

Wessex Silvicultural Group Visit Report

Meeting 3: 17 May 2022

Study subject: Silviculture for biodiversity

Location: Stourhead Western Estate, by kind permission of Nick C Hoare

Background and objectives of the day

The main theme for the day was 'Biodiversity in irregular conifer dominated stands and the relationship between habitat features and biodiversity output'. At the first meeting in 2022 WSG had studied 'silviculture for biodiversity' mainly broadleaved stands at Rushmore. The aim of this day was to explore a similar subject but in the context of 'conifer dominated stands'. This was made possible by some excellent work in a research project that had started in 2019 led by Patrick Cook of Butterfly Conservation.

We were grateful to the owner, Nick C Hoare, for allowing the visit and to David Pengelly and Rob Coventry for leading us around the stops. The report of the research project has not yet been published but we were grateful that we had two experts to help us interpret and discuss the results on the day. The first, Dr Phil Sterling is Conservation Officer with Butterfly Conservation (and one of the UK's leading *Lepidopterists* and an expert ecologist); the second was Danny Alder who is an Independent Ecologist (with immense experience in ecological research with the forestry and woodland sector) who has been intrinsic to the methodology and delivery of aspects of the project.

Summary of stops and discussion

Introduction

The principal management objective for the 650-hectare conifer dominated forest at Stourhead (Western) Estate is to create a resilient forest capable of producing high quality and high value timber, whilst generating significant levels of biodiversity and a high-quality landscape.

The timber production aim is to fill the stands with vigorously growing trees in which timber trees are harvested at their individual financial optimum. Diversity of species, genetics and structure are facilitated, and spatially distributed throughout at the stand level. 85% of the forest area is currently in transition to permanently irregular structures.

We can quantify stand growing stocks, vertical structure, tree species composition and increment. However, in terms of biodiversity, what is the output from such stands, and what is the biodiversity output relationship between stand stocking levels, structure and having an element of broadleaf in the predominantly conifer stands?

In 2019 a research project was established to determine just this. This has been led by Patrick Cook of Butterfly Conservation, with support from various parties. Species included in the survey are birds, bats, *Lepidoptera* (moths), spiders and ground flora. Site surveys were carried out during 2019 and 2021, with results analysed during the past few months. Though the full Report is not yet

available, the preliminary outcome of this biodiversity research project will be presented at the meeting.

To interpret and discuss the results we will be joined on the day by Dr Phil Sterling who is Conservation Officer with Butterfly Conservation (and one of the UK's leading *Lepidopterists* and an expert ecologist), and Danny Alder who is an Independent Ecologist (with immense experience in ecological research with the forestry and woodland sector) who has been intrinsic to the methodology and delivery of aspects of the project.

Exploration into the feasibility of reintroducing pine marten on the 'Greensand Ridge' (Stourhead-Maiden Bradley_Longleat) was initiated in 2015, with work to progress the project continuing since then. We are nearing a positive outcome: Simon Nash, who is an independent, experienced conservation consultant (previously CEO for Somerset Wildlife Trust for 15 years), is the lead on this project, and will be able to present the status, issues, and timeline to the first release.

Stops

The following is a brief summary of the information presented in the PDF files WSG_17 May 2022_Handout and WSG_17 May 2022_Handout 2, which present the data available for each site.

1. The aim of the research project was to compare the diversity of plants, spiders, moths, bats and birds in stands at different stages of transformation to irregular structures. The three stages were: Preparation Stage (PS) [early stage of transformation]; Regeneration Initiation Stage (RIS) [lower basal areas for regeneration] and Structural Diversity (SD) [stands with the nearest structure to irregular].
2. A general comparison of the number of species of plants, moths, bats and birds between Stourhead (Western) and Rushmore (a broadleaved site of the first WSG visit in 2022) showed there were no big differences and there was no evidence to support narrative 'broadleaved-good: conifer-bad'.
3. Dr Phil Sterling and Danny Alder consistently made the point that in terms of the debate about biodiversity the point about the comparison between broadleaves and conifers was *much less important than how you manage the forests*. Transformation to irregular structures creates the conditions that will support a very high diversity of plants, spiders, moths, bats and birds.
4. At stops 5 and 6 some interesting data and information is presented on deer management at Stourhead (Western) Estate and the reintroduction of pine martens (see the handouts).