**Adaptation and Resilience Steering Group Meeting – December 2023 – Note of meeting - Final**

**Attendees:**

Chris Quine (CQ), Forest Research

Andrew MacQueen (AMQ), AM Silviculture

Andy Leitch, Confor

Craig Turner (CT), Confor Nursery Producers Group

Jo Ellis (JE), Forestry and Land Scotland

Duncan Stone (DS), NatureScot

Andrew Weatherall (AW), RSPB, Scottish Environment Link

Alan MacDonnell (AMD), Trees for Life

David Leslie (DL), James Jones & Sons

Alan Hampson (AH), Scottish Forestry (chair)

Helen Sellars (HS), Scottish Forestry

Tim Gordon-Roberts (TGR), Scottish Forestry

Guest speaker: David Edwards (DE), Research Impact Coordinator, Forest Research (FR)

**Apologies:**

Kevin Reid, Tilhill

Nathan Bryceland, Scottish Land and Estates

**Actions from last meeting**

**Links to other groups**

Steering Group members were asked to list other adaptation and resilience focused groups that they are associated with. This list is below:

Plant Health Centre

Scottish Government skills development

NatureScot’s adaptation and resilience planning

Institute of Chartered Foresters (ICF)

Royal Scottish Forestry Society (RSFS)

Future Trees Trust

Scottish Integrated Research in Timber (SIRT)

Diversitree project (part of UK Treescapes programme)

Species Diversification group in England

Mobilising Stewardship Science – ForestLab

Adaptation Scotland

**Membership**

Scottish Land and Estates have been invited to join the SG. They have confirmed that they would like to be involved and will identify a suitable representative for future meetings. The decision on extending an invitation to a representative from the forestry investment sector is still outstanding.

1. **Presentation and discussion: Review the future productive species workshop data – barriers and enablers**

To take forward the species diversity priority, a workshop on future productive species choice for Scotland was held on the 27th September 2023. The event was organised by Scottish Forestry and Forest Research and hosted by Climatexchange and involved 60 delegates from across the sector. This covered a range of topics relating to species choice and included discussions on barriers and enablers in using diverse species and a start on identifying appropriate criteria to select a short list.

DE presented Forest Research’s analysis of the barriers and enablers put forward at the workshop, as shown in Annex 1 of this note.

It was suggested that there is a need for this work to remain dynamic, as the relative importance of some of the issues identified will change over time.

There was a comment that it would be useful to review the timescales and level of resources needed to address some of the barriers and initiate some of the enablers, to make it clear that progress in moving to a new business as usual model for many of these areas, will be long term and costly. There may be some quick and lower cost actions we can take, but they may not be the most needed and important.

The group discussed the potential impact and likelihood of catastrophic collapse for some of our main productive species due to pest and disease and that there is no one species (principal, secondary, emerging or native) that will be immune. All species are at risk to a range of pests and diseases that may arrive, mutate or be novel in their rate of spread and severity of impact. Any tree that is a large proportion of our woodland area is a concern.

There was a comment about the importance of timber security. Productive area continues to be reduced with UKFS restructuring and peatland restoration. Timber forecasting / productivity should be considered in choosing alternative species. A comment that it will be important to move forward a range of productive species, so that alternatives are available that maintain production should / when another major species face catastrophic collapse.

It would be useful to model impacts of a range of climate change scenarios from slow and gentle change based on averages, to, fast and furious change based on extreme events – to understand potential outcomes – this could potentially help to inform priorities?

**Action Point:**

The steering group were asked to ensure all barriers and enablers has been considered in the development of the action plan and to consider any further actions needed by the 12th January.

1. **Resilience Action Plan (Paper 1 and Annex)**

HS introduced Paper 1 - **Resilience Action Plan – Draft 1** and it’s **Annex** to enable discussion on the content and format of first draft of a Resilience Action Plan.

This initial DRAFT build’s on discussions held at the National Stakeholder Group, the future productive species workshop analysis of barrier and enablers, discussion at the first Steering Group, and other wider discussions with professional foresters and subject matter experts. The draft plan is currently based around the three priorities identified by the steering group at the last meeting – species diversity, planning and knowledge exchange.

The plan includes – the outcome we want to achieve, the high level actions to be taken forward to deliver the outcome, indicative timescales for delivery and potential delivery partners.

The plan doesn’t include initiatives being addressed elsewhere such as reducing deer populations to enable habitat recovery and tree regeneration – should this be reflected somehow in the plan itself?

