

Global Summit on ENVIRONMENTAL HEALTH

August 01, 2023 | Webinar

Modeling of the habitat cores and the associated structure of green corridors for key-species is the way of wildlife conservation planning on the global level**Yachmennikova Anna***Russian Academy of Sciences, Russia*

At present, there are no trends towards a decrease in the intensity of human use of natural resources and ecosystems globally. However, it is obvious that the survival of humanity depends on the state of the biosphere and, in particular, on the stability of the functioning of natural ecosystems. Ecosystems function due to the optimal combination of activities of living organisms. Every ecosystem has a number of organisms-regulators, often also identified as key species, for example large carnivorous. We would like to discuss the concept of the optimal organization of the natural wildlife areas of the Earth in those places where habitats for wild animals are still exist or where their restoration is planned; to support them on the best level and provide the exchange of biological information between key core-areas at all levels. The assessment of the spatial structure of ecosystems includes the quantitative measurement of fragmentation metrics — indicators of the size, shape, and isolation-level of land cover units. In particular, using the metrics of the ecological core, it is possible to estimate the area of minimally suitable lands for colonization by model species and indicator species (European Bison, Amur tiger), where species establish a stable spatial and social system. Another aspect of the life activity of key-species is associated with their migrations and movements. In this regard, it is productive to use fragmentation metrics for calculating and designing ecological corridors. Knowledge of the ecology of model species (the most suitable habitats, the minimum areas of habitats, individual's daily and seasonal cycle, the spatial and sex and age structure of species populations, their home-range needs at different stages of the life cycle, etc.) in interaction with quantitative metrics of ecosystem fragmentation allow developing science-based ecological frameworks of territories and structurally interconnected systems of protected objects. Also, it gives opportunity to implement activities on habitats recovering in accordance with the right plan, what is optimal not for people only but also takes into account the biology of the species inhabiting the target ecosystems.

Biography

Anna Yachmennikova, Ivan Kotlov, Robert Sandlerskiy and Zhu Shibing have their international expertise in evaluation and passion in modeling of the optimal ways of wildlife and people coexistence. Such kind of contextual evaluation model creates new pathways for improving wild animals of key-species habitats and also give a key to sagacity in planning such kind of activities as supporting or recovering damaged forest ecosystems are — in the right way. Work was done at the intersection and combination of disciplines of wildlife-and-field zoology knowledge and modern technologies based on the remote sensing data. Five years of experience and fieldwork in research, evaluation and administration both in the field and during the data processing and calculation institutions. This approach is responsive and could be easy adapted to stakeholders based in different countries with forestry areas and has a different way of focusing.