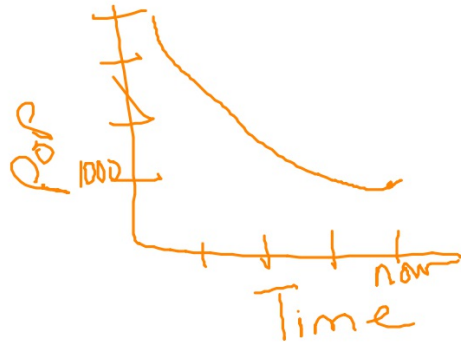
Natural Disasters, pollution, fire, and climate are all examples of...

Density Dependent Factors

Density Independent Factors

To get out: Lab data chart and conclusion
Warm Up

Agenda: Warm Up
Review
Quiz



Homework: Pg 7 in research folio- Populations

get a chromebook and check your grades!!

Review...Which of the following pictures include only 1 population?



Population Density:

Match the characteristic of an organism to whether or not it most likely has a high population density or low population density.

High Population Density

Reproduce Fast- Bunnies
Social Insects

Low Population Density

Carnivores high on
the food chain (wolves, lion)
Territorial Animals
Large Animals
(elephant)

Population Distribution

Match the characteristic to the type of distribution

Clumped



Lives in groups

Uniform



Spaced out evenly

Random



Can live wherever

Quadrats



Measuring small/medium plants or small animals

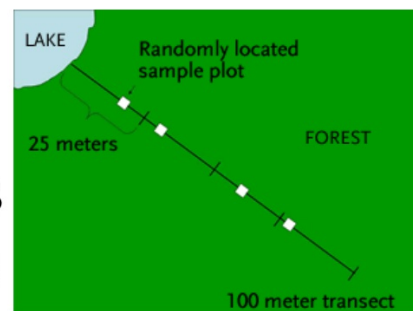


Transect-
Measuring
populations
along a line

Mark and Recapture



Measuring animals



What would be the best method to measure the following populations?



Amount of clover



Sharks



Measure change along a line?

Measuring Populations- match the definitions/ examples

Complete Count

Use flyovers or aerial photos to count each organism

Mark & Recapture

Method used for counting **animals**.

Capture, tag and count animals. Release the animals.

Recapture the animals again. Compare the number that are tagged to the number that are not tagged

Quadrat

Throw a square randomly in the area you are studying and count all of the organisms in the population in that square. Apply to a larger area

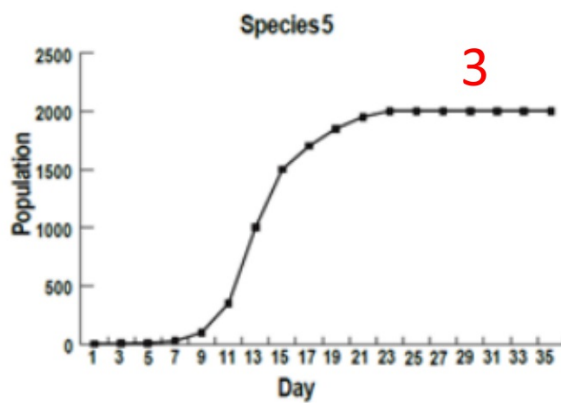
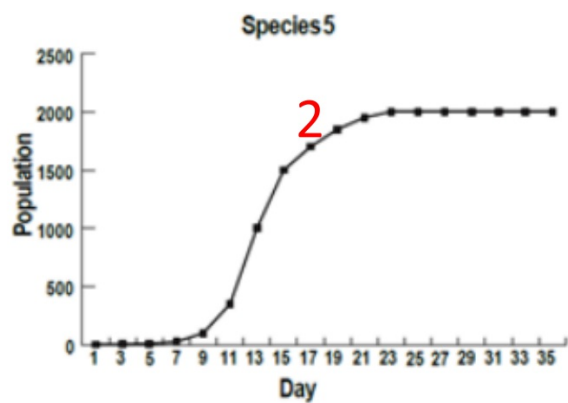
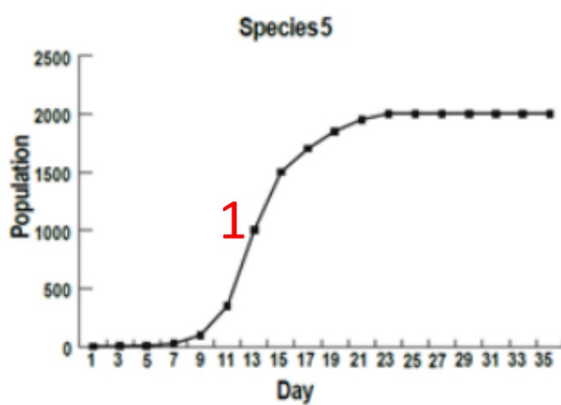
used for counting **small/medium sized plants or small animals w/ limited mobility**.

