

6204 Estimation of physiological Status of Large Carnivores: Objective Tool for population Management of Endangered and Game Species

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Monitoring and knowledge of population status of endangered and game species is the base for their successful conservation and management. Although anthropogenic pressure assumed to be the main crucial factor for the survivorship of large carnivores the infectious diseases attract more and more attention. We estimated distribution of 16 different pathogens in Amur tiger population in Russia (n=43). To understand pathways of pathogens transmission we checked serum prevalence of wild (bears, leopards, raccoon dogs, badgers) and feral (dogs, cats) carnivores to the same pathogens. Canine distemper virus and feline calicivirus have resulted in to the death of animals in some cases. Although feral dogs were the main reservoir for CDV (more than 60% of animals were serum positive) wild carnivores were also important for virus transmission. High level of serum prevalence was described for Trichenella and Toxoplasma. Due the difficulties of capture procedures new approaches were developed to estimate animals' welfare/stress level. We developed non-invasive method of estimation of fecal glucocorticoids metabolites (FGM) for Amur tiger and Far-East leopard. This method was validated with ACTH and transportation test. We showed that low ambient temperature had negative effect on large cat organisms and led to the increase of FGM level. Snow depth in winter period also affected FGM concentration in Amur tiger. It seems that these factors at the edge of range of these tropical species may have negative effect on their welfare. However, case study on far-east leopard shows that high prey availability may reverse negative effect of low temperatures.