

Planning FOLK's Management Input

The funding bid to National Grid on which I report elsewhere in this edition of *FOLKtalk* includes provision for the production of a new Management Plan. Whilst that report was in draft I read an article in the magazine *British Wildlife* that forced me to ask questions about how we should address the ideas in that article in any new plan. This contribution considers some of the issues involved.

British Wildlife aims to cover "all aspects of British natural history and conservation". It does this mainly by factual reports, as in April 2020 when an article documented changes in the flora of three parishes in the western part of the Forest of Dean over the past 100 years. Less frequently, but quite appropriately, it sometimes includes challenges to current thinking in biology or conservation, as it did in the article I read, entitled *What is a Tree?*. The answer offered was that a tree is more than just what we can see above ground and the roots below ground, so that a real tree includes many, usually invisible, organisms that are essential for its growth and health. The key organisms are mycorrhizal fungi that form symbiotic relationships with plant roots and extract mineral nutrients, and even water, from the soils and transfer them to the tree. We know that such fungi are the essential rooting structure for orchids, but are less aware that Bluebells may be associated with many different mycorrhizal fungi, 11 at one site, at various times and with different functions. We do not know how many, or which, species of plant rely on mycorrhiza. However, they seem to be particularly important in woody species, with an individual tree possibly having in the teens of fungal partners at any one time. Does this mean that management plans should include statements regarding these species of fungi, whether as essential components of their symbioses or in their own right, and, if so, how might we do this?

Any new management plan that includes references to fungi would be very different from the present 2003 version, and rightly so. The present plan followed a pattern very common in the 1990s. For example, in the case of the Common it appears to use the SSSI designation as a guide to conclude that Limestone Grassland is the most important thing to conserve. This may be right, but means that the plan pays little attention to animal groups such as invertebrates, notably butterflies. There can be good reasons for this emphasis on grassland. The Borough Council's performance as a manager, and its ability to attract government funding, is judged by the statutory nature conservation organisation, now Natural England, on how well the species composition of the grassland compares to what the SSSI designation says about why that grassland was chosen for special protection.

But there are probably two deeper issues behind this emphasis. First, the early years of statutory protection for nature in the UK, from 1945, were characterised by an emphasis on plants. This is not entirely surprising, as the early development of biological conservation in the UK was led, indeed dominated by, plant ecologists. Second, in those early years very little was known about the distribution, abundance, rarity or habitat requirements of animal species. A consequence of these factors was that early designation statements for SSSIs, such as the first for our site in 1954, referred hardly at all to animals. This continued even until the last re-notification in 1991, which includes butterflies as what looks like an addendum and mentions few other zoological interests. Learning more about the habitat

needs of animals has resulted in conservationists having to make difficult choices. For example, should limestone grasslands be grazed in late spring and early summer to favour low-growing flowering plants, or allowed to grow taller to favour certain butterflies? It is the role of a management plan to resolve such contrasting positions. The 2003 plan did not do this. Any new plan will have to.

The increase in knowledge about mycorrhizal fungi and their vital roles mirrors what happened for butterflies and other invertebrates in earlier years. Will this mean that we have to add this group, and probably others, to those for which we want to manage sites in ways that will aid their conservation? If we do, then could we have even more potential conflicts to resolve? The problem may be less if the species occur at different locations, as would be the case for fungi that form mycorrhiza with trees, or if one is willing to accept that a species or community being successful implies that associated invisible species are also doing well. But we have to be careful here. To take an extreme example. If we chose the nature of a grassland as a measure of our success in conserving butterflies, then we would need to carefully define what vegetation structure they need and to measure the success of that community and not some other.

A vital role for a management plan is to convert decisions about priorities into objectives, and subsequently into management prescriptions. An objective should be a statement of the hoped for outcome of management. This contrasts with prescriptions, which should outline the management that it is hoped will deliver this outcome. This contrast is important and needs to be reflected in the wording of the two sections of a plan. In particular, the present view is that objectives should always be SMART, that is, Specific, Measureable, Achievable, Relevant and Time limited. The present plan does not meet this requirement, as most objectives begin with the word *to*. For example; *to maintain (the unimproved limestone grassland), to restore (areas of limestone grassland), to manage scrub (as a habitat in its own right)*. These are in fact prescriptions and should be converted to statements that are both Specific and Measureable, such as; *there are at least X hectares of unimproved species-rich limestone grassland¹, at least Y hectares have been managed to restore limestone grassland, at least 25% of the patches of scrub have at least one species of breeding bird*. It would clearly be impossible to frame objectives for mycorrhizal fungi that are both specific and measureable and within the resources of FOLK or the Council to assess.

Objectives also need to be Achievable, Relevant and Time limited. There is likely to be a close link between an objective being achievable and a time being specified for its delivery. All management plans should have a time frame. Five years is that suggested for many nature conservation sites, especially those where communities and environmental conditions can change rapidly. This contrasts with our nearly 20 year old plan. This plan makes no clear statement of a time frame. I have been able to find only one reference to time in its over 150 pages of text, namely; *As this a 5 year rolling plan, it is recommended that only the most significant, fragile and threatened habitats are tackled* (page 134).

¹ In practice this objective would need to be refined to specify the features that would qualify an area of grassland for inclusion in this category. This reflects the care needed in preparing objectives and the time needs of the process.

Limiting a management plan's objectives to a period as short as five years leaves a major gap in both the planning process and the chances of successfully conserving a site. There must usually be a longer term goal for a site. Why else are we managing it for conservation? For sites widely recognised as being important for conservation, such as SSSIs, then some formal statement, such as the description in a SSSI designation, might help identify the intention. However, as I have suggested above, these statements may ignore important features, not only aspects of nature conservation but also issues such as landscape, archaeology and access. Natural England, in its former guises, recognised the need to bring these statements up to date, as in 1989 and 1991 in our case, but these still deal only with wildlife, or geology. It is now widely agreed that objectives should be based on a broader formulation that outlines the hoped for ideal state, appearance or condition of all aspects of a site at an unspecified time in the future. This is often called a Vision Statement. To my knowledge this has never been done in our case. Could one of the Cotswold AONB's Landscape Strategy and Guidelines Statements be a suitable starting point for such a vision? To ask a more fundamental question. If biological and environmental changes over the last 20 years, for example the impact of the bacterial symbionts of Gorse in increasing nitrogen levels in the soil or climate warming, have impacted on the Common, then is it appropriate to base a plan on a SSSI designation drafted in, and little changed from, 1954? A strong recommendation in guides to management planning is that there should be wide consultation when preparing a Vision Statement. How would FOLK manage such a process?

I began by referring to the bid to National Grid. It surprised the team making the application when we were asked why we needed a new plan and to be forced to reduce the sum we were asking for to produce one. This questioning of the need is at odds with the overwhelming consensus of conservationists, to which the FOLK Committee and the Borough Council buy in, that management of sites such as the Hill and the Common needs a sound framework. Such a framework needs to be based on some long-term goal and to clarify and prioritise SMART objectives. Such a structure should give continuity and consistency of management, help improve the use of scarce resources, allocate responsibility, record activities, allow progress to be monitored, and more. So I hope that our application will succeed. It will be very difficult to prepare a new plan without external funding. Even with funding, FOLK will have to make a significant input. Given some of the issues I have covered above, the process may not be an easy or quick one.

Prepared by John Harvey, June 2020