



Grouse and Tourism in Natura 2000 areas

Guidelines for an integration of nature conservation and nature use

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The EU-LIFE-Cooperation project 'Grouse and Tourism in Natura 2000 Areas'

Background In Europe, especially in the densely populated cultural landscapes of West and Central Europe, appropriate habitats for rare wildlife species are exceptional. At the same time areas suitable for tourism, outdoor sports and recreation are only available to a limited extent. Often these areas overlap with the refuge areas of rare species.

With Natura 2000, which includes areas protected under the Habitats Directive (directive: 92/43/EEC), as well as the Wild Birds Directive (directive 79/409/EEC) an extensive legal instrument has been introduced on a European wide scale. The aim of Natura 2000 is to protect the species and habitat types listed in the directive's annex, and to define standardised criteria for preserving biological diversity in the European Union. This does not necessarily exclude human use in Natura 2000 areas, as long as such use does not threaten the sites 'conservation aims' by having a negative impact on the favourable conservation status of the species or habitat type for which the area has been designated.

In Natura 2000 areas the regulation of human activity is not subject to uniform rules, as in the case of some other types of protected areas but the directives must be adapted to the specific needs of the protected species or habitats.

For recreation, tourism and outdoor sports in Natura 2000 areas the following aspects must be taken into consideration:

- The impact of different kinds of leisure activities depends greatly on the type and intensity of the activity, as well as the specific demands of the protected species and habitats.
- Recreation and nature protection interact with other types of utilisation (e.g. agriculture and forestry). This must also be taken into account when developing regulations for sustainable use.
- Within Europe the conditions vary from region to region, even if the tourist activities and the conservation aims in specific Natura 2000 sites happen to be the same.

The LIFE-Cooperation project Based on the aforementioned aspects, the EU-LIFE Cooperation Project 'Grouse and Tourism in Natura 2000 Areas' was launched in September 2002 by the State Forest Research Institute Baden-Württemberg, in cooperation with LIFE Project partners from Finland, Scotland and Germany. EU-LIFE Cooperation projects have been introduced by the European commission in 2002 with the object of sharing experience between LIFE-Projects and give them the opportunity to develop joint implementation-concepts.

Aims of the project The aim of the project "Grouse and Tourism in Natura 2000 Areas" was to develop identical guidelines for tourism and recreation in Natura 2000 areas, focusing on grouse as exemplary species. The guidelines should serve as a basis for the development of specific management plans, adapted to the individual European regions.

The guidelines were developed by an international, interdisciplinary team of scientific experts and professionals. The emphasis was not put on the development of specialised, detailed management objectives. The priority was to consider the interests of different stakeholders (nature protection, tourism, agriculture and forestry, as well as hunting), who deal with grouse and tourism, and reach a consensus. This is a new approach: Although guidelines for several of the different individual aspects had already been developed in the past (e.g. guidelines on sustainable hunting or eco-tourism in Natura 2000 areas), there had not previously been an interdisciplinary, holistic approach.

The guidelines should serve as a tool for the development and assessment of implementation measures, as well as public relations. Target groups are the different initiatives, associations, research institutes and authorities concerned with grouse, nature protection, landscape management and tourism. Another aim of the project is to initiate international cooperation and give new impetus towards integrated nature protection and sustainable land use.

The EU-LIFE-Cooperation project 'Grouse and Tourism in Natura 2000 Areas'

The development of the guidelines was subdivided into four phases:

Project schedule

1. Introductory workshop: At the beginning of the project in April 2003 an introductory international workshop took place in the Southern Black Forest, Germany. In presentations and interdisciplinary work teams the different stakeholder groups (nature protection, grouse protection, tourism forestry and agriculture, as well as hunting) analysed the topic 'Grouse and Tourism' from their own perspectives and identified different topics and potential conflicts. The different conditions found in the three focal regions (Great Britain, Central Europe and Scandinavia) were identified and the resulting demands on guidelines were defined.

2. Working groups: At the first meeting working groups on the aforementioned topics (nature protection, grouse protection, tourism, forestry and agriculture and hunting) were formed. Experts from all three focal regions participated in each team. Over the coming 1½ years these teams developed ideas for guidelines from the viewpoint of the respective stakeholder group. The team members communicated with each other through e-mail or at meetings organised for that purpose.

3. Final meeting: The different teams presented their proposals for guidelines at the final meeting, which took place in the Syöte National Park, Finland in September 2004. In interdisciplinary working groups the guidelines were discussed, modified and amended.

4. Coordination and Publication: After the final meeting, guidelines were formulated with the agreement of all participants. The results were published on a website (www.grouse-tourism.de). A communication forum was installed to serve as a platform for discussions and the exchange of information among project participants, scientists and professionals.

Now, the most important task is to implement the guidelines. This is intended to be done in various ways: **Implementation**

- The guidelines will be implemented in the different regions using model cases.
- Excursions and an exchange of ideas among projects from different regions with similar problems should lead to new approaches to implementation.
- The guidelines should be an integrated part of the planning and implementation of new LIFE projects.
- An 'impetus team' formed by participants of the cooperation project should act as a forum for an international exchange of information and coordination

For several reasons grouse species were assumed to be suitable focus species for projects aiming to integrate nature protection with other forms of land use like tourism and recreation: **Why focus on grouse?**

Grouse species are considered to be indicator species for habitat quality. Capercaillie has also been proven to act as an umbrella species for several endangered mountain birds, which are listed in the Birds Directive. Grouse species are often characterised by a comparatively close habitat affinity, which makes them highly sensitive to habitat changes. Because of the large home range sizes of the single individuals and the large area requirements of viable populations, a focus on grouse species assures that areas of sufficient size are taken into consideration for management concepts. And lastly, a crucial point which need to be taken into account with regard to tourism projects: most grouse species are highly sensitive to disturbance.

Apart from the ecological attributes, there is an additional aspect, that may be just as important for integrative projects: Everybody knows grouse!

Grouse species are symbols of untouched nature. In the public they are often strongly associated with traditions and culture. They awaken emotions and furthermore, it is much easier to identify with a capercaillie or a rock ptarmigan than with a mushroom or an insect, even if the latter are much more endangered. All these attributes also make grouse species an attractive medium for communicating nature protection aims to the public.

The guidelines, which will be presented in the following chapter, are subdivided according to different topics. They are the result of the project work and are based on the consensus of the participants of the LIFE Cooperation project. The guidelines determine the basic framework for tourism and recreation in Natura 2000 areas, which serve as habitats for grouse.

A detailed publication of the guidelines with background information, examples of the implementation and comments will shortly be published in 'Berichte der Freiburger Forstlichen Forschung' (Freiburg forest research publication series). It will also be available for download from the project's homepage (www.grouse-tourism.de)

Regional differences Appendant to the guidelines for each topic regional differences regarding selected aspects will be illustrated. This will be only a rough outline of the dominant conditions found in the different biogeographical and cultural regions. The colours represent the degree of pressure on the endangered grouse species and, consequently, the urgency of the respective guidelines.

