

# Scientific Advisory Group - Capercaillie Emergency Plan

## Meeting note

Thursday 31 July, 12.30 – 14.30 | Park Authority office, Grantown-on-Spey and Teams

### Attendees

- **Alice Broome** - Forest Research, Senior Scientist - Priority species / habitats
- **Carolyn Robertson** - Park Authority, Cairngorms Nature Manager
- **Chris Sutherland** - University of St Andrews, Reader of Statistics
- **Dave Parish** - NatureScot, Terrestrial Ornithologist
- **Helen Senn** - RZSS, Head of Conservation and Science Programmes
- **Jason Matthiopoulos** - University of Glasgow, Head of Ecology and Environmental Change
- **Kathy Fletcher** - GWCT, Senior Scientist Scottish Upland Research
- **Steven Ewing** - RSPB, Senior Conservation Scientist
- **Stuart MacQuarrie** - NatureScot, Deputy Director Nature and Climate Change (Chair)
- **Xavier Lambin** - University of Aberdeen, Professor of Ecology

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### 1. Welcome and introductions

The meeting began with a round of introductions, as this was the group's first meeting.

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### 2. Terms of Reference

The Terms of Reference (ToR) for the group were circulated prior to the meeting. It was noted that the group needs to remain focused on measuring the impact of activities outlined in the Capercaillie Emergency Plan and informing adaptive management. However, there is a risk that responding to stakeholder queries may inadvertently reduce focus, if the group is perceived as the main point of contact for all capercaillie-related

questions and knowledge gaps. To prevent this from becoming a barrier to progress, it may be helpful to establish clear messaging and agreed processes for handling enquiries.

The group also discussed the funding available to support its work. It was noted that additional fundraising will be necessary. Current funding secured for the delivery of the Capercaillie Emergency Plan includes the Scottish Government's Nature Restoration Fund and other schemes, e.g., Forestry Grant Scheme. However, these are primarily focused on delivering on-the-ground interventions.

#### Actions:

- The group to review the ToR in December to ensure it remains fit for purpose.
  - Carolyn to work with communications colleagues to identify key messages for the group.
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### 3. Research and Monitoring Plan for the Capercaillie Emergency Plan

#### *Data sharing and monitoring*

A discussion took place on the importance of securing buy-in from land managers to gather and share monitoring data, enabling the group to fulfil its role. It was noted that land manager engagement is critical, and there may be a wider trend of some land managers opting out of data sharing and monitoring efforts. Since this data is vital for conservation, care must be taken to improve data collection and sharing practices where necessary. It was strongly recommended that monitoring and data sharing be a condition of funding awarded through the Emergency Plan.

It was agreed that data collection should prioritise information that strengthens the Capercaillie Integrated Population Model. This may require increased effort in areas where data is currently lacking. The group can play a key role in guiding data collection efforts to ensure quality and relevance and the model itself can be used to anticipate gains in precision that can come from collection of different data types and sample sizes. It was noted that whilst the model currently only contains data from Strathspey, which is only a small subset of the historical distribution of capercaillie, it nevertheless currently represents the majority of the capercaillie range in the UK.

The group will have access to CaperMap, a spatially mapped repository of capercaillie data. This includes lek, brood, cold searching, national survey data, and ad hoc records, e.g., from land managers. It was agreed that an introductory session on CaperMap should be arranged for the group. Additionally, it would be useful for the group to understand which on-the-ground interventions are being delivered under the Emergency Plan, what outcomes are expected, and what data is currently held. The location of on-the-ground interventions being delivered, e.g. cattle grazing, fence

removal, diversionary feeding etc. has been mapped and these layers will be available in CaperMap. It was highlighted that CaperMap also needs to contain habitat data.

### *Timescales and key components*

A Research and Monitoring Plan must be in place by the end of the year. The Cairngorms National Park Authority, with support from NatureScot, will draft the plan once the group has outlined its framework and key components. As a key component of the plan, the group discussed the need to define specific indicators of success for both the Emergency Plan as a whole and its individual actions, as well as the potential to establish a population target.

It is essential that on-the-ground interventions are targeted where they will deliver the greatest benefit to the capercaillie population, and not just where there is proactive engagement from land managers. This is critical to achieving the overarching goal of the Emergency Plan and something that the group can support. It was noted that the Programme Board have raised the need for habitat improvement plans across all core capercaillie forests. This is being progressed and findings from the groups' work should feed into this.

