



## INTRODUCTION

The story of African elephants is a powerful example of how science can inform conservation. Knowing how many elephants are left and where they live can help us plan strategies to protect them. In the *Survey Methods* Click & Learn, you'll learn more about elephants and the methods used to monitor their populations. These methods can also be used to study many other large animals.

## **PART 1: Why Study Elephants?**

Open the <u>Survey Methods</u> Click & Learn and read the **"Why Study Elephants"** section under the "Where Are They?" tab.

- 1. Elephants are considered to be a keystone species. What does that mean?
- 2. Name three elephant activities or functions that justify why elephants are a keystone species. Describe how each activity or function changes African ecosystems.

Elephant activity or function	Change in ecosystem		

3. Why have elephant populations been declining for the past several decades?

## **PART 2: Survey Methods**

Biologists weigh the advantages and disadvantages of different survey methods before choosing the appropriate approach. Read through each of the survey methods under the "Where Are They?" and "How Many?" tabs, and use the table on the following page to organize your thoughts.

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**Survey Methods** 

Survey type	Information gathered	Methods used	Type of count (total/sample, direct/indirect)	Advantages	Disadvantages
Species range			N/A		
Individual range			N/A		
Aerial survey					
Individual registration					
Acoustic survey					
Dung transect					



## **PART 3: Population Changes in Elephants**

Read through the "Population Change" tab, watch the video, and explore the map.

- 4. Turn on the 1979 and 2007 range layers on the map. Describe the change in the range. Where did the elephant range decrease, increase, or stay about the same?
- 5. In 1979, the estimated elephant population was 1.3 million elephants. In 2007, it was 640,000 elephants.
  - a. By approximately what percentage did the elephant population decline over this time period? (Show your work.)
  - b. How does this percentage compare to the change in range over this same time period?
- 6. Turn off the 1979 and 2007 range layers, then turn on the 2016 trends layer.
  - a. Based on the area surveyed, where are the major hotspots of elephant decline?
  - b. Where are elephant populations stable or increasing?

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