DENSITY
APPLICATIONS
ANIMAL POPULATION DENSITY

Q1. The population of the Madagascar Heron was recorded as Vulnerable in 1994 and is currently recorded as Endangered. Graph the population numbers of this heron and extrapolate the graph to predict its future in 10 years from now.

YEAR	POPULATION
1994	700
1996	732
2001	549
2009	420
2012	387

Q2. The aerial image on the left shows African elephants in a National Park. Notice how green the grass is. These 7 elephants were the only ones found in an area that measured 2 km by 5 km.
(a) What is the area of the rectangular region where they were photographed?
(b) Divide the number of elephants by the area to calculate the animals' population density.

Q3. The aerial image on the right shows African elephants in the wild. Notice the dry, barren ground. These elephants were the only ones found in an area that measured 1.5 km by 2.8 km.
(a) How many elephants do you see in the image on the right?
(b) What is the area of the rectangular region where they were photographed?
(c) Calculate the animals' population density.

Q4. Government officials proposed the culling (killing) of the elephants in the area shown in the left image. They said it was because there were too many elephants in the drought conditions and that all could die. By culling some, this would allow at least some of the elephants to survive. What are your thoughts on the government's proposal?

ANSWERS

Q2. (a) 10 km^2
(b) 0.7 elephants per square kilometre

Q3. (a) 17 elephants
(b) 4.2 km^2
(c) 4 elephants per square kilometre