

## Transformation of soil and vegetable conditions at oil production territories

Evgenia Gatina

Perm State University, Perm, Russian Federation (suslovael@mail.ru)

On the territory of modern oil production soil, vegetation, ecosystem conditions of the environment are significantly transformed.

Researches have been conducted on the oil production territories located in a boreal coniferous forest natural zone from 2005 to 2015. Standard geobotanical and soil methods are used.

Mechanical destruction of a plant cover, change of the water conditions, intake of oil products and salty waters in ecosystems, pollution of the atmosphere are considered as the major technology-related factors defining transformation of land ecosystems at operation of the oil field.

Under the mechanical destruction of a plant cover the pioneer plant communities are formed. These communities are characterized by most reduced specific wealth with prevalence of types of meadow groups of plants and presence of types of wetland groups of plants.

The biodiversity of biocenosis which are affected linear infrastructure facilities of oil production territories and change of the water conditions, decreases. It is observed decrease in species wealth, simplification of structure of communities.

Under the salting of soils in ecosystems there is a decrease species diversity of communities to prevalence nitrophilous and meadow plant species.

At the increased content of organic substances in the soils that is a consequence of intake of oil products, is characteristic increase in specific richness of communities, introduction of types of wetland and oligotrophic groups of plants in forest communities.

Influence depends on distance to an influence source. In process of removal from a source of atmospheric pollution in forest communities there is a decrease in species diversity and complication of structure of community. It is caused by introduction of types of meadow groups of plants in ecotone sites of the forest communities located near a source of influence and restoration of structural features of forest communities in process of removal from an influence source.

Operation of oil fields leads to introduction of the synanthropes relating to meadow and wetland groups of plants. Transformation depends on loading time. At the initial stage of operation of the oil field the synantropization of a plant cover leads to increase in species diversity. At long technogenic loading decrease in values of indexes of a biodiversity due to oppression of native species of plants is observed.

Technology-related influence of oil fields is a regional factor of change of specific structure of plant communities. Modern oil production has to be followed by purposeful formation of the operated natural and technology-related ecosystems with adjustable parameters and higher stability in relation to a complex of technogenic oil-field influence.