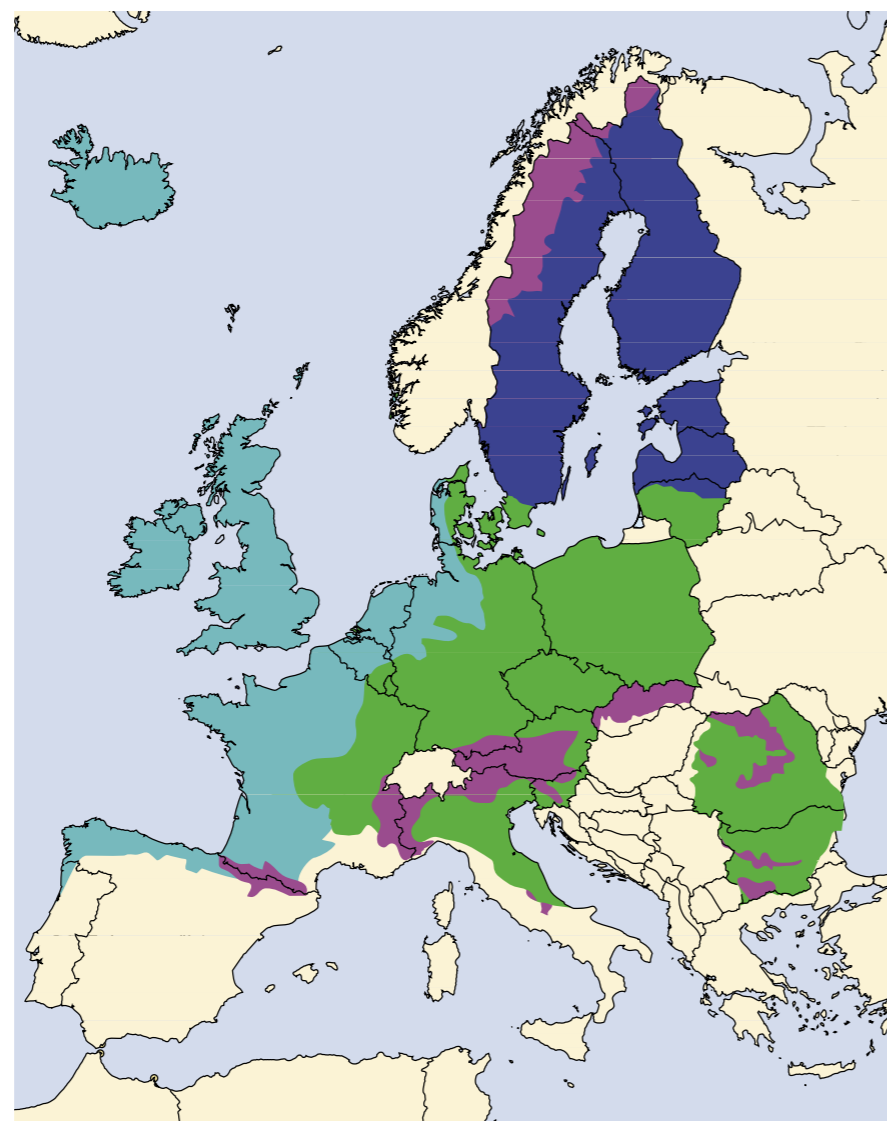
The subdivision into boreal, atlantic, alpine and continental priority regions largely corresponds to the bio-geographic regions of the same name according to the habitats directive (*see map). Since the assessment also takes cultural traditions into account, the Swedish/Norwegian mountain range is considered to be part of the boreal region, although it actually belongs to the alpine bio-geographic region.

The assessment of the overall situation within 'bio-geographic & cultural sub-units' refers only to the dominant conditions of a region (marked with a red cross in the table). Undoubtedly, there are also big differences within the different regions (marked with a grey cross), which are not considered separately.

Biogeographic and cultural regions	Boreal	Atlantic	Alpine	Continental
'Human pressure'				
1	✗		✗	
2	✗	✗	✗	✗
3		✗	✗	✗

1 = low human pressure/area
 2 = intermediate human pressure/area
 3 = high human pressure/area

- boreal
- alpine
- atlantic
- continental



Map of the four biogeographical regions according to the habitats directive that are relevant to grouse

Tourism, outdoor sports and leisure activities are generally accepted in Natura 2000 (N2000) areas, but N2000 is not a 'tourist brand': designating a site as N2000 should not automatically entail the development of tourism in this area. **General statement**

Although nature conservation aims dominate in Natura 2000 sites, some sites are suitable for tourism. In Central Europe tourism already exists in most of the N2000 sites. In some regions tourism may also benefit N2000 areas economically, politically, as well as for social/educational reasons.

- Tourism, outdoor sports and leisure activities (in the following, summarized as 'tourism') are acceptable in some N2000 areas.
- In N2000 areas with tourism, tourism should be included in the management plans.
- Further development of tourism is only possible if it does not conflict with the conservation targets of the N2000 site.
- Tourist access may be limited to less sensitive areas or times of year.
- Tourism development should focus on sustainable eco-tourism. Clear indicators for ecological sustainability need to be developed and implemented.
- In some regions tourism may support grouse protection as it serves as an economic basis for financing habitat improvement measures.

Tourism can also be beneficial to grouse/nature protection. Nature tourism can raise public awareness of the requirements of grouse. **Use the benefit of tourism**

- Nature-based tourism raises awareness of nature protection aims. This can be achieved, e.g. by offering tourists a chance to watch grouse without disturbing them (nature-orientated enclosures, lek-watching possibilities).
- Tourists should be given the possibility to participate in habitat improvement or nature protection measures (e.g. the 'Mountain Forest Project' = 'Bergwaldprojekt').
- Train local people to be guides for nature walks and encourage them to start their own tourism-related businesses.

Tourism may even promote nature protection because nature is seen as a valuable resource for tourism. As a source of income it can serve as an economic basis for habitat improvement measures. However, raising expectations with respect to economic benefits through tourism can lead to economic losses, especially in remote areas.

- Do not advertise N2000 as a guarantee for income from tourism to the local people.
- If money is charged (entrance fees, parking fees, visitor's tax etc.) it should be reinvested in nature conservation measures.
- Compensation funds (e.g. for development of tourist infrastructure) can be used to finance habitat improvement measures.

The success of implemented measures (zoning concepts, habitat improvement measures, visitor management etc.) does not only depend on visitor management, but also on the acceptance of these measures by the (local) public. **Public relations**

- Concepts should be developed in cooperation with different user groups (sporting clubs, alpine clubs, local tourist boards, local entrepreneurs but also foresters and hunters etc.). Such cooperation encourages users to identify with the grouse management and increases its acceptance.
- Different visitor management measures should be developed in order to address different target groups (in cooperation with associations, clubs etc.) including individuals.
- Different information and visitor management should be considered for the local people.
- Information for tourists (leaflets, guided tours, visitor centres, information boards, presentations etc.) should explain the measures (instead of simply prohibiting certain activities).
- To raise awareness and increase the acceptance of measures among the local people, they should be involved in the planning and implementation.
- Combine nature protection/information measures with education of and activities for local children.
- Give local people the opportunity to do volunteer work (e.g. educational work).

Integrate tourism and grouse protection Especially in or near densely populated landscapes, the areas that provide grouse habitats are, at the same time, most attractive to tourism. This may lead to competition for space between tourism and nature protection.

- Depending on the area available and competition for space between tourism and nature protection, spatial zoning concepts should be developed to define refuges for grouse and activity zones for tourism.
- Transfer tourist infrastructure (paths, cross-country skiing trails etc.) from 'grouse refuges' to 'tourist activity zones'.
- Avoid tourist activities/disturbances in key grouse habitats such as wintering sites and at least within a radius of 1 km around lekking places and brood habitats.

The impact of tourist activities on animals differs seasonally and also depends on the time of day.

- Visitor management should not only include spatial, but also temporal concepts.
 - In sensitive times of year, i.e. winter, the lekking/mating time and breeding time (depending on species and area), access of people to key grouse habitats should be regulated. Visitors must stay on official routes (paths, trails) during these times.
 - In the sensitive areas restrict tourist activities to the hours least critical for the birds. These may vary between species and sites. In most cases, the mid-day hours (mid morning to mid afternoon) are least critical.
 - Generally ban tourist/sports events from key grouse habitats, avoid them in all grouse habitats where populations are endangered.

To manage visitors in protected areas, it is important to have information about visitor preferences, their motivations and needs. The implemented management measures have to be adjusted to the visitors.

- The activity zones have to be made attractive for users ('honey-pots') e.g. by well-developed trails, attractions, lookout-points etc.
- The social carrying capacity of visitors has to be taken into consideration. If visitors feel overcrowded, they will move to less used areas, which may be the more sensitive areas, or come during the morning or evening hours, when animals are more sensitive.

Minimise impacts Tourism can have negative impacts on grouse populations. Disturbance can lead to habitat degradation or habitat loss. Tourist infrastructure (trails, roads, ski-lifts etc.) causes fragmentation and can lead to habitat degradation. New infrastructure usually leads to an increase of human use in the respective area.

- The development of new tourist infrastructure should be restricted to areas that are already developed (resp. should focus on the 'activity zones' according to a zonation-concept).
- Tourist activities/events should be concentrated in areas with existing infrastructure. Multifunctional use (different interests in the same area) should be promoted.
- Tourist activities in sensitive grouse areas must be strictly regulated and controlled; regulations require regular updating. New trends in outdoor sports (e.g., snow-shoeing off tracks in remote areas) may rapidly create new threats.

