

# **Report on Natural Capital Stakeholder Workshop**

## **Deliverable D3.2a for the Project D5-2 Climate Change Impacts on Natural Capital**

Date: 6<sup>th</sup> July 2023



## Stakeholder perceptions of risks and opportunities for Natural Capital

This report describes and presents results from an expert consultation workshop (19<sup>th</sup> May 2023). Aim: to explore experts' risk perceptions with regards to the effects of climate change on Natural Capital, with a particular focus on drought, flood and wildfire risk. This is a Deliverable for the Strategic Research Programme project 'D5-2 Climate Change Impacts on Natural Capital'.

### Key Messages:

- Expert participants perceive risks associated with drought, flood, wildfire, and increasing temperatures to be highly likely and severe.
- Perceived impacts of these risks include biodiversity loss, transformation of ecosystems, disruption of infrastructure and reduction in productivity.
- There was particular concern about the associated cascading impacts on supply chains, markets and ability to implement nature-based solutions.
- Relatedly, when considering the causes of risks, participants emphasised the connectivity between different Natural Capital assets, the way they are managed, and how this can exasperate or reduce risk.
- Overall, responses to these risks should include diversification of land use, financial incentives, regulation, and nature-based solutions. However, this requires greater collaboration and integrated management across sectors, as well as supporting evidence and effective communication with decision-makers and the general public.
- Carbon trading and payments for ecosystem services may create financial incentives for land use change but must be regulated to ensure they are equitable and open to everyone, not just those in positions of wealth and power.
- Next steps will involve scenario-planning to simulate risks, chains of impact, and the efficacy of responses, as well as strategies for communicating risk information with stakeholders.

## Summary

This report describes and presents results from an expert consultation workshop held online on 19<sup>th</sup> May 2023 as a deliverable for the Strategic Research Programme (SRP) project 'D5-2 Climate Change Impacts on Natural Capital'. The aim was to explore experts' risk perceptions with regards to the effects of climate change on Natural Capital, with a particular focus on drought, flood and wildfire risk. The workshop was organised and facilitated by the James Hutton Institute and held in collaboration with another SRP project ('D5-1 Bringing in Participatory Approaches to Widen the Scope of Natural Capital Valuation'). Overall, 15 participants were purposively sampled on the basis that they held expertise and an interest in managing Natural Capital (NC). Participants were split into two roughly even 'breakout' groups, depending on their professional roles and expertise, to discuss questions related to one project or the other. The breakout group focusing on Climate Change Impacts on Natural Capital were invited to engage in activities on an interactive online whiteboard (Miro) including a risk analysis framework, and online semi-structured discussions.

The results showed that participants had strong perceptions of risk in relation to droughts, flooding and wildfires, as well as increasing temperatures (which was brought up unprompted as a significant risk), and felt that these risks were highly likely, highly severe, and urgent. Participants thought that these risks could result in biodiversity loss, disruption of infrastructure, and chains of cascading impact that would reduce productivity, disrupt supply chains and markets, as well as threaten implementation of nature-based solutions. However, they also acknowledged that the likelihood and severity of risks depends on decisions and actions taken in terms of land management, and were able to discuss potential responses to risk in detail, suggesting that they perceive these risks as manageable, to an extent.

In response to these risks, participants thought there was need for diversification of land use, financial incentives, regulation and implementation of nature-based solutions, in order to mitigate and manage risk effects. Overall, greater collaboration and integration of land management across sectors were considered necessary to enable these responses. Participants also emphasised the importance of research for evidence, and of communication with decision-makers and the general public. Further research could examine the risk perceptions of decision-makers and the general public, explore chains of impact associated with risk and the potential implications of management decisions, as well as opportunities for financial incentives and effective regulation. The next steps in this project will address some of these topics by simulating risks in alternative socio-ecological scenarios, which will help to explore chains of impact, the effects of different management decisions, and the efficacy of potential responses, as well as understanding how best to communicate risk with decision-makers and the general public.

