

Food supply is largely dependent upon conditions outside the species and without its control; inasmuch as food habits can be changed, within certain broad lines, they are flexible. Should the usual source of supply fail, the species can usually adapt itself to others. However, food supply must be obtained and is a most important agent in limiting the numbers of any and all species. It is also a necessity that occurs throughout the life of an individual. It avails nothing that food should be abundant for the adult if it is scarce or absent during development. The effect of starvation is immediate. A subnormal birth-rate reduces population slowly, acting over generations. Reduction of numbers through enemies may be much quicker and completed within a few seasons or less, but starvation acts almost instantaneously and in most cases is an operation of days instead of weeks, years, or generations.

The effect of enemies upon a species is complicated in results; the species preying and preyed upon re-acting on each other in various ways. In general, a species is seldom if ever absolutely exterminated by these means. As soon as a food animal becomes too scarce to be profitably hunted, its pursuit is neglected and thereafter only occasional or accidental individuals are taken. On the other hand, any marked increase of food animals is followed by an increased attention from their present enemies and an influx of new ones from adjoining territories. If reduction of food supply stopped when normality was reached the result would be comparatively simple, but, while the number of enemies in the locality is supernormal their food supply has at this stage been reduced to normal. Attention is eventually turned towards other food sources, but, as the enemy population is temporarily greater than the supporting powers of the habitat, it is unusually active and keen, hunting more carefully, with greater persistence than usual, and consequently with greater effect. For a while, at least, the reduction process is thus continued and the food supply, or species preyed upon, falls below normal. Finally, however, the enemies also are reduced either through starvation or movement to other localities until their population is also brought below normal numbers in harmony with the reduced resources of the habitat.