The impact of tourism on grouse differs greatly depending on the tourist activities, the landscape conditions and the grouse species. Due to a lack of knowledge impacts often cannot be quantified.

Quantify impacts

- Visitor monitoring is necessary to identify areas of conflicts.
- A combination of research concerning tourism/recreation and nature protection (e.g. assessment of the ecological dimension of the recreational carrying capacity) is necessary.
- Grouse species can serve as indicators for disturbances and site quality.

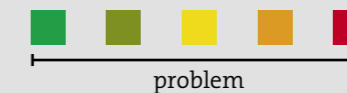
Differences within Europe

There are big differences throughout Europe regarding tourism, as well as the grouse conservation status. These differences have to be considered when applying the guidelines to the different European regions.

In the following, the differences of selected aspects of 'grouse and tourism' are estimated and illustrated for the different regions:

Selected Aspect: Tourism	boreal	atlantic	alpine	continental
Pressure of tourism on nature	■	■	■	■
Distance to cities (as a cause for impacts of tourism)	■	■	■	■
Possibility for birds to retreat to other areas	■	■	■	■
Different interests in the same area	■	■	■	■
Necessity for zonation concepts	■	■	■	■

The colours represent the extent of problem, resp. the degree of pressure on the endangered grouse species



General statement Tetraonid birds are important species for nature conservation in Europe and are highly appreciated by a large part of the human population. Their existence in protected areas is valued, which makes them very suitable as flagship species for nature conservation aims. Due to their specific habitat requirements with respect to the habitat structure and the extent of the habitat, grouse may also function as umbrella species and may serve as indicators for a site's quality.

Especially in Central Europe, grouse habitats are limited to comparatively small regions with suitable landscape conditions, which are strongly influenced or have been created by human activities. In these landscapes habitat management is necessary to maintain grouse.

- For maintaining grouse habitats in landscapes dominated by human land use practices, specific measures of habitat management are necessary.

Where to maintain grouse? The protection of grouse may conflict with other nature protection targets like protection of autogenous processes or the protection of other species. In such cases, it must be decided which nature protection aims have priority in which areas.

- Grouse habitat management should be restricted to the parts of a landscape, where the preservation of primary habitats or the support/development of habitats of similar quality is possible.
- Habitat management for grouse should not only be implemented where grouse are currently found, but should also consider potential habitats with favourable landscape ecological conditions for grouse.
- Areas for grouse protection and habitat management should be defined according to
 - The area requirements of a viable population.
 - The landscape ecological conditions. Grouse habitat protection/management should focus on areas where the landscape ecological conditions favour habitat conditions that correspond to primary habitats. Latitudinal and altitudinal differences, as well as climate and site conditions have to be considered.

Management concepts In natural and cultural landscapes the protection of habitats requires different management concepts.

- Primary habitats or habitats of similar quality (e.g. moorland, primary or natural secondary boreal and montane forests, alpine meadows), or habitats of high continuity (for instance heathland and pine forest poor in nutrients, riverine forests along mountain creeks) must be protected.
- Habitat management can be based on specific management measures or be an integrated part of regular land use practice.

In cultural landscapes where traditional human land use techniques supported grouse (e.g. alpine pasture, forest pasture, extracting litter from the forest), often, habitat quality can often be maintained or restored only by continuing these activities.

- Historic land use techniques that favour grouse habitat needs should be supported. In some cases they may also serve as a tourist attraction.
- If possible, the landscape conditions that result from traditional land use techniques can also be maintained with appropriate modern techniques.

The different forest grouse species are adapted to different successional stages of the forest. Species may compete in terms of habitat management

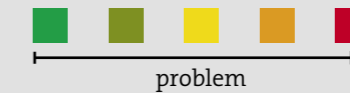
- Grouse habitat management does not necessarily mean the conservation of a specific successional stage.
- A distribution of habitat patches in the form of a mosaic characterised by temporal and spatial dynamics is necessary.
- Allow for full life cycle of trees.
- The required habitat conditions must cover at least 30 % of the area concerned.

Differences within Europe

In the following, differences of selected aspects of 'grouse and tourism' from the viewpoint of nature protection are estimated and illustrated for the different regions:

Selected Aspect: Nature Protection	boreal	atlantic	alpine	continental
Existing primary habitat	■	■	■	■
Necessity of management	■	■	■	■
'Impact of global change' (climate change, nitrogen and acidification)	■	■	■	■
Influence of big herbivores	■	■	■	■
Predation due to fragmentation	■	■	■	■

The colours represent the extent of problem, resp. the degree of pressure on the endangered grouse species



Conservation management must include areas outside Natura 2000 Viable populations of grouse species require large areas of habitat – of hundreds of square kilometres. Natura 2000 sites are not big enough to support viable grouse populations in the long term.

- Management for grouse species must therefore include land surrounding and connecting Natura 2000 sites.
- The overall management area should be defined according to the ecological and population-related requirements of the grouse species in question and should encompass an area big enough to support a viable population in the long term.

Avoid further fragmentation of habitats Habitat fragmentation and habitat degradation are major threats to grouse species in Europe. Physical fragmentation can lead to habitat loss at the local level and to loss of a population's connectivity and gene flow at the landscape level.

- At the landscape level, an area of suitable habitat sufficient to support a viable population of the species must be provided. Ideally, the habitat should be continuous. If it is not continuous, the habitat needs to be sufficiently interconnected, in space and time, to facilitate adequate dispersal and gene flow throughout the whole population.

Connectivity between habitat patches does not only depend on the distance, but also on the landscape conditions found between the habitat patches.

- The mean dispersal distance of the grouse species should be used to assess the functional connectivity between the habitat patches within the landscape.
- Dispersal also depends on the grouse population density and the breeding success in each patch, which should be maximised.

Minimise disturbance Functional fragmentation due to disturbance limits or even prevents the use of habitats.

- Significant disturbance must be avoided.
- If it is unknown whether a form of disturbance is significant it should be avoided or minimized on the basis of the precautionary principle.

Minimise negative human impact Collisions with wire fences, overhead wires and ski wires often kill birds

- Wires and fences should not be erected within Natura 2000 sites and other key areas for grouse
- Existing fences and wires should be removed where possible.
- Where wires and fences are unavoidable their visibility must be increased (e.g. with wooden slats or plastic coverings).

Litter and food scraps can increase the number of predators

- Minimise the availability of extra food sources to predators.
- Regulations for recreational facilities (e.g. campsites, picnic areas) are necessary.
- Provide extra cover for grouse in areas with high tourist pressure.

Maintain undisturbed refuges Undisturbed refuges of sufficient size are essential

- Tourism should not contribute to further fragmentation and degradation of grouse habitats.
- Further tourist development should focus on existing infrastructure according to the zonation concept
- Patches of undisturbed habitat (no roads, no tourist infrastructure, no settlements) should be at least 100 ha in size
- The total area of all patches classified as undisturbed grouse refuge should be large enough to support the local sub-population and should be interconnected with other refuges
- When calculating the area of undisturbed refuge habitat, a disturbance zone of 100 m alongside any tracks should be subtracted.

As a basis for grouse/habitat management a continuous monitoring of the grouse population is necessary.

Monitor grouse

- A long-term monitoring strategy should be established
- The monitoring strategy should include all relevant data (e.g. from hunters, foresters, nature protection groups, birdwatchers etc.)

