

Information Sheet No. 8

Bigger Isn't Always Better

Just like on land, marine organisms have different ways of surviving. Some animals are adapted to produce many young and live a short period of time. Other animals only have a few offspring, but spend a great deal of energy making sure their young survive to adulthood. The different reproductive strategies are known as r-selected and K-selected.

r-selected species are known for being the first species to colonize a new area. The reason they are so successful at colonizing is because they have a high fecundity. Excellent dispersal capabilities are another reason r-selected species are able to colonize new areas. r-selected species devote a large percentage of their energy to producing young. These animals have a large number of small young, but many of the young die before they are able to reach adulthood. Most are eaten or are not able to utilize the resources in the area. Many r-selected species act in a semelparous nature, meaning they only give birth to one group of young and then the adults die after the young are born. Many of the species that live in the ocean are r-selected species. Coral, fish, and conch are just a few of the species whose reproductive behaviors are r-selected.

K-selected species are quite different from the r-selected species. Whereas r-selected species are the first to colonize the area, K-selected species are better at competing for resources in the area. Most of the energy K-selected species uses goes toward their young, but they use their energy in different ways than r-selected species. K-selected species devote much of their energy into having less young, but the young are larger at birth. This allows the young to have a better chance of survival. K-selected parents also devote much of their time to parental care. They defend their young and teach them the skills needed to survive in their environment. Dispersal is not as important to K-selected species as making sure their young survive. While r-selected species tend to only have young once, K-selected species are usually iteroparous. These species breed more than once. Many times once young are able to survive on their own, the mother is ready to breed once again. A few marine K-selected species are dolphins, whales, and sharks.

Reproductive Strategies	
r-selected	K-selected
mature rapidly	mature slowly
short-lived; most die before adulthood	tend to live long lives
competition skills poor	compete well for resources
large quantity of offspring	have few offspring at a time
invest little in young	care for their young
most pest species are r-selected	most endangered species are K-selected
population not regulated by density	population stabilizes near K
opportunistic -- invade new areas	maintain numbers in stable ecosystems

Chart found at: <http://curriculum.calstatela.edu/courses/builders/lessons/less/biomes/breeding.html>