Making actionable knowledge for shared wildlife management:

Insights from the Scottish Capercaillie Group

Katrina M. Brown & Scott Herrett

The James Hutton Institute

This research was funded by the Rural & Environment Science & Analytical Services Division of the Scottish Government.

Scottish Government
Riaghaltas na h-Alba

SEFARI
LEADING IDEAS FOR BETTER LIVES

Shared wildlife management and the need to make knowledge actionable

Background

- Concern is growing that the capercaillie – one's of Scotland's iconic species – is at risk of extinction in the UK.
- The current global biodiversity crisis highlights a pressing need to address the threat of species extinctions and to contribute no net loss (NNL) of biodiversity.
- Emphasis in Scotland is now being placed on a Shared Approach to Wildlife Management.
- Working together to facilitate effective management decisions on the ground requires the best available knowledge to be gathered and translated into action.
- But what counts as actionable knowledge, to whom and why is not always straightforward. We need to understand more about knowledge practices in the 'contact zones' where science, policy and practice meet.
- The Scottish Capercaillie Group (SCG) provides a valuable case study to examine how different forms of expertise and different ways of mobilising knowledge shape actions for species survival and restoration

What is actionable knowledge?

Actionable knowledge is at its simplest knowledge that is *useful* and generates an *effect* in working for the agreed or common objective

E.g. to increase species viability for capercaillie we might want to mark or remove fences, thin or regenerate trees, and/or reduce human disturbance. But for these actions to be unlocked requires various kinds of knowledge (e.g. narrative, regulatory, economic, placed-based, experiential) being translated and mobilised through a range of settings and practices.

Researching the Scottish Capercaillie Group (SCG)

- The SCG meets twice annually and serves as a forum for discussing, prioritising and implementing research and management for capercaillie, exchanging ideas and good practice, as well as providing guidance to support relevant strategy, positive management interventions, and future research requirements.
- SCG is no longer formally required to exist (as it did as a BAP group before July 2012) but continues because it is seen as vital to the goal of restoring capercaillie population viability in Scotland, both by the organisations involved directly in sharing and building management insights, and those external to the Group seeking and benefiting from the strategic and responsive guidance they provide.
- The research has employed ethnographic observation of meetings and field-visits over the last 4 years to consider how the SCG operates as a key knowledge-brokering forum.
- The purpose of the research was to gain a deeper understanding of how different forms and practices of knowledge are generated, shared and used amongst those with a shared land management objective; in this case the recovery of capercaillie.

Knowledge contact zones

SCG as a key contact zone of translating capercaillie knowledge

- The SCG can be considered what we call a 'contact zone' and plays a key role in the exchange and translation of different forms of knowledge on capercaillie and its world.

What is a contact zone?

a space where people (and indeed other species) come together and broker knowledge across their various differences

- Group members are representatives of public agencies and third sector organisations and/or managers of land considered critical for capercaillie populations, and provide a depth of expertise in practical management, natural science, and legal and institutional mechanisms relating to regulations and funding.
- SCG members often act as key 'nodes' for translating knowledge in other principal contact zones that matter for actionable capercaillie knowledge, including: Group members feeding insights to and from their organisations 'in-house', practices of formal governance apparatus (e.g. HRA procedures), everyday governance processes (e.g. briefing civil servants or Ministers), publication gatekeeping, organisation interface with members/citizens, media (print and socials, specialist and popular) and semi- or informal networks with peers, interest/user groups or local residents.
- What makes life complicated is that what counts as actionable knowledge in one contact zone is not necessarily the same as in another (e.g. statistics that do wonders for crossing science or managerial thresholds of action can easily do the opposite in lay contact zones), yet they are often still interdependent.