## Contents

Stakeholder perceptions of risks and opportunities to Natural Capital .....	2
Introduction .....	5
Method .....	5
Results.....	7
Natural Capital Assets .....	7
Perceived risks to Natural Capital .....	7
Opportunities and responses to risk.....	10
Discussion.....	12
Perceptions of risk .....	12
Limitations of the Workshop .....	12
Knowledge Gaps and Opportunities for Future Research .....	12
Next Steps .....	13
Conclusions .....	13
Bibliography .....	14
Appendix A: Protocol for activities and discussion questions used in the D5-2 breakout group in this workshop. ....	14

**Citation:** Poskitt, Sam., Rivington, Mike., Joyce, Katy., Martino, Simone. 2023. ‘Stakeholder perceptions of risks and opportunities to Natural Capital: Report on Natural Capital stakeholder workshop’. Deliverable 3.2A for the RESAS Strategic Research Programme project D5-2 Climate Change Impacts on Natural Capital: The James Hutton Institute, Aberdeen, Scotland.

DOI: 10.5281/zenodo.8119813

### Contact:

Sam Poskitt: [Samuel.poskitt@hutton.ac.uk](mailto:Samuel.poskitt@hutton.ac.uk)

Mike Rivington: [mike.rivington@hutton.ac.uk](mailto:mike.rivington@hutton.ac.uk)

### Acknowledgements

The design, organisation and facilitation of this workshop, as well as data analysis and write-up of this report were completed by Sam Poskitt, Katy Joyce, and Simone Martino, with support from Mike Rivington, Maria Nijnik, Stanislav Martinat, Margaret McKeen and Chen Wang. Thanks to Malcolm Collie and Louise Davidson for technical support, and to all of the participants for their attendance and insightful discussions in the workshop. This workshop was supported by the Rural and Environment Science and Analytical Services Division of the Scottish Government through its Strategic Research Programme (2022-2027), project JHI-D5-2 in the Natural Resources Theme.

## Introduction

**The purpose** of this workshop, from a D5-2 Climate Change Impacts on Natural Capital perspective, was to explore the risk perceptions of a group of experts in relation to the effects of climate change on Natural Capital.

The context is to build an understanding of people's risk perceptions in relation to the effects of climate change on Natural Capital. This will help to inform the development of a Risk and Opportunities Assessment Framework (ROAF) and situate this in a social context in order to enhance the communication of information about risks, opportunities and potential responses.

This report presents findings from a workshop conducted as a deliverable for the Strategic Research Programme project 'D5-2 Climate Change Impacts on Natural Capital'. The workshop was organised and facilitated online, on 19<sup>th</sup> May 2023, by researchers from the James Hutton Institute. A selection of 15 experts on managing Natural Capital were selected, and then split into roughly even 'breakout' groups, one of which explored topics related to this project, whilst the other explore topics related to another project ('D5-1 Bringing in Participatory Approaches to Widen the Scope of Natural Capital Valuation'). Participants in the D5-2 breakout group were invited to explore risks, impacts and responses associated with specifically drought, flooding and wildfires as a result of climate change.

**The aim** of this report is to describe the design and implementation of the workshop, present and discuss findings from the research activities conducted during the workshop focussing on climate change and Natural Capital, outline opportunities for the future development of this research and suggest next steps.

Details and outputs from the project are available here:

<https://www.hutton.ac.uk/research/projects/climate-change-impacts-natural-capital>

The benefits of this development are that capturing experts' perceptions of climate-related risks to Natural Capital can help to:

- a) Enhance understanding of the risks to Natural Capital and its ability to provide nature-based solutions.
- b) Identify perceptions of the severity and likelihood of risks, as well as potential responses to them, which can help with contextualising and communicating information about risks.
- c) Explore and plan for responses to risks (land use mitigation strategies) to limit impacts on Natural Capital.

## Method

This activity took place within a 2-hour, online, expert consultation workshop on Natural Capital (the natural resources that enable the benefits and services people depend upon and benefit from) with the dual objectives of:

- (1) Gathering expert insights into the valuation of Natural Capital in Scotland and how it may be affected by climate change;

- (2) Exploring perceptions of risk related to potential flood, drought and wildfire as a result of climate change.

The first objective was primarily to inform another RESAS project 'D5-1 Bringing in Participatory Approaches to Widen the Scope of Natural Capital Valuation', and further details on the methodology used to meet it can be found in the report (Joyce et al., 2023). The second objective primarily aimed to inform this project and it is these results that are presented in this report.