A question was raised about the scope for updating the Emergency Plan in response to new findings. Whilst the need for adaptation is already noted in the plan, there is a balance to be struck given the extensive stakeholder consultation involved in its creation.

### *Capercaillie Integrated Population Model*

A brief introduction was provided to the Capercaillie Integrated Population Model, which will play a central role in the group's work. Developed by the University of Glasgow, the model was designed to integrate population survey and annual lek data in a realistic population dynamics framework. This enabled it not only to increase the precision of population estimates, but also to reconstruct detailed trends in population size, demographic rates (survival, breeding success), and their corresponding environmental drivers.

The model integrates historical data - such as lek counts, productivity, and predator and vole abundance - alongside evidence of management impacts, including improved chick survival from diversionary feeding and increased adult survival from fence removal. This enables the model to forecast the capercaillie population's future trajectory.

The model currently incorporates covariates for diversionary feeding and fencing and predicts that the population is likely to recover if both are implemented effectively. Measures of success within the model include average population growth rate and total population increase. The model can also predict probability of extinction and identify "point of no return" thresholds.

Whilst the initial impetus for model development was given from NatureScot, the University of Glasgow has been developing the framework independently since 2018 and the model now represents a more advanced and powerful tool for linking population trends to specific management actions. It is recommended that the model be refitted annually to new data including lek and brood counts, weather data, vole abundance, and records of management activity. The outputs should inform both the Scientific Advisory Group and the Programme Board, supporting adaptive management and annual updates to the Emergency Plan.

Running the model effectively will require both time and funding, and resources must be secured to maintain and update it throughout the lifespan of the Emergency Plan. It was noted that whilst the Scottish Government's Nature Restoration Fund is available to support delivery of the Capercaillie Emergency Plan, the funding is only currently available until March 2026 and allocated primarily to delivering habitat work on the ground.

Several questions were raised regarding the potential of the Capercaillie Integrated Population Model, including whether the Emergency Plan could be translated into a series of questions for the model to address; whether the model can compare areas with and without interventions, helping to identify gaps and opportunities for greater land manager engagement; whether it could incorporate "new birds" to support discussions on potential population reinforcement; and whether it could help measure the impact of disturbance.

#### **Actions:**

- Carolyn to coordinate group access to CaperMap including confirming AGOL licences.
- Xavier, Jason and Carolyn to meet about funding to maintain and update the Capercaillie Integrated Population Model.

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## **4. Research actions in the Emergency Plan**

An update was provided about the research and monitoring activities outlined in the Capercaillie Emergency Plan which the group is responsible for maintaining oversight of and providing input as needed.

The following research and monitoring activities are underway:

- A survey to provide a baseline for tracking changes in pine marten populations over time. This work is led by NatureScot and currently being undertaken by the Vincent Wildlife Trust.
- Development of a scheme to generate periodic indexes of pine marten activity in the National Park using baseline data. This work is led by NatureScot.

- Conducting brood counting with dogs in tandem with trail cameras to explore how the methods compare to inform plans to maintain historic brood datasets if brood counting with dogs is un-licensable. This work is in its second year led by GWCT.
  - Extending the pilot genetic lek survey to include a larger number of lek sites and run in parallel with traditional surveys to further test the method. Capacity this spring meant droppings were only collected from the lek sites included in the first year of the pilot genetic lek survey, rather than a larger number of sites. This work is being delivered by the RSPB supported by RZSS.
  - Investigate the feasibility of reinforcing the Scottish capercaillie population with birds from Europe and performing exchanges within the Scottish capercaillie population. Run a workshop with stakeholders to review the findings of the feasibility study and identify next steps. This work is led by the Cairngorms National Park Authority and has been undertaken by RZSS, the Norwegian Institute for Natural Research (NINA) and the University of Highlands and Islands Centre for Mountain Studies. The final report due is to be published in September.
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## 5. Ways of working

The next meeting will take place on 23 September and will focus on learning more about CaperMap and the Integrated Population Model. The following meeting scheduled for 5 December will focus on reviewing a draft Research and Monitoring Plan.

It was agreed that, following this initial period of activity, the group will aim to meet three times a year, aligned with Programme Board meetings and an action was agreed to set up a shared online workspace to support collaboration across the group.

### Action:

- Carolyn to set up a shared working area for the group.
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