There is a lack of scientific knowledge about the impact of tourism (and of the different forms of tourism and nature sports) on grouse

Quantify impacts of tourism

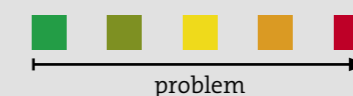
- The cumulative impact of various tourism developments should be considered
- As a basis for research and conservation planning, continuous monitoring of grouse abundance and productivity, habitat quality and tourist activities (visitor monitoring, monitoring of impacts etc.) must be carried out
- Indicators of disturbance must be defined (according to species and according to bio-geographic regions)

Differences within Europe

In the following, differences of selected aspects of 'grouse and tourism' from the viewpoint of grouse protection are estimated and illustrated for the different regions:

Selected Aspect: Grouse protection	boreal	atlantic	alpine	continental
Habitat				
Physical destruction	■	■	■	■
Physical deterioration	■	■	■	■
Functional fragmentation	■	■	■	■
Population				
Isolation	■	■	■	■
Area needs compared to available habitat	■	■	■	■
Direct human impact				
More predators due to litter	■	■	■	■
Power lines	■	■	■	■
Ski wires	■	■	■	■
Traffic	■	■	■	■
Eco-tourism, 'birders'	■	■	■	■
Disturbance	■	■	■	■

The colours represent the extent of problem, resp. the degree of pressure on the endangered grouse species



General statement Especially in the cultural landscapes of Europe with high human population densities, forestry and agriculture are the most important influences on the grouse habitats in Natura 2000 (N2000) areas. As N2000 is not sufficient to preserve grouse, guidelines should also refer to the areas outside of N2000.

- In N2000 areas and their surroundings certain forestry and agricultural practices may be necessary to sustain grouse.
- Silvicultural/agricultural concepts developed to support grouse habitats should refer to the area necessary for a Minimum Viable Population as a whole, not only to single N2000 areas.
- The issue of connectivity of habitats should be included in these concepts

According to the N2000 network idea, the funding of measures applied to areas inbetween N2000 sites may be essential for achieving the conservation targets inside the N2000 areas.

- Forestry/agricultural management which aims at maintaining/improving grouse habitats, should primarily concentrate on areas, where the landscape ecology and site conditions favour suitable habitat structures for the species.

**Forestry:
General measures**

- Forestry should maintain or improve the habitat quality for grouse
- Forestry should improve or maintain the connectivity of habitats
- Forestry should take natural dynamics into consideration and should not try to maintain certain conditions
- Habitat management should focus on the leks, as well as the breeding habitats, which are the areas of major importance

EU-subsidies for forest roads or trails can counteract grouse protection.

- Forest tracks should be integrated into the zoning concept.

**Forestry:
Habitat improvement
measures**

Most grouse species require habitats with a high structural diversity.

- For capercaillie structural measures such as creating open spaces (0.1-0.5 ha) or small clear-cuts (up to 1 ha) should be supported
- But: avoid large clear-cuts (especially with respect to capercaillie and hazel grouse)
- Natural succession should be favoured over plantations
- Site adapted natural tree species composition (esp. mixed tree species) should be favoured
- Bogs and mires should be maintained or restored
- The age of trees/stands should be increased
- In parts of the forests the whole life-cycle of the trees should be allowed

Especially in Central Europe forestry measures can be an indispensable precondition for maintaining grouse habitats.

- In areas presently or potentially suitable for grouse, habitat management should be integrated into forest practice.
- For each species target values of the most relevant habitat parameters must be defined, so that they can be easily integrated into forest management.

Example: Studies from different regions found that capercaillie require a minimum of suitable habitat on 30 % of the total area^{1,2}. As a result, open structures on at least 10 %, open canopy on 20 %, spruce/pine dense structure on 10 %, and a sufficient ground vegetation cover (> 40 %) on at least 66 % of the total area are recommended for capercaillie management. In addition, the proportion of area with dense structures should not exceed 30 % and there should be an edge line density of 50 m/ha³.

The current practice of funding nature protection measures (e.g. maintaining open areas) often does not involve qualitative criteria.

- Implementation rules should be defined and introduced as a condition for funding

As grants/subsidies for nature protection measures decrease, concepts are necessary to minimise costs and maximise outputs. **Forestry and economy**

- Economic principles should determine habitat management as much as possible: preferably, measures are to be applied in places, which require little input or where gains can be expected. This will reduce the risk of habitat-management measures not being financially feasible in the long run and allows managing a larger area with the same financial input.
- Mechanisms which integrate habitat improvement measures into regular forestry with little additional effort are necessary

Example: To improve capercaillie habitat: extend the regular thinnings and thin the stands in a non-uniform way.

- Planning measures should favour practices that minimise costs or even produce profits

Example: Although gaps in thickets may be advantageous, creating open spaces in the pole stage instead of the thicket stage produces a longer-lasting result and it may even yield a profit from wood.

- Natural processes should be integrated into forestry practices

Example: Habitat improvement measures should first concentrate on areas with favourable landscape ecological conditions (e.g.: the long term success of creating open structures will be higher in areas with poor soil conditions or at higher altitudes/colder climate)

- Funding mechanisms for private forest owners are required, to compensate them for the additional effort, if grouse habitat management is included in their forestry practices
- The use of timber and fuel wood should be promoted to finance the costs of habitat improvement measures for capercaillie.

Tourists normally perceive forests that are suitable for forest grouse as 'beautiful forests'.

Forestry and tourism

- Forestry can support visitor management by enhancing the landscape for tourism in 'activity zones' (e.g. creating vantage points) and making 'grouse refuges' unattractive (e.g. barricade a footpath by leaving cut trees)
- Habitat development measures should be implemented primarily in refuge zones according to a zoning concept
- Forest planning should include stakeholders of other interest groups (e.g. tourist board, hunters' association)
- Forest planning should be within the framework of an overall N2000-site management plan

In the Alps, due to poor economic returns, many alpine pastures have been abandoned in recent years. This has led to spontaneous colonisation of these areas by scrub and to a loss of black grouse and capercaillie habitat. **Agriculture:
General measures**

- Alpine pastures should be maintained and an extensive use of alpine pastures should be supported

The increasingly dense structure of forests can be regarded as one of the main problems for capercaillie in Central Europe. Moderate browsing and grazing pressure by herbivores such as deer and cattle can significantly improve grouse habitats.

- Extensive forest pasture should be promoted, to preserve open forest structures.

Alpine pasture also serves as the ideal landscape for alpine tourism. Therefore, it is often supported by income generated by tourism.

- Make use of this mutual dependency between the needs of alpine pasture and alpine tourism by developing concepts for alpine pasture management in cooperation with tourist associations. To benefit grouse, these concepts must also include visitor management measures.

Education and exchange of experience in forestry and agriculture

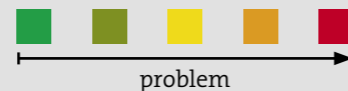
- Educational programmes should be implemented to train foresters and forest workers how to incorporate habitat management into forest practice
- Partnerships should be developed between areas with similar landscape/habitat conditions
- A local person should be assigned in order to communicate the management practices to the local people (private forest owners, farmers etc.)

Differences within Europe

There are big differences throughout Europe regarding forestry and agriculture in relation to grouse and tourism. In the following, the potential differences with respect to selected aspects of grouse and tourism are estimated and illustrated for the different regions:

Selected aspect: Forestry and agriculture	<i>boreal</i>	<i>atlantic</i>	<i>alpine</i>	<i>continental</i>
Need for multifunctional use	■	■	■	■
Is multifunctional use of private forests applied?	■	■	■	■
Is multifunctional use of state forests applied?	■	■	■	■
Importance of forest management for grouse habitats	■	■	■	■
Does current management support grouse habitats?	■	■	■	■
Possibility of integration in commercial forests	■	■	■	■
Need for increase of timber-utilization (esp. pole stage)	■	■	■	■
Do natural dynamics contribute to habitat deterioration (in space and time)?	■	■	■	■
Necessity for specific planning with regard to site-conditions/tree-species/age-class	■	■	■	■
Necessity to improve 'habitats for tourists'	■	■	■	■

The colours represent the extent of problem, resp. the degree of pressure on the endangered grouse species



¹ Angelstam 2003
^{2,3} Suchant und Braunisch 2004

In principle, hunting is acceptable in Natura 2000 (N2000) areas. For hunting grouse the following preconditions must be met. **General statement:**

- Hunting should not significantly endanger the favourable conservation status of the species.
- Hunting grouse should only be allowed in stable and viable populations.
- Hunting should be sustainable and controlled.
- Hunting in N2000 areas must be considered at the landscape level. Hunting concepts for grouse, as well as criteria for sustainable hunting, should refer to an area large enough to support a viable population.
- Hunting should be stopped if there is a significant population decrease.