Participants for the workshop were selected purposively on the basis that they held expertise (intellectual, professional, and/or practical) on Natural Capital in Scotland, its management, and the potential effects of climate change upon it. A range of participants attended, representing the perspectives of policy, agriculture, forestry, research and information, regulation, conservation, and community development. The attending participants were split into two different 'breakout' groups, each of which considered one of the two objectives. Participants were informed of the objectives and invited to select which group they would rather join prior to the workshop. Participants who did not respond with a preference were allocated to a group by the researchers, who endeavoured to match participants to the group most relevant to their professional expertise, at the same time as ensuring an even split between the two groups.

The activities and discussions in the breakout groups were facilitated by researchers from the James Hutton Institute. The breakout group for objective 2 (relevant to this report) involved a combination of activities on an interactive online 'whiteboard' called 'Miro'<sup>1</sup> and group discussion via Microsoft Teams. Considering the breadth and complexity of potential risks to Natural Capital under climate change, as an entry point, participants were asked to consider risks associated specifically with drought, flooding and wildfires, though they were encouraged to think beyond these parameters if they considered it relevant to do so.

The activities on Miro involved the following:

- 1) Participants were presented with an empty 'risk matrix', showing likelihood of risk on the y axis and severity of the risk on the x axis. They were then invited to populate the matrix using virtual 'sticky notes' to show the risks to Natural Capital posed by drought, flooding and wildfire, as well as the potential impacts of those risks. The timeframe of the risk was left to the participants to decide.
- 2) Participants were asked to add further sticky notes on a second 'frame' in Miro, showing potential responses to risks in both the long term and short term.

The discussions were split into two parts, one to discuss risks and their impacts following the first Miro activity, and a second to discuss responses to risks, after the second Miro activity. These discussions were facilitated in an open and iterative manner to encourage open discussion, though were guided by specific guiding questions including:

- 1) Discussion part 1
  - a. Any general reflections on the responses added in Miro?
  - b. To what extent do you think that wildfire, drought and floods pose a risk to natural assets in Scotland? Please explain why and over what time period.

---

<sup>1</sup> <https://miro.com/app/>

- c. Which natural assets do you think are most at risk of being affected by wildfire, drought and floods? Please explain why and over what time period.
  - d. How do you think wildfire, drought and floods could affect the ability of Natural Capital to deliver ecosystem services?
  - e. What factors do you think influence the likelihood and severity of wildfire, drought and floods in Scotland?
- 2) Discussion part 2
- a. Any general reflections on the responses added in Miro?
  - b. What do you think about the feasibility of the responses that people have added in Miro, and the potential opportunities and challenges for implementing them?

The Miro activities provided a range of useful responses from different perspectives, as well as acting as useful catalysts for discussion. The discussions themselves also yielded rich information regarding participants' perceptions of the risks posed to Natural Capital by drought, flooding and wildfire, as well as about the potential responses to this. The Miro boards were downloaded as PDF files, whilst the discussions were recorded and automatically transcribed within Microsoft Teams. Researchers from the James Hutton Institute subsequently checked the automated transcriptions for accuracy, before conducting a thematic analysis on both the Miro outputs and discussion transcripts in NVivo. This involved reading carefully through the data and ascribing 'codes', or themes, to the content that emerged from participants' responses.

## Results

### Natural Capital Assets

Participants referred to a range of Natural Capital assets that could be affected by the risks they discussed. The most prominent assets that emerged in both the Miro boards and the discussions were: trees (standing timber), trees (woodlands and riparian strips), soil, salmonids, ponds, peat, and freshwater water courses.

### Perceived risks to Natural Capital

Participants were invited to focus on risks associated with droughts, wildfire and flooding, and although they were given license to explore other issues as well, both the responses on the Miro board and the subsequent discussion focused primarily on these three phenomena. The responses on the Miro board (Figure 1) indicate that participants perceive these risks as highly pertinent, with participants populating the 'High likelihood, high severity' quadrant far more than any other part of the matrix.

