



Grassland Management

Improved grassland management for biodiversity and greenspace enhancement

Version 1 - February 2024

Contents

Executive summary	i
1. Introduction	1
2. Background	2
3. Aims and objectives	4
4. Regulation policy and strategy	5
5. Benefits of changing grassland management	8
6. Anticipated risks and opportunities	10
7. Establishing improved grassland management practices	12
8. Site appraisals	13
9. Data gathering and habitat survey	16
10. Simple changes to implement better grassland management	17
11. Design considerations	19
12. Implementing and managing change	22
How to create and manage species rich grassland	22
Resources to support Health boards change grassland management	22
Monitoring	22
13. Examples from across NHSScotland	23



Appendix A	How to create and manage species rich grassland	27
Process		27
Appendix B	Support and resources	36
Available support and resources		36
Abbreviations		39
References		40



Executive summary

This report seeks to encourage and enable NHSScotland Boards (NHS boards) to identify places where it is appropriate to change existing low biodiversity value grassland areas and maintenance regimes, to species-rich tall grassland, or implement other grassland biodiversity enhancing features.

The NHSScotland outdoor estate management practices currently predominantly encourage the establishment and maintenance of monoculture amenity grass that prevents the development of both structural and species diversity, reducing its ecological value. In many cases this also requires the frequent application of herbicides and fertilisers which can be harmful to the wider natural environment.

The report supports the strategic ambitions of NHSScotland and seeks to assist NHS boards with the development and implementation of more sustainable grassland management practice and establish species-rich tall grassland where appropriate in their sites. It includes examples of NHS sites where this approach has already been applied and signposting to a wide range of resources to deliver the change required, as well as technical advice available from external organisations.

The information included can help NHS boards tailor and implement a local and site-specific approach to changing grassland management practices, reflecting both resources available, distinct geographical areas, and differing climate conditions.

Figure 0.1 - Midpark Hospital in Dumfries' with both formal grass lawn and species rich tall grassland wildflower areas (Image credit: ERZ Landscape Architects)