Preconditions for hunting grouse

- To ensure sustainable hunting, continuous monitoring is necessary. Indicators can be
 - population size (apart from population cycles)
 - reproductive rate
 - distribution range
- Hunters' data can provide valuable information for grouse monitoring. However, for determining hunting regulations, any available additional information about the status of grouse species should be included.

Monitoring

In some situations, hunting can benefit the conservation of grouse habitats, as the possibility for hunting grouse may encourage the hunters to participate in habitat development **Benefits of hunting**

- When considering whether to prohibit hunting or not, the disadvantages of losing the hunters' participation and support as a result of the prohibition should be taken into account.

Hunting has a long tradition in most European countries. These traditions differ regarding the hunting practices, as well as the general attitude towards hunting. **Cultural aspects**

- Local traditions should be respected and hunting regulations should be adapted according to the regional differences.

Habitat management can include the management of predators or herbivores. Especially in fragmented cultural landscapes an increased density of predators can influence grouse populations negatively. **Hunting of predators and herbivores**

- Minimise practices that generally support predators.
- Predator control can be applied as a short-term measure to stabilise grouse populations. This does not apply to endangered predator species (e.g. lynx, golden eagle etc.).
- Habitat management may also involve herbivore management to avoid overgrazing by herbivores.

- Hunting tourism is a source of income, however, there should not be one-sided management, which focuses on one (hunnable) species at the cost of others (not hunnable). **Hunting tourism**

Minimise impacts Hunting can have negative impacts on grouse. It can lead to disturbances and may influence population dynamics. Some hunting practices can also indirectly influence grouse populations negatively: e.g hunting on leks too early (before copulating is finished) may have an impact on the population's reproductive success. Shooting the dominant cock at a lek with only few cocks may influence population genetics.

- Disturbance by hunting should be minimised.
- Hunting practices that have a significant impact on population dynamics, population genetics or reproductive success should be avoided.
- Hunting concepts should be included into the zoning concept.

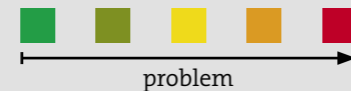
Differences within Europe

There are big difference throughout Europe regarding hunting law and hunting practice. These differences have to be considered when applying the guidelines to the different European regions.

In the following, the differences of selected aspects of hunting are estimated and illustrated for the different regions:

Selected aspect: Hunting	boreal	atlantic	alpine	continental
Stable and viable populations as a precondition for hunting	■	■	■	■
Availability of reliable data	■	■	■	■
Proportion of tourists on grouse hunting	■	■	■	■
Disadvantages to expect from prohibition of grouse hunting? (traditions, habitat management)	■	■	■	■
Hunting culture (general)	■	■	■	■
Necessity of predator control due to habitat fragmentation	■	■	■	■

The colours represent the extent of problem, resp. the degree of pressure on the endangered grouse species



Many forms of land use are linked up to grouse protection and tourism. Especially in the mountainous areas of Central Europe this often leads to conflicting interests in a limited area. However, there are also opportunities for cooperation. Grouse protection and land use within the same area are often possible. This integration of nature protection and sustainable use is also reflected by the idea of Natura 2000.

Integration and cooperation between different user groups

- Mechanisms should be developed for sustaining grouse habitats and populations by combining the activities of different user groups with the needs of grouse
- Protection measures are better accepted when developed in cooperation with the different local stakeholders.
- Integrating issues of local identity (traditions, culture, land use practices, economy) into management planning is a key factor for social sustainability.

Regional differences should be considered. There are strong differences regarding the grouse and tourism conditions throughout Europe. Scandinavia and Central Europe can be regarded as the two extremes. In Central Europe there are strong traditions with respect to tourism and the mechanisms that are developed aim at improving the existing situation. In contrast, Scandinavia has the chance to develop new mechanisms for sustainable nature tourism.

Consideration of regional differences

- Although guidelines should be standardised throughout Europe, they must be adapted to the different regional situations.
- The transfer of the guidelines to concrete measures should be done in cooperation with local scientists, land users, tourist enterprises etc. so that the local conditions are taken into account.



Grouse Species in Europe

Capercaillie*

Scientific name:	<i>Tetrao urogallus</i>	Linnaeus 1758
Common names:	Capercaillie	English
	Grand tétras	French
	Auerhuhn	German

Conservation Status IUCN 2003 (<http://www.redlist.org/>): Lower risk (near threatened).
CITES 2003 (<http://www.cites.org/eng/append/appendices.shtml>): not listed in Appendices.
EU Birds Directive: Annex I, Annex II/2, Annex III/2

Distribution Eurasia. Contiguous distribution in the boreal forest from Scandinavia to eastern Siberia; the south-western part of the range in western and central Europe is fragmented primarily due to the patchy distribution of montane conifer forests and secondarily due to habitat loss.

Population Size and Trend in Europe The capercaillie still occupies most of its original range, although serious declines in western and central Europe have resulted in local extinctions. In central Europe, many populations have disappeared. Most of the remaining ones are small (<200 birds) and isolated. In general, the species is listed as threatened in western, central, and south-eastern Europe, but still occurs in considerable numbers throughout most of its boreal range.

Habitat and Ecology The capercaillie is adapted to boreal climax forests. Its primary habitat is a landscape dominated by old-growth forest intermixed with bogs and patches of younger successional stages following natural disturbance such as wind-blow, snow-break, and fire. Capercaillie habitats are characterised by coniferous trees, open structure with moderate canopy cover, and rich ground vegetation dominated by bilberry *Vaccinium myrtillus* and other ericaceous shrubs. The birds feed almost exclusively on conifer needles in winter but on leaves, buds, flowers, fruits of various herbs and shrubs in summer. Young capercaillie chicks rely on invertebrates, especially caterpillars on *Vaccinium*. In the temperate zone, e.g. in central Europe, Capercaillie habitats are restricted to montane regions. The capercaillie is often referred to as an indicator species of healthy old forest communities in montane and boreal ecosystems.

Hunting and Cultural Importance The capercaillie has a long history as a game bird. In central Europe, the capercaillie has received particular attention as a highly-valued hunting trophy. Since the 1970s, capercaillie hunting has been restricted or banned in all western and central European countries. In its central European strongholds, the capercaillie has been a traditional element of local folklore until the present day.

Principal Threats

- Habitat degradation. As a habitat specialist, the Capercaillie is sensitive to changes in habitat structure, i.e. features at forest stand level. Due to its large spatial requirements the Capercaillie is also susceptible to changes at the landscape scale, such as forest fragmentation. In central Europe, capercaillie abundance was highest at times when human land-use practices, e.g. collection of forest litter and cattle grazing, favoured open forest structures. During the past decades, increasing standing timber volumes throughout central Europe were paralleled by declining capercaillie numbers.
- Small population sizes. In western and central Europe, deterioration and fragmentation of habitats has resulted in isolated populations, many of which are now threatened by small size.
- Increased Predation due to fragmentation.
- Disturbance by tourism and leisure activities.
- Collisions with wires and fences.

* text and maps are extracted from: see page 31

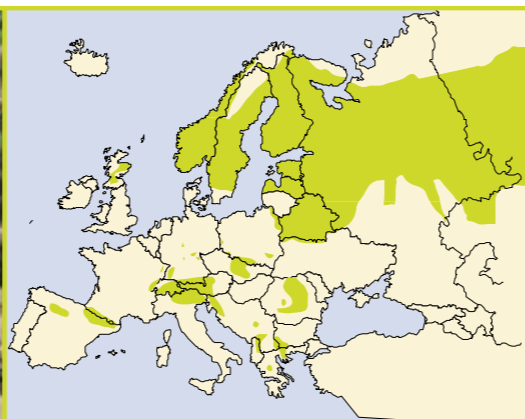
female



male



distribution



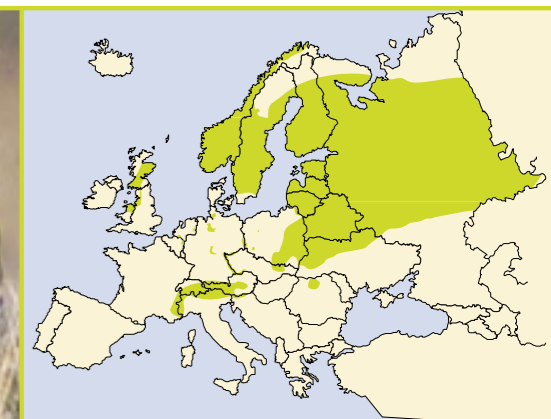
female



male



distribution



Grouse Species in Europe

Black Grouse*

Scientific name:	<i>Tetrao tetrix</i>	Linnaeus 1758
Common names:	Black grouse	English
	Tétras-lyre, Petit coq de bruyère	French
	Birkhuhn, Spielhahn	German

IUCN 2003 (<http://www.redlist.org/>): Lower risk (near threatened).
EU Birds Directive: Annex I, Annex II/2, Annex III/2

Conservation Status

Distribution Northern Eurasia. Continuous distribution in the boreal forest from Scandinavia to south-eastern Siberia; the western and southern parts of the range are fragmented; here, major range contractions and declines have occurred during the 20th century.