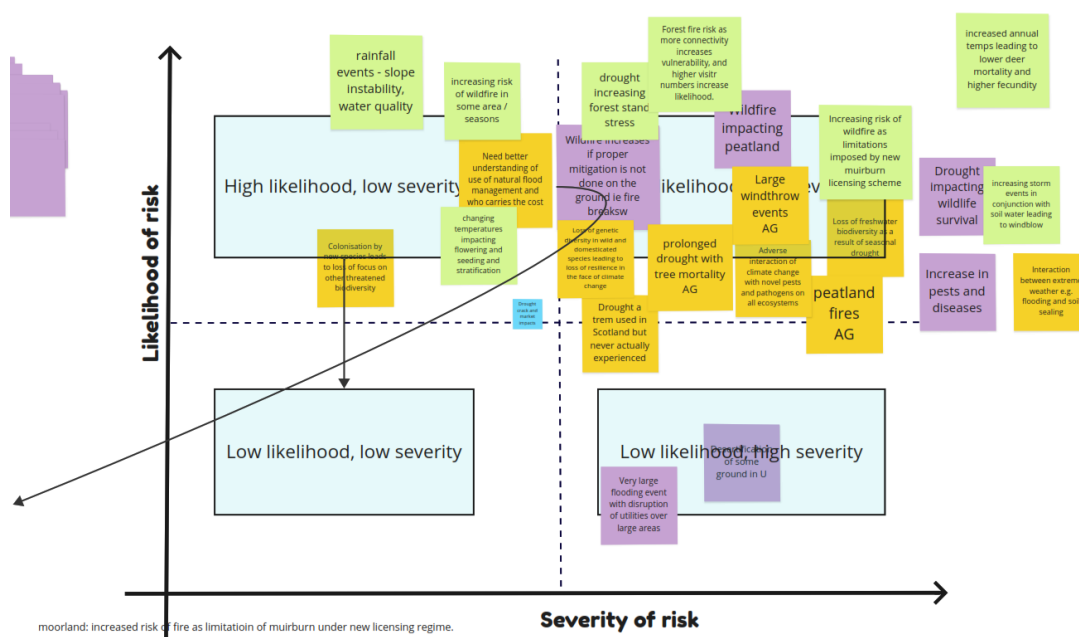


Figure 1 - Miro board frame showing participants responses to a risk analysis.

### Drought

In terms of drought, although one participant considered it a phenomenon heretofore never experienced in Scotland, there was a perception that it was a high-likelihood, high-severity risk and that it could affect NC by increasing stress on forests and causing a loss of biodiversity. One participant also mentioned the possibility of drought crack affecting soils as a high-likelihood, low severity risk. In discussion, participants also indicated drought posed a significant threat to NC. One representative of the forestry industry expressed concerns about future standing timber surviving to rotation in the event of long term, regular droughts, whilst a consultant mentioned they were already observing upland ponds drying up. There was also concern from forestry and other sectors about drier conditions increasing the prevalence of pests and diseases.

### Flooding and increased extreme storm events

Looking at flooding, only one person included flood risk in the high-likelihood, high-severity quadrant on the Miro board. 'Very-large' flood events were mentioned once in the low-likelihood, high-severity quadrant, whilst one participant mentioned a need for greater understanding of natural flood risk management in the high-likelihood, low-severity quadrant. In the discussions, one participant raised concerns about channel modification in rivers, as a result of flood events, whilst others discussed the interactions between human activities, such as soil-sealing, that encourage run-off, rather than keeping water as close to where it falls for as long as possible (which was also considered a means of mitigating drought). Relatedly, participants expressed concerns about risks posed by extreme storm events on the Miro board, such as windthrow damage to trees and slope instability. In the discussions, increased severity and occurrence of storms, as well as associated soil erosion and flooding were raised as concerns.



### *Wildfire*

Wildfire was predominantly included in the high-likelihood, high-severity quadrant, and once in the high-likelihood, low severity quadrant. Participants indicated that they thought the risk was increasing and that proper mitigation (such as muirburn and firebreaks) was not being carried out sufficiently. This was reflected in the discussions, in which some participants indicated fire risk was increasing due to muirburn restrictions.

### *Temperature increase*

Increasing temperatures were not included alongside drought, flooding and wildfire as a type of risk that participants were asked to consider, though risks associated with this did emerge spontaneously, particularly in relation to biodiversity loss. On the Miro board, participants expressed concerns about loss of freshwater biodiversity, increased fecundity of some species and mortality of others, colonisation by invasive species, and disruption of plant flowering and seeding. Again, these were predominantly placed in the high-likelihood, high severity quadrant. In discussion, one participant mentioned their organisation was already considering the implications of temperature increases of 2C and 4C and perceived that river ecosystems would change completely, including the extinction of salmonid species. Other participants, whilst shocked that temperature increases of 2C and 4C were already being seriously considered, agreed that this could fundamentally alter riverine ecosystems.

