

**STUDY OF NATURAL BIOTA OF AND BIORECOVERY POSSIBILITIES
FOR CLOSED TUNNELS OF THE DEGELEN MOUNTAIN COMPLEX**

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**ИЗУЧЕНИЕ СОСТОЯНИЯ ФАУНЫ, ФЛОРЫ
И ВОЗМОЖНОСТЕЙ БИОРЕКУЛЬТИВАЦИИ ЗАКРЫТЫХ ШТОЛЕН
ГОРНОГО МАССИВА ДЕГЕЛЕН**

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Processes of technogenic degradation due to nuclear testing affected all the components of the ecosystems of the Degelen Mountain Complex.

The cenotic composition of the vegetative cover of the Degelen Mountains distinguishes by the diversity of vegetation due to significant differentiation of ecological conditions of vegetation growth. Here the following types of vegetation are present: steppe, meadow, forest, bushes, and desert.

The peculiarity of vegetation is the presence of large forest areas (containing birch, aspen-birch, and poplar-aspen areas) in narrow mountain valleys and the certain locations of the main fragments of forests typical for them.

In accordance with the methodology of the vertical zoning, the following zones have been determined on the territory of the Degelen Mountains:

- A zone of mountainous meadow and motley-feather steppe;
- A zone of bushes.

During the IRSE's field work on analysis of Degelen Mountains' flora 387 species of vascular plants of 58 families have been found. This data permits to characterize the structure and the patterns of the specific flora on the representative area of the Degelen Mountains on the southeast edge of the Central Kazakhstan Low Hills.

The assessment of flora taxonomic diversity, the quantitative set of species and families reflects the specific properties inherent in flora of the Degelen Mountains of the east edge of the Central Kazakhstan Low Hills.

The floristic composition of the Degelen Mountain Complex is more rich as compared to that one of the other two test fields of the former STS: Experimental Field - 148 species, Balapan - 192 species. Data of ecological, geological and botanic studies allowed to determine the main types of anthropogenic destruction of the ecosystem and the nature of their spatial distribution, the major cenosis-forming species for every type of anthropogenic residence and the radioecological growth amplitude of the dominant cenosis-forming species of the Degelen Mountains.

The results of work on fauna analysis show that 86 species of vertebrates live on the territory studied, including 2 species of amphibian, 6 species of reptiles, 59 species of birds, 19 species of mammals. Four species of all the found are rare species included in the Red Book of Kazakhstan.

Works on recovery of vegetation cover in the areas of tunnel demilitarization where the vegetative cover had been completely destroyed have been started. The experimental areas near four tunnels have been sown with seedling of poplar, weeping birch, Tatar maple, and elm; the experimental areas have been sown with perennial species of grass (*Bromus inermis*, *Psothyrostachus*, *Dactylis glomerata*, *Lolium Elateus*, etc.).

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