Demography

Demography

study of changes in the characteristics of a population

Survivorship Curves

Type I Survivorship

child survivorship high, old mortality high

Type II Survivorship

die at equal rates despite age

Type III Survivorship

child mortality high, adult survivorship high

Survivorship Characteristics

Mortality, # offspring, gestation period, parental care, organism size

Fecundity

It is...

Potential for species to produce offspring

Factors Affecting It

age of sexual maturity, max reproductive age, length of gestation, offspring per pregnancy, parental care

Measuring Population Change

$\Delta N = (B + I) - (D + E)$

$B = births$

$D = deaths$

$I = immigration$

$E = emigration$

Population Growth Rate

$r = \Delta N / N1$

Per Capita Growth Rate

during specific period of time

$r = b - d$

$b = \text{\# of births / population size}$

$d = \text{\# of deaths / population size}$

$r > 0$ pop. growing, if less, declining

Max per capita growth rate

ideal conditions, exponential growth model

Logistics Growth Model

Exponential growth model not realistic.

has carrying capacity

Types of Density

Crude Density

number of individuals in habitat

Ecological Density

number of individual in the area actually used by them, not random space

Dispersion

Clumped

Schools, herds, colony, flock

Uniform

penguins

Random

plants

Sampling Methods - to find average pop. size

Quadrant Sampling

placed randomly to avoid bias, many small square sections

Mark Recapture

capture organisms, mark them, release them, recapture set of organisms