

**Example of reporting on ‘Main pressures and threats’ and ‘Conservation measures’ (*Tetrao urogallus,* breeding, FI) – DRAFT**

**Species name:** *Tetrao urogallus* all others (A659)

**Country:** Finland

**Season:** Breeding

**Brief description of habitat/species and its status**

*Tetrao urogallus* (Western Capercaillie) is a non-migratory species, breeding across northern parts of Europe and the Palearctic in mature conifer forests, mirroring closely the distribution of *Pinus sylvestris*. In Finland, mature forests are the preferred habitat for its lekking and nesting sites, but leks can also exist in less mature forests (moderately-managed forests). *T. urogallus* is considered to be an umbrella species, i.e. one with demanding habitat and area requirements, whose preservation guarantees the conservation of many other species.

The Finnish breeding populations of *T. urogallus* decreased dramatically from the 1960s to 1990s, after which the decline slowed. However, there are significant regional differences amongst breeding populations. For example, only a fraction of the original population remains in southern parts of the country, due to the greater human impacts there.

**Free-word description of ‘real life’ pressures**

The main pressures are:

* **loss, degradation and fragmentation of forests** owing to past and current forestry practices (especially clear-cutting). Habitat loss, degradation and fragmentation decreases *Vaccinium myrtillus* cover, suitable nesting and lekking sites, and increases predation. Loss of forest connectivity influences long-term viability of lekking populations;
* early springs due to **climate change** cause unfavourable weather conditions during the breeding period; egg laying and hatching too early can mean that chicks cannot find the insects that are a critical food source for them in the first weeks after hatching (especially problematic if such conditions occur in several consequent years).

Other factors, the impact of which is currently uncertain and/or of increasing importance in the future, include:

* impact of population fluctuations due to the lower population densities;
* typical population cycles in 6- to 7-year periods have almost disappeared (reasons are unknown);
* impact of predators (how different predator species – native and invasive alien – affect *T. urogallus*, and how this interaction is influenced by forestry in Finland, is still unknown);
* impact of hunting, although the latter is nowadays year-to-year regulated;
* loss of habitat due to expansion of agri-urban areas / holiday homes plus disturbance to lekking sites;
* poor knowledge by forest owners of the location of lekking sites;
* interest of forest owners to follow voluntary grouse-friendly forest management, including cooperation between forest owners in lekking site management;
* climate change is predicted to increase the proportion of deciduous forests in South Finland, reducing suitable habitat for the species further.

**Reporting for pressures and threats**

**A. Introduction**

Different interacting factors have been identified as causing the decline of *T. urogallus*. Habitat loss, fragmentation and degradation are recognized as being the most important ultimate causes of the declining trend of the population. In Fennoscandia, there is a general consensus that past and current forestry practices (influencing the structure and dynamics of forest grouse habitats) have a primary role. However, the precise mechanisms through which forestry has this impact are still not fully understood.

Climate change advances warm springs, but not of early summers. Early springs cause a phenological shift in egg laying and hatching. Hatchlings then face colder conditions than they are adapted to and, consequently, their mortality increases.

Other pressures and threats that have not been included below, owing to doubts over their current or future impacts, are listed above under ‘other factors’.

Capercaillie is a non-migratory species (resident), thus the focus here is on pressures/threats acting within Finland.