The steering group were asked to:

* Discuss the overall scope, including content, partners, timelines and resourcing.
* Discuss and advise on any potential further interactions/dependencies/risks
* Discuss top 3-4 priorities until the end of current Scottish Forestry Strategy Implementation Plan period (March 2025).

Discussion:

There were a few comments that the actions presented were good enabling actions for change.

There was a comment on how priority should be given to showing practitioners sites where there are issues and potential solutions.

A comment was made that understanding economic drivers to change should be a priority to support change.

It was thought that there were issues around public perception - that the sector just planted wall to wall Sitka, so a suggestion that it would be good to use the 50 year forecast to model where the forest estate is going forward, and to consider what the change in diversity will be over this time, and impact on productive area. Will the change in diversity deliver what we need? A consideration could also be how these species are coping now or expected to cope in the future in a changed climate (considering climate change projections).

There was a discussion around whether a more directive approach might be required about what a resilient forest looks like. Reference was made back to the national stakeholder group paper where the characteristics of a resilient forest were discussed. There was a feeling that the industry needs to have a wide view of resilience, not one view, to ensure the continuation of all the public benefits our forests currently provide, and to give people options rather than directing.

It was also felt that before a more directive approach was taken, it would be necessary to ensure there was sufficient information and support in place to enable change. A point was made that there is a need to avoid being too directive as this may act to narrow options. However, directing the sector to be longer term in it’s thinking could be important (i.e taking into account climate change projections / timescales).

Some of these points (above) were thought to be good points for consideration as part of PL1 which is to consider what further information, plans or guidance is needed at national down to local level to enable greater planning for resilience.

A comment was made that appreciated that a collaborative approach was implicit as there are concerns over resourcing these actions, for example for tree breeding – we’ve known that we need to do it for other species, but there hasn’t been the resources to do it.

There was a suggestion that in looking at the priorities and timescales in the plan, it would be useful to have a RAG rating for each action for resourcing (cost and time) and impact -so that we tackle the right priorities.

There were thoughts that we would need to work at UK level to deliver some of the actions. A question was raised around having a programme manager. Also suggestions of mapping this out as a programme of work in terms of timescales and interdependencies; we would likely need a version of the action plan that goes external, and once we have agreed actions - separate documents for the SG that set out more on programme planning.

**Action point**

The steering group were asked to consider the draft plan in more detail and to return comments by the 12 January.

Following this 1:1 meetings with the SF team will be arranged to discuss in more detail and especially partners and resourcing.

1. **Future productive species list for Scotland (Paper 2)**

HS introduced paper 2, the project specification for producing a set of criteria to assess potential future productive species for Scotland. Scottish Forestry have commissioned Forest Research to finalise criteria and to use it to produce a short list of productive species for Scotland by the end of March 2024.

To achieve this FR will continue to refine the assessment criteria and gather in available information on the criteria to develop a draft list.

To agree and help finalise the list, it is intended that FR/SF run a workshop for the steering group in early March 2024.

DE presented his analysis of the data gathered at the future productive species workshop with regard to species assessment criteria. See Annex 2 below.

The steering group were asked to consider the criteria and elements/attributes presented, as well as offering any comments on the methodology, timeline and proposed workshop.

It was felt that there was a need to broaden the timber categories listed. Priorities in the processing sector can change for example the species used for fencing changes based on the licenced preservatives available. Big investment decisions are being made on an on-going basis – so sawmills can change quickly, but they will only change if the product they process makes money. There was a request to include representatives from the processing sector in developing the timber processing criteria to accurately reflect this dynamic part of the industry.

A suggestion was made to consider the criteria based on what can be mitigated - ie if by training we can mitigate then it isn’t such a key criteria.

There was also a suggestion that criteria should be set in the context of the existing resource – for example should other spruce species be promoted when we are concerned over the risk of our current heavy reliance on spruce species?

There was a point that critical mass will be important - there will be a need to ensure that there are decent quantities of the new species coming through.

The current principal species should be included in the assessment to validate the assessment process – many years of use and development has shown them to be suitable for productive use in Britain, therefore they should naturally be present at the top of the list if we have the right assessment criteria.

**Action point:**

The steering group were asked to return any further comments to DE on the criteria and the elements and attributes by the 12 January.

1. **Knowledge Exchange events (Paper 3)**

TGR introduced paper 3 and asked the steering group for suggestions on the format and theme of the suggested KE events.

