

Body mass is one of the criteria estimating individual's body condition and predicated an ability to cope with environmental conditions. To maintain the body condition the individual needs energy supply. In my essay I am concerned with life-history strategies of birds through the adjustment with increased energy demands during incubation period and with changes in body mass relating with these strategies. The individual can cover energy requirements directly from food ("income breeder") or make an energy storage in advance and draw the energy later during breeding ("capital breeder"). According to the type of breeding environment, access of strategy evolves and how changes its body mass in consequence of the elected strategy. Income breeding occur in small birds in good predictable environment with high food abundance and it is characterized by varying body mass changes. In contrast, capital breeding occur in hardly predictable environments or in cold areas with low food abundance and it is characterized by linear mass loss. Body mass has a great influence on breeding success. Female make a decision to breed or not based on her body condition. Breeding with female bad body condition increases a risk of abandoning the nest and nest failure. Another important factors are e.g. the weather, age of breeding female or brood size. Mass loss, occurring in all incubating individuals, can be a result of physiological stress during the reproduction ("stress hypothesis") or it can mean an adaptive decrease of energetic demands of foraging flight during the rearing young ("wing-loading hypothesis").