### *Chains of Impact*

Something that several participants expressed particular concern about was the occurrence of 'chains of impact', in which the manifestation of one risk, could trigger the occurrence of others and/or make ecosystems more vulnerable to future risks. For example, responses on the Miro board indicated that occurrence of drought could lead to reduced biodiversity, which could itself result in reduced resilience to climate change. One participant also considered the societal effects that wildfire could have in terms of creating drains on emergency response services and subsequently threats to human life. In the discussion, two participants mentioned the potential impacts that recurrent or long-term droughts could have on agricultural productivity, supermarket supply chains, and thus markets. Another participant mentioned that the effects of climate change could in fact limit attempts to mitigate risk. For instance, although farmers are being paid to reverse biodiversity decline, the effects of climate change could reduce their capacity to effectively do so.

### *Causes of impact*

Relatedly to the above, there was a strong acknowledgement among participants of the connectivity between different Natural Capital assets and different risks, as well as the relationships between these risks and the way in which Natural Capital is managed. For example, when asked about their perceptions about the severity of risks, one participant indicated that this depends on the interaction of risks with other factors. They stated that continued proliferation of practices that encourage soil compaction and run-off would increase the likelihood and severity of both droughts and floods. Another participant similarly indicated that poor upstream land management increased the likelihood of flooding, and also that restrictions to moorland burning increased the risk of wildfire. Others indicated that soil erosion due to poor land management could worsen the effects of both drought and flooding, affecting agricultural productivity, as well as biodiversity through



services would help encourage more diverse landscapes, by counteracting market pressures that encourage optimisation of a single output. Other participants suggested that more stringent regulation was needed to discourage soil-sealing practices. A prominent theme on the Miro board overall was that greater collaboration, coordination and integration was needed in land management planning and practice, through more joined-up thinking, integrated and more robust planning (including for wildfire in particular, joint units for natural hazard and wildfire planning and response), greater collaboration between landowners and managers, and improved communication with the general public to generate buy-in and build public pressure.

In discussion, participants thought that carbon trading and payments for ecosystem services could create financial incentives for land use change. However, there were caveats in that such financial incentives should be available to everyone, not just those already in a position of wealth, and that careful regulation would be necessary to ensure such incentives were not abused by those in wealthy and/or powerful positions. In terms of collaboration, one agricultural representative argued that it was important for farmers to be considered part of the solution, and for others to work together with them, rather than against them. Another participant indicated that it was important for different sectors to work together to respond to complex and interconnected risks, as well as identify solutions to them.

Other responses to risk related to information, research and evidence. One specific example that emerged in the Miro boards, but not in discussion, was around the importance of 'early warning systems' and emergency response planning for droughts, floods and wildfires. One participant specifically referred to the importance of integrated risk management plans, wildlife management plans, and fuel management in relation to wildfire. Several participants also referred to a need for research, in general, and specifically on wildfire behaviour, vegetation and fuel, whilst others emphasised the importance of education and communication of evidence and information. One participant suggested climate change needed to be taught in schools as an emergency, and others thought it was important to champion good practices and communicate with the public to generate buy-in and build public pressure for change. In the discussions, whilst this was not discussed at length (at least partially because of time pressures), one participant did emphasise that it was essential to have the right evidence to support change.

In terms of opportunities associated with climate change, this was not directly discussed, and indeed the activities and discussions were framed around risk and responses to it. Nonetheless, one participant, who represented agriculture, indicated that there may be some benefits to agriculture in terms of having a warmer and drier climate. The same participant also suggested that Scottish agriculture was already sequestering carbon at a much higher rate than the global average, and that the green landscape was already an important carbon store, thus emphasising the importance of protecting it.

## Discussion

### Perceptions of risk

The data gleaned from the workshop indicates that these expert participants consider risks associated with drought, flooding and wildfire to be both highly likely (indeed already occurring) and highly severe. It is important to note that in addition to these three pre-decided risks, risks associated with temperature increase also emerged strongly in discussion. Participants were already considering and, in some cases planning for the chains of impact associated with these risks, which included loss of biodiversity and transformation of ecosystems, with knock-on effects for productivity in the agricultural and forestry sectors, and subsequent impacts on markets and supply chains. This particular subset of participants therefore showed a strong perception of the risks posed to Natural Capital by climate change, as well as awareness of the potential impacts.