**B. Annotated table of pressures and threats**

| **Pressure from the list** | **Timing** | **Scope** | **Influence** | **Location** | **Explanation** |
| --- | --- | --- | --- | --- | --- |
| PB09 Clear-cutting, removal of all trees | ongoing and likely to be in the future | majority (50–90%) | High | Inside the Member State | Forest habitats are more fragmented and their quality has declined due to forestry related measures i.e. clear-cutting (PB09) including forestry practises in old-growth forests (PB14) and drainage of forests (PB24). Forestry practices have a primary role in declining populations (even though the mechanisms are still not fully understood).  Clear-cutting can take place in the whole country including old-growth forests, excluding protected areas, thus the scope ‘majority’ is selected for PB09 and PB14. ‘High’ influence on the whole population is selected for both PB09 and PB14 based on the current knowledge on negative impact from forestry measures.  Drainage for forestry purposes is carried out less in Lapland thus the scope ‘minority’ is selected for B27 considering the whole Finnish population/habitat of the species (it is not possible to predict future trend in re-establishing of old forest ditches). PB24 is assessed to be of medium influence as the significant part of the population occurs in the northern parts of Finland.  Forest habitat loss, degradation and fragmentation decreases *Vaccinium myrtillus* cover (important driver of habitat selection, provides shelter and critical food for chicks), suitable nesting and lekking sites, and increases predation. Loss of forest connectivity influences long-term viability of lekking populations. A lekking site can cover a forest area of 20 hectares, whereas a lekking area that includes the lekking centre (and the feeding and resting territories of males) can cover a forest area up to several hundred hectares. |
| PB14 Forest management reducing old growth forests | ongoing and likely to be in the future | majority (50–90%) | High | Inside the Member State |
| PB24 Drainage for forestry | ongoing and likely to be in the future | minority (<50%) | Medium | Inside the Member State |
| PJ01 Temperature changes and extremes due to climate change | ongoing and likely to be in the future | whole (>90%) | Medium | Inside the Member State | Climate change advances warm springs, but not of early summers. Early springs cause a phenological shift in egg laying and hatching. Hatchlings face colder conditions than they are adapted to and, consequently, their mortality increases.  If this phenomenon takes place more often in future, it could have catastrophic negative impact on the population. Not possible to say whether the Influence may even become ‘High’ within the next 12 years. |

**Reporting for conservation measures**

**A. Introduction**

The most important conservation measures are related to the management of forest habitats. Nowadays, forest owners have more options to diversify forest management practices and take into account, for example, the nature and recreational values of forests. Many forest owners also consider the needs of game management in their forests (many forest owners are also hunters). Advice, guidance and forest management recommendations have played a key role in the change. Since 2014, Finland has had a management plan for grouse species, which highlights the improvement of forest habitats as a key management measure.

**B. Annotated table of conservation measures**

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| --- | --- | --- |
| **Status of measures** | d) Most/all of measures identified and have been taken | See below under explanation on conservation measures. |
| **Scope of measures taken** | b) 50–90% | Regulation of hunting impacts the whole population. Part of the population occurs in protected forest areas that are not economically used forests (passive management forests). Difficult to assess the overall scope of the listed conservation measures, but as forestry practices represent the main pressure, and it is unclear how actively grouse-friendly management is implemented, the scope seems most likely to fall within the 50–90% band. |
| **Main purpose of the measures taken** | a) Maintain the current distribution, population and/or habitat for the species  b) Expand the current distribution of the species  c) Increase the population size and/or improve population dynamics (improve reproductive success, reduce mortality, improve age/sex structure)\*  d) Restore the habitat of the species | Grouse-friendly forest management and regulation of hunting) together have several purposes (as indicated here). Overall, however, the main objective is probably to “increase or improve the population” (related purpose also marked here with an asterisk). |
| **Location** | b) Both inside and outside Natura 2000 |  |
| **Response to the measures** | b) Medium-term results (within the next two reporting periods, 2025–2036) | “Medium-term results” is selected as hunting restrictions produce positive effects more or less immediately (short-term), whereas grouse-friendly forest management is a long-term conservation measure (dependent on the species's selection of habitats). |

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| **Measure from the list** | **Explanation** |
| MB05 Adapt/change forest management and exploitation practices | Grouse-friendly forest management is promoted in Finland (acting on voluntary basis). Forest management guidelines have been developed to enhance a habitat suitable for wildlife. There is evidence that it would be possible to manage forest holdings in a grouse-friendly manner with minor effects on the economics.  METSO programme provides incentives for private landowners for protecting forests and/or management (“nature management”).  These initiatives essentially concern the whole country. |
| MG02 Management of hunting, recreational fishing and recreational or commercial harvesting or collection of plants and fungi (incl. Restoration of habitats) | Hunting is regulated on a year-to-year basis, and decisions are based on the annual census data; hunting possibilities differ between different parts of Finland including also regions with no hunting. Restriction of hunting times has been applied depending on the season's population size. |