It was suggested that other similar events had not allowed enough time for discussion, so it would be good to increase this element of the events to ensure participants gained the most from attending.

It was suggested that it would be good to add events that covered timber utilisation, sawmill processing capability and conversion efficiency, and emerging alternative uses for timber.

Consideration should also be given to linking with the Scottish forest and timber technologies industry leaders group evening meetings, as not everyone can make the time in the working day to attend events.

**Next steps and close**

AH summed up and thanked everyone for their valuable input and Helen, Tim and David for all the work to prepare the workshop and the papers for this Steering Group meeting. He stated that given the efforts that are going into this, it should be clear that SF consider this work a key priority, and he looked forward to receiving comments and seeing everyone at the next meeting.

**Summary of actions for the steering group:**

Provide feedback by the 12 January 2024 on the:

* Resilience Action Plan - to HS/TGR
* criteria analysis – suggestions to DE
* thoughts on the criteria workshop – scope of attendees (just SG / subject matter experts / wider) - to TGR/DE
* knowledge exchange events – to TGR

**Annex 1 – Barriers and facilitators from the future productive species workshop**

**Future productive species – barriers and facilitators**

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| **Barriers**  [40 barriers, 218 votes] | **Facilitators**  [48 facilitators, 232 votes] |
| **Tree breeding and seed supply (21)**  **Lack of strategy for tree breeding**   * Identifying next species to focus on tree breeding   **Limited availability of seed and plants**   * Nursery production/availability * Nursery supply   **Nursery supply chain**   * Supply chains   **Limited native species palette**   * Limited native species palette | **Tree breeding and seed supply (50)**  **More investment in tree breeding**   * More investment in alternative species and tree breeding * Increasing funding for trials * Tree improvements for alternatives * Breeding programmes   **Increase seed supply**   * Support nursery processes including seed supply and security of sales   **Coordinate seed supply**   * Improved coordination in seed supply   **Support nurseries with forward planning**   * Help with timescales for nurseries (forward planning) |
| **Economic return (74)**  **General**   * Economics * Opportunity costs * Short term economics   **Sitka has high productivity**   * Productivity of improved SS is much higher than alternatives   **Sitka has low establishment costs**   * Establishment costs * Establishment   **Economies of scale**   * Scale of planting / small patches not economic   **Forestry is pushed onto marginal sites**   * Access to better quality soils   **Insufficient financial support**   * Financial support   **Alternatives to Sitka require protection from deer**   * Deer and costs of protection * Deer/herbivores | **Policy, regulation and finance (105)**  **National policy / collective focus and commitment**   * Clear policy direction towards more species * Agree to focus collective efforts on a small number of additional species not scattergun across many * Critical mass of core species to drive market value * Public sector developing critical mass on supply side   **Grants and finance**   * Enabling grants and making sure they are index linked and incentivise diversification * Natural capital credits (e.g. biodiversity and carbon) * Increase access to private finance * Financial support * Funding (including agriculture)   **Regulation**   * Legal drivers * Reduced imports of cheaper timber   **Deer management / coordination at landscape scale**   * Tackling deer pressure * Landscape scale deer control * Consistent approach to landscape planning * Incentive design including deer protection (fencing costs and collaborative management) * Deer management   **Resilience and contingency planning**   * Massive devastation from pest or disease * If the doom bug came for Sitka |
| **Marketing and processing (47)**  **Lack of vision and planning**   * Lack of long-term planning and vision in the market (volume and demand)   **R&D – unknown timber properties**   * Lack of understanding of timber properties of minor species * Processing knowledge   **Low market demand**   * Concerns over marketability of less familiar species * Sawmillers generally prefer spruce * What the market specifies * Industry priorities   **High marketing costs**   * Route to market   **Imports hinder product development**   * International markets, alternative specifications in design, penetrating established markets | **Marketing and processing (34)**  **Leadership – vision/commitment**   * Big producers leading, coordinated approach with regulators * Commitment from sawmills and other potential customers   **Grading**   * Clear quality grading/use classes for new species * Combined grading settings   **Investment / market development**   * Sawmill investment that will allow milling of different species * Co-investment model * Market creation for different timber types |
| **Knowledge, attitudes and culture (76)**  **General**   * Knowledge   **Evidence gaps – silviculture**   * Silvicultural knowledge of minor species and their performance (including in mixtures)   **Evidence gaps – resilience**   * Practically defining diversity / species * Understanding of how much / what type of diversity is needed for resilience   **Knowledge exchange (KE)**   * Accessing evidence and increasing study and demonstration sites * Lack of clear advice re species choice * People don’t trust anecdotal evidence – lists too long and surreal   **Risk and uncertainty**   * Lack of certainty of the future * Unknown quantity - alternatives are high risk/better the devil you know * Decision making in face of uncertainty   **Clients’ views**   * Clients views and objectives (and resistance to change) * Ownership   **Forestry culture and practices**   * Culture of forestry (education and tradition) * Current clear fell practice pushes single species | **Knowledge, attitudes and culture (43)**  **Address evidence gaps**   * Greater understanding of the risk from pests and diseases * Better production forecasting that can show trends in species volumes * Proper replicated trials with demos around the edge   **KE – Guidance**   * Updated guidance and practice guides. Testing relevance of past publications * Revisit past minor species publications. Review what still relevant and permissible * Clear guidance for species   **KE – Demonstrations**   * Exemplar demonstrations * Demonstration of new species at different ages * Exemplar plots – shared via RSFS etc   **KE – International experience**   * International visits e.g. Dolomites, Pacific North-West to learn * Learning from other countries on impacts they have experienced   **Training and education**   * Training and knowledge exchange * Educational skills   **Share knowledge and experience**   * Support for FR to capture the knowledge and evidence as sector adapts and tries new things * Shared knowledge and experience   **Influence public opinion**   * Public opinion |