Transect

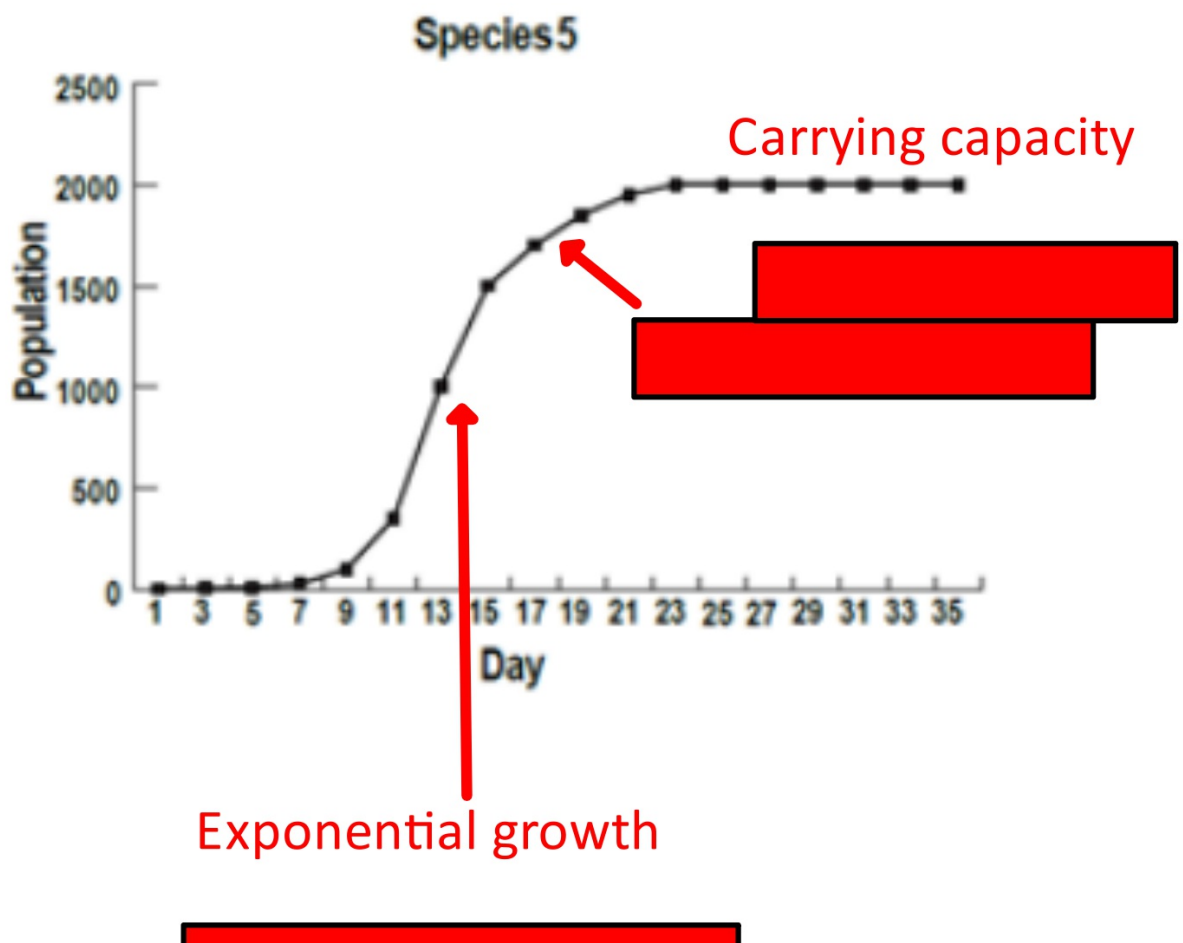
Used for counting large, immobile species

Use a string to mark a line and count all organisms of the population within a certain distance of the string.

What is happening at each stage of the graph? (1,2,3)



How could you explain the change in the population growth from 1-3?



Match the conditions with the type of growth

Exponential Growth

Carrying Capacity/
Logistic Growth

Unlimited Resources

Birth Rate=Death Rate

No competition or predators

Stable population

Limiting Factors and Carrying Capacity

Density Independent

Natural Disasters

Temperature

Fire

Pollution

Density Dependent

Amount of competition

Disease

Predators


Amount of Food

Go On MyMCPS and Take Populations Quiz

When finished, go to IUCN Red List (link on MyMCPS/Weebly)

- Look up your animal on the IUCN Red List
- Download the .pdf to learn about the status of your animal and its population

[Back to search results](#)




Polar Bear

Ursus maritimus

CITATION
Wrig, O., Amstrup, S., Atwood, T., Laidre, K., Lunn, N., Obbard, M., Regeh, E. & Thiemann, G. 2015. *Ursus maritimus*. *The IUCN Red List of Threatened Species* 2015: e.T22823A14871490.
<http://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T22823A14871490.en>. Downloaded on 21 October 2019.

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LAST ASSESSED
27 August 2015

SCOPE OF ASSESSMENT
Global

[Skip to Assessment in detail](#)
[Skip to Text summary](#)

If your species is not found on the IUCN Red List, you may use a different website for your research

Step 2: Measuring and Analyzing Populations

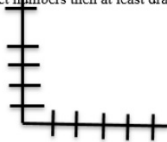
1. Name of Species: _____
2. What is the geographic range of your species? _____

3. What is the estimated world population of your species? _____
4. Based on the sampling techniques that we learned in class. How would you collect data to measure the population of your species? (Quadrat, Mark and Recapture, Transect, Trail Camera, Aerial Photography)
 - a. Sampling Technique: _____
 - b. Why did you choose this technique? _____

5. Research and describe methods that ecologists are using to monitor the population of your species.

What is currently being done to track changes in your population?

6. How has your organisms population changed over time? Create a graph that includes at least 5 data points. If you don't have exact numbers then at least draw the shape of the line that shows how the population has changed.



7. Explain why a population cannot grow indefinitely. Use the following terms in your response: *abiotic*, *biotic*, *population growth*, *limiting factor*, *carrying capacity*

In general, not just your population - Why can't populations keep growing to infinity and beyond?

8. Citations: _____

Complete Page 7 in your research folio