Population Size and Trend in Europe Population densities may strongly fluctuate, particularly in the northern parts of the range where 4-10 year population cycles are common. Except for these short-term fluctuations, black grouse populations are more or less stable throughout the contiguous range, and are not particularly endangered. In western and central Europe, black grouse numbers have been declining rapidly during this century, and particularly since the 1970s. Many lowland populations have disappeared, and the remaining ones are mostly small (<100-200 birds) and isolated. In central Europe, the largest and still mostly stable population is found in the Alps.

Habitat and Ecology The black grouse is one of the grouse species with the broadest habitat requirements. In the boreal regions, the black grouse is a bird of forest edge habitats and of early stages of forest succession. Outside the boreal forest, black grouse are found in structurally similar habitats such as moorland and heaths, young and open regenerating conifer forests after disturbances such as fire, storm, or clearcutting, treeline habitats and alpine pastures in mountainous areas, as well as fields and meadows, and military training grounds. Black grouse generally avoid closed tree cover. The birds feed opportunistically but selectively on a variety of food items.

Hunting and Cultural Importance Throughout most of its range, the black grouse has a long history as a game bird, and therefore is of great cultural, and at least regionally, economic importance. After willow ptarmigan and hazel grouse, it is the most numerous grouse species in the bag of Fennoscandian and Russian hunters.

Principal Threats

- Habitat degradation. In western and central Europe, habitat loss due to changes in human land-use, and particularly the intensification of agriculture. Drainage and destruction of moorland, fertilisation or afforestation of heathland and sheep pastures, and the declining use and maintenance of alpine summer pastures by grazing and mowing are also common causes of the deterioration of black grouse habitats.
- Small population size. In western and central Europe, deterioration and fragmentation of habitats have resulted in isolated populations, many of which are now threatened by small size.
- Increased predation due to fragmentation.
- Human disturbance by tourism and leisure activities.
- Collisions with wires and fences.

* text and maps are extracted from: see page 31

Hazel Grouse*

Scientific name:	<i>Bonasa bonasia</i>	Linnaeus 1758
Common names:	Hazel grouse	English
	Gelinotte des bois	French
	Haselhuhn	German

Conservation Status IUCN 2003 (<http://www.redlist.org/>): Lower risk (near threatened).
EU Birds Directive: Annex I

Distribution Eurasia. Boreal, montane, and temperate forests from France and Scandinavia east to Japan. The northern limit of the range coincides with the edge of the taiga forest; the northernmost populations are in Lapland and Siberia. The southern limit of the species mostly parallels the southern border of the boreal forest; in central Europe the hazel grouse also occurs in deciduous temperate forests and montane forests south of the boreal zone.

Population Size and Trend in Europe In the boreal forest the hazel grouse still occupies most of its historical range and is generally common. In western and central Europe major declines and range contractions have occurred during the past century and already before; most remaining populations are restricted to mountainous areas; many are scattered and small.

Habitat and Ecology Hazel grouse inhabit mostly mixed coniferous-deciduous forests. They show fairly narrow requirements for habitat structure; availability of relatively dense coniferous or deciduous cover from the ground to about 2 m in height seems to be critical. Hazel grouse are found in a wide variety of habitat types that provide this structural requirement; old growth as well as managed deciduous or coniferous forests of different harvest regimes and successional stages. During snow, hazel grouse feed on catkins and buds of deciduous trees such as *Alnus*, *Betula*, *Corylus*, *Sorbus*, *Fagus*, and *Chosenia*. Close interspersed feeding trees and cover is crucial. In snowfree times, the birds feed on a variety of shrubs, herbs, and grasses. Hazel grouse avoid open areas and seem to be particularly vulnerable to forest fragmentation.

Hunting and Cultural Importance in Europe The hazel grouse is a popular game species throughout most of its range. European hunters mostly attract the birds by imitating their calls with special grouse whistles in spring and autumn. This kind of hunting is still practised in Scandinavia and Russia. In the boreal zone, however, hazel grouse are more commonly hunted with pointing dogs in autumn. Hazel grouse hunting no longer plays any economic role in central Europe. Only a few birds are taken and hunting is banned in several countries. In part of the boreal region, hazel grouse shooting remains economically important.

Principal Threats

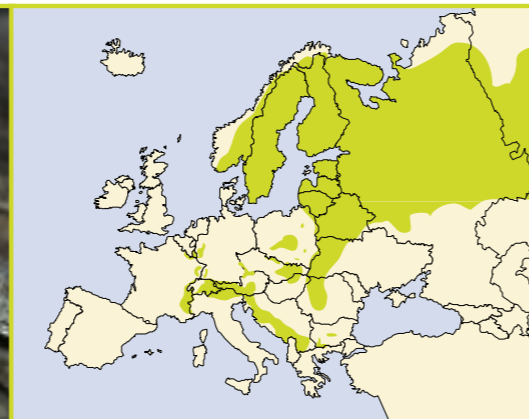
- Habitat degradation. Habitat loss, fragmentation, and degradation related to changes in human land use or silvicultural practices are the most important threats to the hazel grouse. A loss of a dense understorey in industrial forests (central, southern Europe; Fennoscandia), and clearcutting (boreal forest) may result in declining hazel grouse numbers.
- Predation. In parts of Europe, increasing numbers of generalist predators and wild boar are believed to result in reduced survival and nesting success.

* text and maps are extracted from: see page 31

female

male

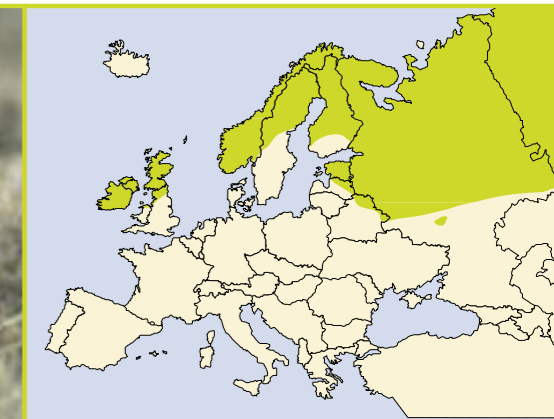
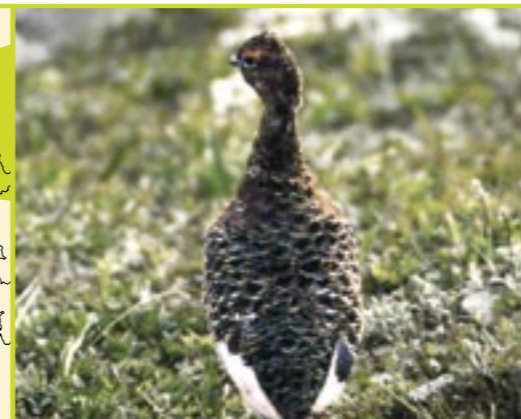
distribution



Lagopus Lagopus male (female see page 32)

Lagopus Lagopus scoticus male

distribution



Willow Ptarmigan*

Scientific name:	<i>Lagopus lagopus</i>	Linnaeus 1758
Common names:	Red grouse (<i>L. l. scoticus</i>)	English
	Lagopède des saules	French
	Moorschneehuhn	German

IUCN 2003 (<http://www.redlist.org/>): Lower risk (near threatened).

Conservation Status

Circumpolar. Arctic, subarctic, and subalpine tundra of North America and northern Eurasia and heather moorland in Britain. In winter, the species may occur both lower in altitude and latitude than the breeding range. The willow ptarmigan has the largest distribution of all grouse species.

