

9 Summary

The forest-game conflict - Analysis and recommendations under legal, ecological and economic aspects

In this report, the ecological and economic risks to forest ecosystems arising from current game management generally practised throughout most of Germany are analysed. It becomes clear that these risks are either underestimated or ignored by both the society in general and especially by hunters. The legislation needed to improve the situation is largely already in place, and requires amendment of merely a few important aspects. However, the lack of implementation of this legislation, due to short-staffing of the relevant authorities but primarily to resistance from hunters, is also an equally, if not more, important factor. Therefore recommendations on how these problems can be solved or at least defused, are presented here. The instruments proposed range from increasing the sense of responsibility of all concerned through to feasible sanctions.

The influence of ungulates on the forest has been changeable throughout history, linked largely to the political circumstances of the time. Whereas at times of famine, and after the 1848 revolution low deer densities were prevalent, which favoured forest regeneration, under feudalism and during national socialist era deer densities reached levels which virtually excluded natural regeneration. Today, deer densities impede forest conversion, promoted for a range of reasons, at many sites and the natural regeneration of main economic and ecologically desirable tree species for the establishment of mixed forest stands. These management goals are blocked by the vote of the vast majority of the hunters, who prioritise game keeping and reject calls for an appreciable reduction especially in deer densities to encourage forest regeneration.

The national and Bavarian hunting, forest and nature conservation regulations prioritise forests and forestry over hunting. The forest and nature conservation laws especially serve to conserve and enhance forest biodiversity. Even the hunting legislation leaves little room for doubt that hunting is a secondary forest use compared to the primary forestry operations. Consequently hunting must be conducted such that forestry operations are not adversely affected and, furthermore, the demands from forest management that forests must be protected against game browsing damage are complied with. The regeneration of the main forest tree species, in particular, must be promoted without need for protective measures. Because society's goals in this respect are clearly formulated in the legislation, the

conflict between forestry and hunting interests is not so much due to the absence of legal regulations, but rather a consequence of the softening, and hence inadequate enforcement of the law by those responsible (hunting authorities, forest owners, hunters). Thus offenders are not faced with the full legal consequences.

The ecological and economic impact of browsing is significant at high deer densities. Firstly, a loss of increment through biomass removal occurs, of which especially the vital tree seedlings, which are preferentially browsed, are affected. Secondly, for some tree species mortality results after the seedlings have been browsed only once, or in the case of saplings, more than once. Thirdly, selective browsing, particularly by roe deer, causes a reduction in the species mixture in stands over time, resulting especially in the loss of rarer species or those preferentially browsed. This loss of tree species diversity leads to an inherent decrease in the total biodiversity in forest stands.

The findings stated are disturbing given the extent of the damage, and in view of the protective effects of forests and the urgent need for forest conversion in the face of climate change. The negative effects of the high deer densities on the protective function of mountain forests were being discussed over 100 years ago. Silvicultural measures to improve habitat and increase the available nutrition only relieve natural regeneration from browsing when the deer density is low. At high deer densities, however, many tree species are browsed equally irrespective of forest structure. This overrides all other environmental factors relevant for tree growth. Consequently, a long-term, near-natural management to achieve stable forest ecosystems can only be realised at low deer densities.

The real consequences for forest owners, and in particular for the next generation of forest owners, are not apparent from conventional damage assessments because they do not account for the ecological, and especially the economic costs of poorer species mixtures. The poorer forests arising from a reduction in tree species mixture caused by deer browsing means forest owners carry higher investment risks. As with a mixed capital investment, where as wide a diversification as possible is recommended, the benefits of mixed species forest lie in the spread of risk. This advantage is lost as forests browsed by deer become more homogeneous, and the risk associated with species-poor forests increases considerably. The increased risk brought about by excessive deer browsing is not consciously accepted, but an imposed risk; an undesirable effect for which forest owners must demand adequate compensation.

For many years, the high level of damage identified by browsing and regeneration inventories of different intensities has remained unchanged. Sometimes excessive damage has even been found in fenced areas. The national forest inventory also documented major differences in the browsing frequency between the states. In some states the browsing situation has been improved in those forests where hunting is managed by the state foresters.

In a comparison of the actual to desired state, the actual situation was compared to the legal regulations. In legal terms, it became evident that the actual state of forest regeneration diverges from the legally, and hence socially desirable state. On the one hand this may be due to inconsistent legislation of the enforcement rules. On the other hand, it may be that the enforcement of the law itself is defective because the primary law enforcers – like it or not – do not adequately enforce it. The following points contradict, in part or entirely, society's goals: gamekeeping obligation including excessive feeding practice instead of appropriate deer densities; ineffective hunting methods; hunting plans not based on damage or on forest and nature conservation legislation, and sometimes autocratic with no control or sanctions if not met; game damage compensation in forests is possible yet without specific assessment criteria; financial damage is ignored. The forest department should develop and use case studies which make it clear for all concerned what happens when regulations are not followed. This approach is being adopted in some states, and a national standard is desirable.

The main recommendations to resolve the forest-game conflict are summarised below:

1. The legal and departmental authorities could undertake

- abolition of hunting plans for roe deer, or the introduction of a minimum cull based on forest regeneration assessments and the use of indicator fences in addition to the introduction of sanctions for violations against specific rules for protected forests (e.g., nature conservation areas or mountain forests);
- legal prioritisation of avoidance of deer browsing damage by lower deer densities over deer damage compensation measures;
- simplification and standardisation of the amount and granting of game damage compensation in forests by stating specific examples;
- elaboration of standard lease contracts with regulations for culling and controlling culls;
- reassessment of the minimum areas for hunting districts;
- revision of shooting seasons for individual game species based on game biology knowledge;
- creation of national standard regulations for the protection of migratory fauna with consequences for gamekeeping organisations (e.g., red deer shooting in- and outside red deer territories);
- abolition of the state support for artificial protection measures for forest regeneration (especially fencing costs, possibly excepting indicator fencing);
- uniform restriction of feeding to periods of severe fodder shortage;
- legal stipulations for education and further education in environmental science for hunting.

2. Potential silvicultural influence is confined to

- reduction of large-scale clearances;
- promotion of heterogeneous stand structures appropriate for species-specific site requirements.

3. Approaches in game biology, hunting techniques and hunting policies include e.g.

- reassessment of the need to shoot certain species;
- promotion of hunters' awareness of the problems;
- more species appropriate and effective hunting methods by shortening the hunting season and creation of incentives for hunters;
- feeding prohibition with the exception of publicly declared harsh periods;
- more tightly controlled bait hunting;
- promotion and acceptance of large predators; and
- abandonment of including game mortality through car accidents in hunting plans.

4. Calculation of the economic and financial consequences of damage from ungulates in the forest and communication of the results to politicians.**5. The regulation and uniform implementation of** regeneration, ungulate damage and browsing **inventories to the extent possible.** For the statistical reliability of the results, the introduction of confidence limits should be introduced, or for practical assessments, the critical browsing or deer damage intensities should be assessed.**6. The forest-game conflict** and the associated legal, financial and economic implications **should be dealt with at a higher political level.**