However, whilst the participants recognised the immediacy and severity of these risks, they were also keenly aware of both the causes and the potential responses that could help to mitigate and cope with them. In particular, participants highlighted the importance of diversifying land use to increase water retention, reduce soil erosion, maximise carbon storage and sequestration, and reduce temperatures. In addition, participants identified greater collaboration and more integrated management across sectors, as well as financial incentivisation, regulation, research and evidence, and improved education and public communication as vital for creating an enabling environment for implementing responses to climate-related risks. This suggests that participants view the risks as manageable, to some extent. Indeed, one pertinent statement in the workshop indicated that the severity of risks depends on what measures are taken now to manage them.

### Limitations of the Workshop

It should be noted that the purposive sampling strategy for this workshop, intentionally, resulted in a set of participants who were experts in Natural Capital, as well as the potential risks posed to it by climate change. It is therefore not surprising that they demonstrated such strong perceptions of risk and responses to it. Had this workshop been conducted with members of the general public, it is likely that the responses would have been quite different.

Additionally, the workshop was limited by the short time available for it. It was difficult to conduct a granular exploration of participants' perceptions of risk in relation to highly complex and dynamic systems and processes within less than two hours.

### Knowledge Gaps and Opportunities for Future Research

The workshop also highlighted knowledge gaps and areas for future research. One aspect of this related to uncertainties around the risks themselves. In the discussions, one participant was concerned about whether and how this research was tracking the 'impact pathways' of risks, in other words the chains of impacts and knock-on effects resulting from a risk. This was later explored in the discussion, and detailed in the Results section, but remains an area that future research could usefully explore further. Another uncertainty related to the timeframe of risks and the dependence

of this on management choices and actions now. Research could thus usefully consider how the timeframe of projected risks could vary under different management scenarios.

Other uncertainties and areas for future research were more related to the responses to risk and how an enabling environment could be created for this. Participants thought there was a need for better understanding of nature-based solutions, as well as the institutional requirements needed to implement them, such as identifying availability and opportunities for funding, clarifying responsibilities, and evaluating and improving the effectiveness of regulation. Importantly, participants also recognised the need to explore and understand the perceptions of decision-makers and the general public, in addition to the experts in attendance.

## Next Steps

Suggested next steps in this research are as follows:

- Explore how these findings regarding experts' perceptions of risk relate to literature on risk perception.
- Generate scenario narratives, through collaboration with D5-1, that explore the condition of Scottish Natural Capital under different parameters, including types of land management, climate projections, and policy mandates. Then identify risks and their impacts in these scenarios, ensuring that chains of impact and the effects of different management practices on projected risks are taken into account.
- Use the scenario narratives to 'simulate' risks and explore how a range of participants (including experts, decision-makers, and the general public) perceive and respond to those risks. Include analysis of the institutional conditions required to enable effective responses to these risks, potential barriers, as well as how effective communication of risk-related information could inform responses.

## Conclusions

This report describes, and presents results from, a workshop that was conducted to explore experts' perceptions of risk to Natural Capital, in relation to climate change. Participants were invited to engage in interactive activities on an online whiteboard, and to engage in discussion about risks to Natural Capital, specifically associated with drought, flooding and wildfires. The results revealed that participants had a strong perception of drought, flooding and wildfire risk, as well as risks associated with increasing temperatures. Participants considered these risks highly likely and severe. However, they also acknowledged that the likelihood and severity of risks depended on the decisions and actions taken in terms of land management, and were able to discuss potential responses to risk in detail, suggesting they considered the risks manageable, to some extent. Overall, participants thought there was need for diversification of land use, financial incentives, regulation and implementation of nature-based solutions. The need for greater collaboration and integration of land management across sectors was considered necessary to implement these responses. Participants also emphasised the importance of research for evidence, and of communication with decision-makers and the general public. Further research could examine the risk perceptions of

decision-makers and the general public, explore chains of impact associated with risk and the potential implications of management decisions, as well as opportunities for financial incentives and effective regulation.

