

Legal protection of the environment during road maintenance

Abstract

The thesis deals with the legal protection of the environment during road maintenance with a special focus on winter maintenance involving the application of chemical gritting materials, mainly sodium chloride (NaCl). The research questions focus on two areas. The first question examines whether the legal regulation of winter road maintenance is in line with current scientific knowledge on the negative environmental impacts of such maintenance. The second question looks at whether a modification of administrative practice would be sufficient to potentially improve legal protection, or whether legislative change is necessary. The thesis emphasizes an interdisciplinary approach, linking legal science and environmental studies.

The first part of the thesis describes in detail the environmental impact of gritting salts, showing that sodium chloride, which is used in 98 % of cases in the Czech Republic, has significant and long-term impacts on the environment, which are manifested across its components even with a large temporal and spatial distance, and even in the case of relatively small salt concentrations. The impact is not only direct but also synergistic in combination with other substances and stress factors. There is no significant removal mechanism for salt that enters the waters. Some effects are not yet fully understood, such as the disruption of the sexual balance of frog populations or the correlation with the incidence of cancer in humans. The documented impacts may be irreversible by human lifespan measures and require high costs to adapt to.

The second, legal part of the thesis focuses on the analysis of current legislation and its application in practice. On the basis of almost 100 administrative decisions it is concluded that administrative practice does not provide protection corresponding to the current scientific knowledge on the environmental impacts of winter maintenance. It concludes by recommending changes in practice and legislation that could help minimize the damage caused.

Keywords: winter road maintenance, road salting, environmental protection, administrative proceedings