1. Introduction

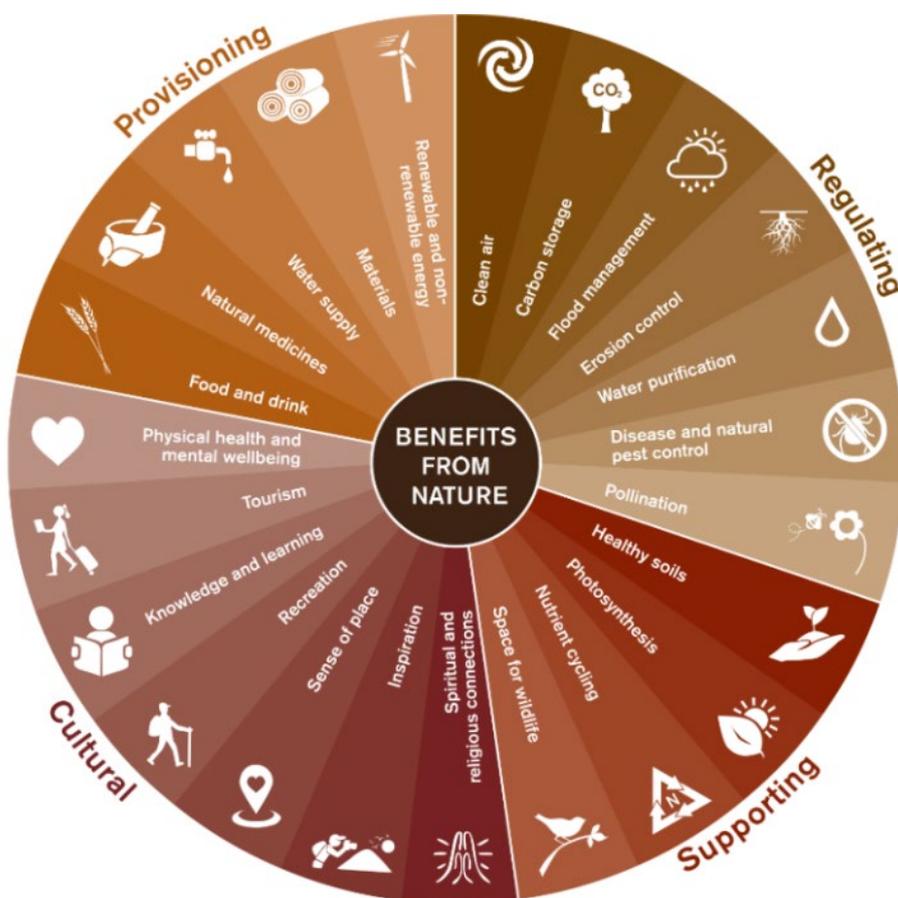
- 1.1. Scotland's ambition is to become a service which is socially, financially, and environmentally sustainable.
- 1.2. The Grassland Management Report (GMR) was developed to support implementation at NHS board level and the delivery of sustainable estate management practices, which improve biodiversity and the quality of NHS greenspace.
- 1.3. Historic land use, habitat destruction, pollution and agriculture have resulted in a biodiversity emergency, with unprecedented rates of habitat and species loss. Since the 1950s, 97% of the UK wildflower meadows have been lost, which has had a detrimental effect on the variety of plants, mammals, invertebrates, and fungi that depend upon them. The improvement of biodiversity is critical to human survival, human health is inextricably linked to the health of our planet and its natural systems.
- 1.4. In 2021, the Scottish Government (SG) published Director Letter (DL) 38, A policy for NHSScotland on the Climate Emergency and Sustainable Development (see ref 1) and in August 2022, published NHSScotland climate emergency and sustainability strategy: 2022-2026 (see ref 2). Both the policy and the strategy included several actions for NHS boards to progress in relation to biodiversity and greenspace. All NHSScotland bodies must assess and then take action to improve.
 - the extent and quality of green spaces they have
 - the contribution the estate makes to biodiversity
 - the value of ecosystem services its greenspaces provide (DL (2021)) 38

2. Background

Biodiversity

- 2.1. One of the major drivers to change grassland management, is to contribute to wider habitat restoration efforts to address biodiversity declines and the ecological emergency. Biodiversity is a term used to describe the variety of living organisms within an area. Biodiverse ecosystems consisting of an abundance of different species, provide us with a wide variety of essential benefits known as ecosystem services.

Figure 2.1 - Land Ecosystem Services provided by nature as defined by NatureScot which are broken down in to 4 characteristic benefit areas (see ref 3)



- 2.2. Biodiversity has been in decline, with a recent study finding the following Scottish trends from the last 50 years (National Biodiversity Network (NBN), 2023):
- average 15% decline in species’ abundance (on average since 1994)
 - eleven percent of species are threatened with extinction (See ref 4)
- 2.3. Approximately 97% of species-rich grasslands across the UK have been lost in less than a century due to land use change, agricultural practices, pollution and increasingly the effects of climate change (see ref 5). Around 7.5 million acres of species-rich tall grassland and wildflower meadows have been lost since the 1940s, and the remaining sites in good

condition are often fragmented (NatureScot, 2021) (see ref 6). The establishment, enhancement, and nature networking of species-rich grasslands attracts and supports a diverse range of species and ecosystems including reptiles, insects and other invertebrates, birds, and mammals. It is estimated this habitat provides a home for more than 20% of UK plant species and has potential for up to 40 species per square metre (see ref 7). Of particular importance are pollinators, which include a range of insects such as bumblebees, solitary bees, hoverflies, and beetles. It is estimated 84% of crop species cultivated in Europe depend directly on these species (see ref 8).