## Bibliography

Joyce, K., Martino, S., Poskitt, S., Rivington, M. & Nijnik, M. (2023). Engagement workshop with stakeholder experts to discuss values of forest natural capital and gaps in implementing values and valuation methods. A report for the RESAS Strategic Research Programme project Project JHI5 D5-1 Bringing in participatory approaches to widen the scope of Natural Capital valuation. Aberdeen, Scotland: The James Hutton Institute.

## Appendix A: Protocol for activities and discussion questions used in the D5-2 breakout group in this workshop.

### D5-2 session expert consultation workshop (D5-2)

#### **Aim**

To learn more about stakeholders' perceptions of risk with regards to the potential for droughts, floods and wildfires arising as a result of climate change in Scotland, as well as about their risk-related behaviours and what might influence the ways they mitigate and respond to these risks.

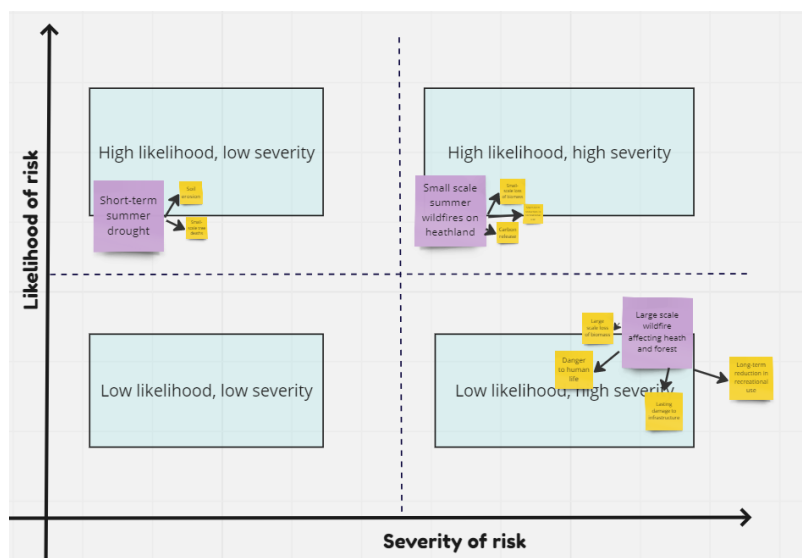
#### **Themes for discussion:**

- Stakeholders' perceptions of risk in relation to droughts, floods and wildfires, and what influences these perceptions.
- Stakeholders' behaviours in response to risks related to droughts, floods and wildfires.

#### **Activity 1 - Stakeholders' perceptions of risk to Natural Capital – risk matrix activity (25-30 mins)**

Participants fill in a matrix with one axis for *likelihood* of risk and another for *severity* of risk.

- Ask participants to note, on post-its, the risks to Natural Capital in Scotland that they perceive could occur as a result of climate change, as well as the timeframe in which they think these risks could materialise. Note that we want to focus primarily on risks related to *wildfire, floods* and *droughts*, though participants can add other risks that they perceive to be important.
- Encourage participants to position these post-its on the matrix depending on: a) how likely they think the risk is, and b) how severe they perceive the risk to be.
- Then, ask participants to add sticky notes stating what they think the impacts of the perceived risks to Natural Capital would be for provision of ecosystem services, including any specific aspects/resources they think are most at risk from wildfire, floods and droughts.



The facilitator can then ask participants to explain their contributions to the matrix.

Prompting/discussion questions can include:

- To what extent do you think that wildfire, drought and floods pose a risk to natural assets in Scotland? Please explain why and over what time period.
- Which natural assets do you think are most at risk of being affected by wildfire, drought and floods? Please explain why and over what time period.
- How do you think wildfire, drought and floods could affect the ability of Natural Capital to deliver ecosystem services?
- What factors do you think influence the likelihood and severity of wildfire, drought and floods in Scotland?

### Stakeholders' behaviours in response to risk (15-20 mins)

Participants note ideas for how they might respond to risks related to flooding, drought and wildfire on sticky notes.

- Ask participants to think about how they may respond to the risks they identified in the first activity and note these on post-its.
- Encourage participants to think about a range of shorter and longer-term responses.



The facilitator can then ask participants to explain their contributions. Prompting/discussion questions can include:

- Any general reflections on the responses added in Miro?
- What do you think about the feasibility of the responses that people have added in Miro, and the potential opportunities and challenges for implementing them?





The James  
**Hutton**  
**Institute**