Knowledge practices in the contact zone

- The roles played by the Group have centred on:
    - Considering, interpreting and assessing the implications of monitoring data
    - Sharing results of recent research, especially regarding capercaillie management in other countries
    - Deliberation of key factors affecting the status of capercaillie populations
    - Contributing to the development and delivery of funding proposals and policy frameworks on a range of scales
    - Prompting the collation and review of existing knowledge on particular topics (e.g. translocation)
    - Advising policy and decision-makers strategically or in response to specific requests
    - Sharing of news, experience, good practice, and knowledge of institutional or financial and opportunities and barriers to management interventions
- The meeting of practical experience with the 'paper' knowledge of policy and science co-creates unique insights, especially regarding members' capacities to put information in geographical and historical context.
- A key feature of the SCG's way of working is meeting in outdoor, 'in context' spaces as well as indoor ones, which expands and shapes the possibilities and thresholds for knowledge brokering amongst members.

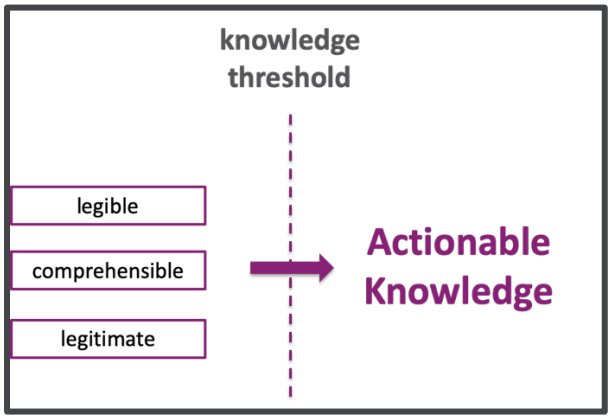
Knowledge thresholds in the contact zone

- The Group favours a consensus approach to decision-making which means substantial time and effort goes into processes of deliberation, communication and clarification – including in correspondence between meetings - in order to come to a common understanding or, occasionally, agreed lines of disagreement.
- However, the effects of knowledge sharing often happen in a more nuanced way (e.g. through numerous micro-'penny drop' moments or 'I hadn't thought about it that way' moments).
- To cross a threshold into actionable knowledge, information or experience had to be:

- ‘legible’, ‘hearable’ or otherwise tangible (too far from the established knowledge framings of the group – or too uncomfortable – made it more difficult to for it to be registered or followed up);
- comprehensible (had to make sense logically and/or practically), and;
- legitimate (had to come from a credible source with established authority, using a valid approach).

What is a knowledge threshold?

the point at which a person decides to align their thinking with an element of what is heard or encountered and begins to incorporate it into what they consider the most credible and defensible understanding of the issue so far



- Even those who often disagreed on certain issues often had a respect for each other’s experience, and commitment to solving the capercaillie problem, which was vital to staying open to new knowledge.

Matters of fact

- Most of the Group’s time and energy is spent on talking about and around quantitative data; particularly data from the 3 main types of capercaillie monitoring, but sometimes other data or published research too.
- The science that is drawn upon by SCG is almost exclusively natural science. Science informing the social and institutional factors affecting capercaillie populations is less solicited and understood by the Group.
- Quantitative data is powerful currency – quality-controlled findings can open funding and policy-prioritisation doors – but it is not always straightforward to cross related knowledge thresholds like ‘robustness’, which makes questions of what counts as robust and to whom particularly complicated.
- A core challenge surrounds struggling populations like capercaillie becoming less visible to established metrics and the substantial practical and institutional challenges of protocol standardization amongst data collectors (many of whom are part of the Group), especially given the piecemeal funding available.
- Accordingly, a huge effort is spent by the group on interpreting population data and working through what these figures and graphs are actually telling us in practical terms.

Matters of experience, affect and concern

- Quantified data are not the only ways of knowing that influence work by the group. Experiential and affective ways of knowing are also important.
- Experiential knowledges entail knowing through ‘on the ground’ experience of particular places & practices:
  - e.g. field knowledge of members is often used to qualify and nuance quantitative data in Group discussions. Field observations and patterns that become obscured in the final data have to be brought back in, especially to make sense of spatial and temporal population differences.
- Affective knowledges involve how we come to know through emotions:
  - e.g. caring and having a passion for capercaillie makes data exist that wouldn’t otherwise, and shapes how capercaillie issues are problematised and management measures prioritized;
  - e.g. rich and visceral descriptions or images of harm to birds can shape discussion.
- The field visits appear to have particular value in that being out in the elements moving through terrain together: provided informal space for more exploratory discussion, especially in allowing members to wear their personal as well as organisational ‘hats’; invited humour and personal insights in ways that work well to

diffuse tensions and build rapport; allowed observation of – and curiosity around - material or environmental factors that might matter but not be mentioned in indoor settings, and; taking turns to be on each other's territory and witnessing their efforts and circumstances can cultivate understanding, respect and trust crucial for more formal knowledge-building.