**Barriers and facilitators: summary**

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| **Barriers** | **Facilitators** |
| **Tree breeding and seed supply** | |
| * Lack of strategy for tree breeding * Limited availability of seed and plants * Supply chain – logistics and intelligence * Limited native species palette | * More investment in tree breeding * Increase seed supply * Coordinate seed supply * Support nurseries with forward planning |
| **Economic return** | **Policy, regulation and finance** |
| * Sitka has higher productivity * Sitka has lower establishment costs * Economies of scale * Forestry is pushed onto marginal sites * Insufficient financial support * Alternatives to Sitka require protection from deer | * Resilience and contingency planning * National policy / collective focus and commitment * Grants and finance * Regulation * Deer management / Landscape scale coordination |
| **Marketing and processing** | |
| * R&D – timber properties * Vision and planning * Market demand * Marketing costs * Imports hinder product development | * Leadership – vision/commitment * Investment / market development * Grading |
| **Knowledge, attitudes and culture** | |
| * Evidence gaps – silviculture * Evidence gaps – resilience * Knowledge exchange * Risk and uncertainty * Clients’ views * Forestry culture and practices | * Address evidence gaps * Guidance * Demonstrations * International experience * Training and education * Share knowledge and experience * Influence public opinion |

**Annex 2. Future productive species – provisional list of criteria from workshop**

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| **Workshop feedback** |
| 1. **Tree breeding** |
| * Broad genetic base * Practical aspects of tree improvement |
| 1. **Plants and seed** |
| * Seed availability and ease of propagation * Consider possible deployment at GB level * Seed availability |
| 1. **Silviculture** |
| * Ease of establishment * Establishes easily * Fast establishing in today’s climate * How it performs in mixtures * Basis of existing knowledge and present in UK to view * On FRs list of emerging options for principal or secondary species * Knowledge in the native range? * Regional variation * Not very palatable * Building recovery to unforeseen risks |
| 1. **Climate suitability** |
| * Future climate suitability * Climate risk profile * Ability to grow in diverse sites * Genetic diversity |
| 1. **Pest and disease resistance** |
| * Pest and disease risk profile * Minimising risk to existing species * Risk impact on viable native species * Relatedness to existing commercial species (avoid relatedness) * Plurality of species * No known major pest and disease susceptibility |
| 1. **Biodiversity and ecosystem services / non-market benefits** |
| * Biodiversity value * Analogues of native species * Cultural value (e.g. nativeness) * Functional value in ecosystems (replacing e.g. ash) * Delivering against ecosystem services as well as production * Controllable regeneration * Public acceptability |
| 1. **Productivity and carbon** |
| * Productivity * Yield/volume * Volume * Can new species exceed what we can do with existing species? * Photosynthetic capacity under elevated CO2 * Future response to elevated CO2 levels |
| 1. **Timber quality / end use** |
| * Do they make money? * Form (straight trees) * Timber quality * End use options * Mechanical properties of the wood * White wood * What does the market and end user want? * Utilisable timber * Durability |