Distribution

Willow ptarmigan is widespread and common in many parts of its extensive range. Populations fluctuate in numbers, and are in regionally cyclic in 3-4 year cycles. In the Russian tundra, densities often reach 20-30 and up to 60 pairs per km². For Britain, breeding densities may reach a maximum of 115 pairs per km² in areas intensively managed for grouse. Some range contractions have been recorded in parts of Europe (Baltic countries, Belarus).

Population Size and Trend in Europe

The willow ptarmigan inhabits primary Arctic tundra, clearings in boreal forest, forest edge habitats, and subalpine vegetation. Willow ptarmigan prefer moderately moist lowland areas rich in low willows *Salix* or birches *Betula* and ericaceous shrubs, mosses, grasses, and herbs, and more rarely use steep slopes, rocky areas, and lichen-rich tundra. In winter, the birds prefer valley bottoms and riparian habitats with dense cover of willows, birches, alder, aspen, or conifers. In some regions, willow ptarmigan use farmland to some degree. Where both species are sympatric, the willow ptarmigan generally occurs at lower elevations and in wetter habitats with denser vegetation than the rock ptarmigan *L. mutus*.

Habitat and Ecology

The willow ptarmigan is hunted throughout its range, except for the Baltic countries and Belarus where it is fully protected. At least regionally, it is a game bird of great cultural and economic importance. The willow ptarmigan is the most numerous grouse species in the bag of British, Fennoscandian, and Russian hunters. The habitats of the British subspecies *scoticus*, the "red grouse", are intensively managed to produce high densities for sport hunting.

Hunting and Cultural Importance in Europe

■ Habitat degradation. Willow ptarmigan habitats are generally well protected by their remoteness. Locally, habitats may be affected by settlements, military bases, roads, mining, afforestation, cultivation and other human activities. Road construction increases the accessibility of willow ptarmigan habitats and may result in increased hunting pressure (North America, Russia, Scandinavia). Forestry practices were reported to impact habitats negatively in Finland.

■ Small population size. In some areas at the edge of the range, some local populations may be threatened by their small size in possibly suboptimal habitats (e.g. Baltic countries).

■ Collisions with power lines and deer fences.

Principal Threats

* text and maps are extracted from: see page 31

Grouse Species in Europe

Rock Ptarmigan*

Scientific name:	<i>Lagopus mutus</i>	Montin 1776
Common names:	Rock ptarmigan	English
	<i>Lagopède alpin, perdix blanche</i>	French (Europe)
	<i>Alpenschneehuhn</i>	German

Conservation Status IUCN 2003 (<http://www.redlist.org/>): Lower risk (near threatened).
EU Birds Directive: Annex I

Distribution Circumpolar. Arctic and alpine tundra of North America and northern Eurasia. Most of the Arctic coast and islands are inhabited by the species; it retreats from the northernmost Arctic regions during winter. Within Europe, the northernmost populations inhabit northern Greenland and beyond; the southernmost populations are in the Pyrenees. Rock ptarmigan are migratory in large areas of the northern Arctic; in winter they often are nomadic in large flocks. The rock ptarmigan has the widest latitudinal distribution of all grouse species.

Population Size and Trend in Europe The species still occupies most of its original range; it is relatively secure because of the inaccessibility of its habitat. Some range contractions with local extinctions are known, e.g. from the UK due to global warming or excessive sheep grazing. Population densities vary greatly and often in approx. 10-year cycles; reported figures range between <1 and >60 birds per km².

Habitat and Ecology The rock ptarmigan inhabits dry tundra and alpine habitats with rocky ridges or outcrops and relatively sparse vegetation dominated by grasses, lichens, and mosses. The rock ptarmigan selects wintering areas that allow access to the ground vegetation, e.g. windswept ridges and slopes. Some populations spend the winter on or close to the breeding habitat; others winter in shrubby areas at or above the treeline or in forest edge habitats. Long-distance southward winter migrations are common for high-latitude populations. Where both species are sympatric, the rock ptarmigan generally occurs at higher elevations and in drier habitats with sparser vegetation than the willow grouse *L. lagopus*.

Hunting and Cultural Importance The species is hunted in many parts of its European range. Because of its lower densities and its less accessible habitats, the rock ptarmigan has always been less important as a game bird than the willow grouse.

Principal Threats In general, the species is well protected by its wide distribution in areas with low human population density. Threats to local populations are mostly related to overhunting and tourism development.

- Exploitation. Rock ptarmigan are susceptible to overharvesting, especially if hunted in spring, e.g. in the vicinity of settlements. Extinction due to overharvesting is a localised threat, however.
- Habitat degradation. Loss and degradation of habitats due to tourism developments, such as expansion or upgrading of ski-resorts, have been reported as threats to populations in Europe (Alps, Pyrenees). Direct disturbance related to human presence may displace the birds from wintering areas and may be threatening populations. Negative impacts on habitat quality have been reported from Iceland (erosion of heathlands due to sheep grazing).
- Collisions with cables. Mortality due to collisions with cables around ski-stations has been reported as a threat in the Alps and the Pyrenees.

* text and maps are extracted from: see page 31



The project area is located in the southern Black forest and surrounds the Feldberg which is, at 1493 m., the highest mountain in Baden-Württemberg and a popular destination year-round for tours and outdoor sports. To serve the two million visitors a year, a dense network of hiking tracks, cross-country skiing routes and downhill ski fields has been created, and it is planned to expand this further. Simultaneously the Feldberg area is, because of its altitude, one of the last refuges of sub-Alpine fauna and flora outside the Alps themselves. Typical species are two kinds of grouse, the capercaillie and the hazel grouse. However, the number of grouse have been declining radically for many years. The competition over a limited area increasingly lead to conflicts between species and habitat protection on the one hand and tourism on the other.

The central aim of the LIFE-project was to reconcile tourism and conservation. In order to achieve this objective, a broad interdisciplinary approach was chosen, consisting of the following elements.

1. Inventories of the habitat structure, the occurrence of grouse, the touristic infrastructure.
2. Mapping, data management and evaluation using geographical information systems (GIS).
3. Development of a catalogue of integrated measures co-ordinated with the Forest Service, local authorities and NGO's.
4. Implementation of integrated measures involving silvicultural and visitor steering concepts, in particular.
5. Controlling results and monitoring.

The catalogue of integrated actions was implemented and coordinated in a two-phase method: The first step was to tune the measures for habitat improvement within a spatial concept with undisturbed zones for wildlife in which silvicultural measures should improve habitat structures for Capercaillie and Hazel grouse. The second step was coordination with local authorities and NGO's to concentrate and improve the tourist infrastructure outside these wildlife-zones. The result of the project has been a win-win-situation: improvement of habitat structures as well as improved offer for tourism. Instead of unilateral bans, clever visitor guidance and well-targeted alterations to forest structures should improve the prospects of survival for the grouse and act as a model for similar projects.

Commission reference:
LIFE 98 NAT/D/5087

Duration:
01 May 1998 to 30 April 2002



Beneficiary:
Forstliche Versuchs- und Forschungsanstalt Baden-Württemberg (FVA)
Wonnhaldestraße 4
79100 Freiburg

Project Leader:
Dr. Rudi Suchant, FVA



Partners:

- BNL Freiburg
- Landesforstverwaltung Baden- Württemberg
- Forstliche Versuchs- und Forschungsanstalt Baden-Württemberg

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Life-Projekt „Grindenschwarzwald“/ Germany The project area is located in Germany in the state of Baden-Württemberg in the districts of Freudenstadt and the Ortenau. A sandstone plateau of 30 km length stretches from Baden-Baden to Freudenstadt at an altitude ranging from 900 to 1160 m above sea level. It is characterized by a mosaic of active raised bogs, mountain heath (“Grinden”) and near-natural forests.

According to appendix I of the FFH-classification the project area encompasses twelve different habitats, some of which are considered top priority: “active raised bogs”, “bog woodland” and “Nardus-grasslands on siliceous substrates”. In terms of area the “mountain heath” is the most important. In addition, there are local “acidophilous forests” and “beech forests”.