- Experiential knowledge plays a vital role in the group in making quantitative data visible and/or meaningful. However, these important demographic and geographical nuances can be lost when quantitative data is used without this interpretative context in other contact zones.

Knowledge burdens and opportunities

Knowledge demands vs. knowledge resources

There are three main potential mismatches between the Group's current knowledge-brokering resources and the knowledge demands and burdens increasingly placed upon them:

1. Timing of actionable knowledge - especially biophysical vs. institutional processes (e.g. the urgency of funding capercaillie management interventions versus sometimes 4-year delay in making primary population data actionable through peer review)
2. Thresholds of actionable knowledge valorised vs. possible and useful (e.g. robustness of population estimates needed v. possible in available metrics; experiential knowledge being vital to data interpretation but lacking systematic ways of being made legitimate and portable across contact zones)
3. Framing of capercaillie population problematisation vs. Group expertise to design, implement & evaluate solutions: there is growing policy, scientific and funding pressure to broaden capercaillie problems out from a primarily biological and land management focus to socio-ecological problem at a landscape scale, but this introduces the need to be able to understand what counts as robust social science as well as natural science.

Meeting growing demands for knowledge translation and mobilisation

- In summary, the most valorised knowledge thresholds (like statistical validity) are becoming harder to achieve in a timely way just as knowledge demands become more acute and wide-ranging than ever, presenting a real challenge to business as usual for the SCG how actionable knowledge flows between them and related contact zones.
- Also, the capacity to respond to capercaillie population problems is not individual but socially constituted and dependent on social aspects like trust and knowledge co-production that allows on the ground capercaillie management, and informs policy, governance and funding.
- Care must be taken to secure resources for wider knowledge activities in ways that maintain the relational base of trust and fairness upon which the expansion and sharing of capercaillie knowledge depends.

Questions for the future

- Who bears the responsibility for making knowledge actionable to avert species extinction? Who shoulders the burden of framing, co-ordinating, evidencing and judging the rigour of what we need to know?
- Do group resources, capacities and processes reflect growing knowledge burdens and opportunities?
- Is there a way to systematize the depth and range of experiential knowledges to further aid the translation of capercaillie knowledge between various contact zones (e.g. through adaptive governance or socio-ecological systems)?
- How might the flow and translation of knowledge between Group and other contact zones be strengthened?

Suggested citation: Brown, K.M. & Herrett.S. (2020) Making actionable knowledge for shared wildlife management: Insights from the Scottish Capercaillie Group, Research Brief, James Hutton Institute, Aberdeen.

Acknowledgements**:** Many thanks to all the research participants for giving of their time and expertise so generously and to RESAS for funding the work.

For more information on this area of the RESAS research programme see:
https://www.hutton.ac.uk/research/srp2016-21/wp143-practical-interventions-realise-multiple-benefits-and-manage-trade-offs

Aberdeen

The James Hutton Institute
Craigiebuckler
Aberdeen AB15 8QH
Scotland
UK

Dundee

The James Hutton Institute
Invergowrie
Dundee DD2 5DA
Scotland
UK

Contact

Tel: +44 (0) 344 928 5428
Fax: +44 (0) 344 928 5429

info@hutton.ac.uk

Farms

Balruddery Research Farm
Invergowrie
Dundee DD2 5LJ

Glensaugh Research Farm
Laurencekirk
Aberdeenshire AB30 1HB

Hartwood Research Farm
Shotts
Lanarkshire ML7 4JY