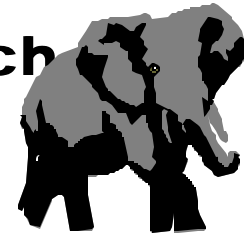


Wildlife Watch



To: Analysts
From: Populations Projections Unit
Regarding: Population Growth

The data below shows the number of young produced for two different years, in a population of a given protected wildlife species (the years are counted starting from 1990). We would like to know if the relationship between "Number of young produced" (Y) and "time" (t) can in general be accurately described by an exponential function of this form:

$$Y = A \cdot 10^{kt}$$

Please determine the specific exponential function in each case by finding the values of A and k that fit the given the data--(Y_1, t_1) and (Y_2, t_2). Use that function to compute the value of Y at $t = 10$ (10 years), and compare it to the actual 10 year value given. Indicate whether or not you think the exponential function is a good model in each case.

| Species | (t_1, Y_1) | (t_2, Y_2) | Specific equation | Actual value of Y at $t = 10$ | Computed value of Y at $t = 10$ | Good fit? |
|--------------|----------------|----------------|-------------------|---------------------------------|-----------------------------------|-----------|
| Bald Eagle | (2,10) | (5,22) | | 75 | | |
| Elephant | (1,24) | (3,28) | | 56 | | |
| Panda | (2,12) | (5,14) | | 15 | | |
| Cheetah | (5,32) | (9,47) | | 65 | | |
| Grizzly bear | (3,6) | (6,12) | | 27 | | |