Several species of plants and animals living in the area are in need of special protection from a super-regional and regional perspective. According to the Wild Birds Directive, particular bird species like Capercaillie (*Tetrao urogallus*), Hazel Grouse (*Bonasa bonasia*), Pygmy Owl (*Glaucidium passerinum*), Tengmalm’s Owl (*Aegolius funereus*), Black Woodpecker (*Dryocopus martius*) and Three-toed Woodpecker (*Picoides tridactylus*) are of common interest. Mountain heath and active raised bogs on the plateaus are also important resting and feeding areas for migrating birds, e. g. Wheatear (*Oenanthe oenanthe*) and Whinchat (*Saxicola rubetra*).

The mostly treeless “mountain heaths” and “Nardus-grasslands” are remnants of an old cultural landscape, created by centuries of grazing. Today these areas with their attractive landscape play an important role for tourism. However, since the end of the pastoral use of the “mountain heath” in the middle of the last century these habitats are endangered by species impoverishment and reforestation.

The aim of this project is to preserve, optimize and connect the various habitats of the “Grindenschwarzwald”. To achieve this goal cooperation of nature conservancy, forestry, agriculture and tourism will be improved.

Conservation measures of particular interest are:

- improvement of conservation status of active raised bogs by guidance of visitors
- enlargement and improvement of the mountain heath and Nardus grasslands by grazing
- support of endangered bird species especially Capercaillie and Hazel Hen
- sensitization of visitors to the aims of nature protection by public education
- information about the LIFE-project and LIFE-program of the EU.

Commission reference:

LIFE 00 NAT/D/7039

Duration:

01 Jan 2001 to 31 Dec 2004



Beneficiary:

Bezirksstelle für Naturschutz und Landschaftspflege (BNL)
Kriegsstrasse 5a
76137 Karlsruhe
Deutschland

Project Leader:

Dr. Daniel Brandt, BNL

Partner:

Bezirksstelle für Naturschutz und Landschaftspflege, Freiburg Landesforstverwaltung of Baden – Württemberg represented by the „Forstdirektion Freiburg“ Forstliche Versuchs- und Forschungsanstalt Baden-Württemberg Foundation „Nature Conservation Center Ruhstein im Schwarzwald“

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Website: <http://www.naturschutz-bw.de/grindenschwarzwald>

The project area is located in the Ostrobothnia area. It comprises a cluster of four relatively untouched enclaves surrounded by forest management areas. The characteristic habitat types are western taiga and aapa mires, with scattered remnants of herb-rich forest and endangered alkaline fen. The area straddles the divide between fell vegetation and more southerly species. Three of Finland’s large predators can be found in the area: bear (*Ursus arctos*), wolverine (*Gulo gulo*) and lynx (*Lynx lynx*). This is also the northernmost point in the range of the flying squirrel (*Pteromys volans*), a species that is not found in any other EU country. Up to 500 of capercaillie live here.

In the area tourism is on the rise. Nearby tourist facilities already attract between 200,000 and 300,000 visitors a year.

The project’s objective is to draw up and implement a plan for the use and management of the project area. The plan provides a basis for practical protection measures and provides guidance on other forms of land use in the area, such as use for recreational and hiking purposes.

Various inventories and analyses were carried out in the area to prepare the management and land use plan. The natural and cultural biotopes, as well as soil and bedrock were inventoried in the project area. Special attention was given to studying the history of land use. The basic surveys also included a bird count by transect lines and inventories of beetles and butterflies.

Species-specific protection plans were prepared for some of the threatened species, such as the flying squirrel and the golden eagle.

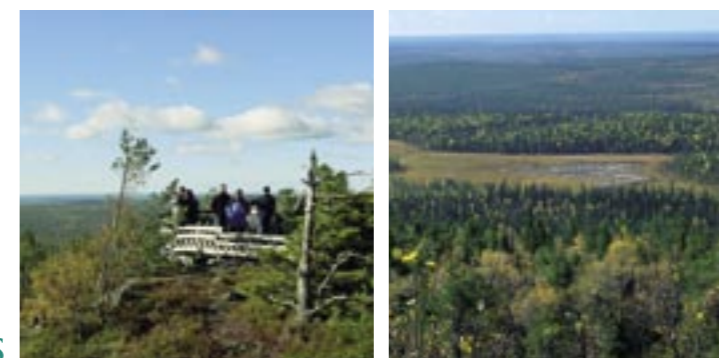
Since ecotourism plays a key role in the project area, the project involves the local population and tourist businesses in preparing and carrying out a special ecotourism plan. This plan studies the conditions and principles of sustainable nature tourism and ways in which the different activities can be carried out while at the same time preserving the nature of the project area. A special guide of eco-tourism for entrepreneurs was drawn up. The aim is to control the different forms of nature tourism so as to allow both nature conservation and tourism that involves experiencing nature. During the project, a guiding plan was drawn up and carried out in the area to create a consistent image of the Syöte National Park. In addition, a recreation plan was drawn up and implemented in the area, with a view to planning and creating recreational routes and structures that everybody can use on the basis of the statutory public right of access. With the help of the guiding and recreation plans, the preservation of natural values will be ensured as nature tourism increases. At the same time, opportunities will also be created to develop nature tourism.

Commission reference:

LIFE 99 NAT/FIN/006268

Duration:

01 Apr 1999 to 30 Nov 2002



Beneficiary:

Finnish Forest and Park Service, Ostrobothnia Area Torangintaival 2 93600 Kuusamo Finland Suomi

Project Leader:

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Partners:

Metsähallitus North Ostrobothnia Regional Environment Centre Oulu Game Management District University of Oulu Department of Biology

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Combining protection with other forms of land use in the natural boreal forests of the Syöte area/Finland

Urgent Conservation Management for Scottish Capercaillie/Scotland The projects geographical range spans from as far north as Morangie SPA, north of Inverness, to its most southerly sites, on the islands of Loch Lomond. Through the project, work is being carried out across 8 SPA's, with 3 additional SPA's having been proposed since the outset of the project. All of the sites that are involved are key sites in the continued survival of the Scottish Capercaillie.

Capercaillie numbers in Scotland have been declining rapidly in recent years, from over 20,000 birds in the 1970's to fewer than 1,000 birds at the end of the 1990's. The overlying aim of the project is to halt the decline in numbers and improve the breeding success of Scottish Capercaillie. A survey of the Scottish Capercaillie population is carried out every five years; the survey carried out in 2004 as well as the annual Capercaillie population monitoring carried out through the project show, a definite increase in Capercaillie numbers since the project began.

During the five years the project aims to achieve:

- Capercaillie population monitoring on all project sites
- Over 1,000 hectares of habitat improved for chicks
- 250 hectares of new chick habitat created
- Capercaillie friendly management in over 1,400 hectares of plantations
- Predation reduced over 34,000 hectares of forest
- 12 kilometres of deer fencing taken down to stop Capercaillie collisions
- 22 kilometres of deer fencing marked to reduce Capercaillie collisions

The project benefits from the collaboration of over 25 individual private forest owners, many of whom are already experienced in managing their forests in sympathy with the needs of Capercaillie. Work is being carried out on these private estates, in Forestry Commission woods and on two RSPB nature reserves. Partnership members are working with both public and private owners to develop co-ordinated work programmes, with financial support for the work being provided by The Forestry Commission Scotland, Scottish Natural Heritage and the European Commission's LIFE Nature Programme.

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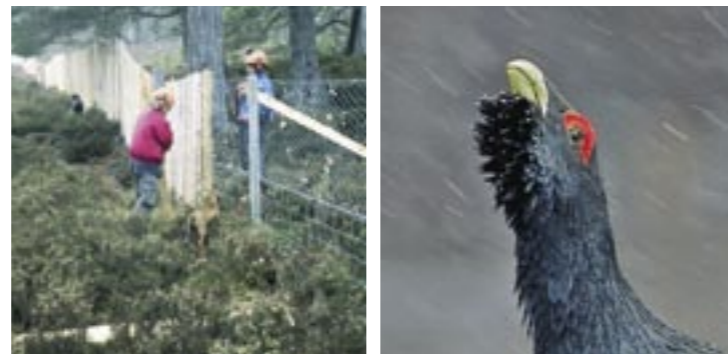
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- Forest Enterprise Scotland
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