

Genetic diversity

Genetic diversity is the total number of genetic traits within each species. This diversity is reduced when there are "bottlenecks", i.e. when a population shrinks substantially and there are few individuals left. For example, the population of about 100 lions (*Panthera leo*) in Tanzania's Ngorongoro Crater dropped to about 15 survivors following a plague of biting flies (*Stomoxys calcitrans*) caused by increased rainfall in 1962. The consequent loss of genetic diversity within the Crater lions has resulted in problems of reproduction and survival.

With higher genetic diversity, species are more likely to survive environmental changes. Species with little genetic diversity are at greater risk from those changes. In general, when a population size is reduced, this increases the incidence of reproduction between related individuals and there is a consequent reduction of genetic diversity (consanguinity).

Genetic diversity can be measured using the diversity of genes, heterozygosity, or the number of alleles per locus.