- 2.4. Nature networks are a vital component in the aim to restore biodiversity across Scotland. They connect biodiverse sites, restoration areas and other nature-rich projects through linkages of appropriate habitat corridors and stepping stones. Connectivity prevents habitat fragmentation, contributes to functioning healthy ecosystems, ensures genetic diversity and can contribute to measures to adapt to climate change. For more information, please see the resources listed under NatureScot in Section 4.

Climate change

- 2.5. Species-rich grasslands have been identified as an important habitat for carbon storage which is stored in plant material or passed on to soil, where it's consumed by invertebrates and microbes and retained in the soil as organic matter. It has been estimated that in Great Britain, permanent grassland habitats may store more than two billion tons of carbon (to a depth of 100cm). Diversifying the species-richness of a grassland has also been demonstrated to potentially increase carbon sequestration (see ref 9). At present only 1% of UK grasslands are considered species rich.

3. Aims and objectives

- 3.1. The aim of this report is to encourage and enable change to the management of grassland on NHSScotland land, on a permanent basis, with long term monitoring and management suggestions specific to increasing biodiversity value (refer to Section 3). These will facilitate the enhancement of biodiversity and action for climate change (including both mitigation and adaptation).
- 3.2. The intended users are those responsible for maintenance of the NHSScotland outdoor estate; directors of estates and facilities, teams managing facilities, sustainability teams and those procuring grounds maintenance contracts. It could also be relevant to community groups, volunteers, other organisations supporting active and therapeutic use of the NHSScotland estate (NHS estate) and contributing to its maintenance. A change to grassland management will also enable NHS boards to meet the requirements of policies outlined in Strategic Policy Context (paragraph 1.2).
- 3.3. The objectives are:
 - to enhance and protect biodiversity across the NHS estate
 - to contribute to nature networks
 - to contribute to nature-based climate mitigation and adaptation measures
 - to improve sustainability of grassland management practices
 - to improve the quality of outdoor experiences across NHS Estate Greenspace

4. Regulation policy and strategy

- 4.1. Transitioning NHS board estates to more sustainable management will contribute to NHSScotland's ambition to transition to a more sustainable model, while reflecting the legislative and strategic initiatives outlined in Table 4.1.



Table 4.1 - The legislative and strategic context that supports the change to species-rich grassland

Designation	Name	Purpose	Impact
National legislation	The Nature Conservation (Scotland) Act 2004	Makes provision for the conservation of biodiversity and places a statutory duty on all public bodies in Scotland to further the conservation of biodiversity.	The transition to species-rich tall grassland will contribute to NHSScotland's duty to further the conservation of biodiversity.
National legislation	The Wildlife and Natural Environment (Scotland) Act 2011	The Act sets out the way in which land and environment is managed and outlines the requirement for all public bodies in Scotland to report on their compliance with biodiversity duty, through the publication of biodiversity reports.	Changes made to grassland management practices can be documented in NHS board's biodiversity duty reporting, to demonstrate the steps they are taking to meet their statutory biodiversity duty.
National legislation	DL (2021) 38, A policy for NHSScotland on the Climate Emergency and Sustainable Development	DL 38 sets out the aims and associated targets for Scotland to work towards and brought forward Scotland's target date for reaching net-zero from 2045 to 2040.	All NHSScotland bodies must assess and then take action to improve.
National strategy	The Scottish Biodiversity Strategy to 2045	The Strategy outlines the commitment to protect a minimum of 30% of our land and sea for nature by 2030. An additional target set out in the 2021 and 2022 Programme for Government committed to the establishment and deployment of nature networks. These two targets are commonly referred to as the 30x30 Nature Network.	Changing grassland management will contribute to the aims of the Scottish Biodiversity Strategy, to restore habitats, protect land for nature and enhance connectivity. Under the priority action "enhance biodiversity in Scotland's green and blue spaces", the delivery plan outlines the following relevant measures:

Designation	Name	Purpose	Impact
			<ul style="list-style-type: none"> • prepare and implement nature positive amenity grassland management strategies for the public estate in town and cities by 2030, incorporating improved technical guidance for practitioners and access to suitable machinery for local authorities. • by 2030 broker the agreement of a National Charter with all stakeholders for nature positive green and blue space management which includes a definition of 'nature rich places' as part of a national campaign to increase awareness of more nature positive green and blue space management
National strategy	The Pollinator Strategy for Scotland (2017-2027)	The Strategy outlines the measures to be taken so Scotland can be a place where pollinators can thrive	Creation of pollinator friendly practices in the NHS estate that support the objectives of the strategy to: <ul style="list-style-type: none"> • make Scotland more pollinator-friendly, halting and reversing the decline in native pollinator populations. • raise awareness and encourage action across sectors
National strategy	The NHSScotland Climate Emergency and Sustainability strategy	Was published setting out the actions required to help achieve the NHS' climate and sustainability targets	Most actions relating to greenspace are set out under the Sustainable Buildings and Land priority area, section 107. Of relevance to the current report is the action to restore natural habitats, increase biodiversity value and deliver nature-based solutions.

5. Benefits of changing grassland management

Biodiversity and climate

- 5.1. For NHS boards that are in the process of developing a Biodiversity Action Plan (BAP) to meet statutory requirements on public bodies for climate and biodiversity, the grassland report could contribute to and be referred to in the BAP; as the supporting mechanism for making the change, and to support the implementation of the BAP.
- 5.2. Moving to more sustainable grassland management practices will provide the following benefits for biodiversity and climate action across the NHS estate:
 - supports creation of biodiverse habitat across the NHS estate, which can be linked to adjacent habitat areas through nature networks. The primary purpose of a nature network is ecological connection, and many Local Authorities have established or are in process of developing nature networks. Example [Nature Networks East Lothian](#) which includes a grassland restoration project
 - supports biodiversity urban locations often have a scarcity of biodiversity so a small area of urban species-rich grassland can be particularly valuable
 - supports pollinators and delivery of the Pollinator Strategy for Scotland, provides food, nesting, and shelter sites
 - supports opportunities for carbon sequestration, greenhouse gas sequestration and improved mitigation of flood risks
 - supports and encourages an ethos of environmental stewardship

Value for money

- 5.3. The transition to better grassland management practices could result in multiple benefits and direct cost savings from a combination of the following factors:
 - a lower frequency for grass cutting, from an average of six to eight cuts per annum to a maximum of two
 - investment, may be required in some NHS boards, in machinery that can easily be set for differing cut heights (to avoid repeatedly cutting to the same height, which will lower species diversity in the long term) improves the versatility of machinery for different grass management regimes
 - there is no requirement to purchase and use synthetic fertilisers as species-rich grassland benefits from low soil fertility
 - limited, or negligible, herbicide use could offset costs associated with reseeding or plug planting wildflowers
 - opportunity (dependent on-site constraints) to develop local green garden waste process and solution to enable compost and reuse of the cuttings removed from grass areas.

Once composted they could be used as fertiliser and or mulch cover for tree shrub areas. Composting on site could be part of a sustainable green waste strategy

- reduced carbon emissions over time from fewer cuts
- increase carbon sequestration.
- improve the resilience of active travel networks
- improve management of surface water by contributing to effective Sustainable Urban Drainage Solutions (SUDS). SUDS can provide a rich mosaic of habitat with a mixture of mown and long grassland, standing water, emergent plants, and areas of scrub. In some instances where land is frequently waterlogged, it may be appropriate to create a bioswale or raingarden for easier management of the area

Health and wellbeing

5.4. In addition to wider eco-system services, changing grassland management also has the capacity for:

- **nature connection** - Species-rich grassland increases opportunities for contact with nature by providing greater aesthetic, educational and mental health wellbeing services for staff, visitors, and the local community
- **therapeutic and community use** - Consideration of greenspace usage can be incorporated into the design, encourage active use of the outdoor estate and support NHS role as an anchor organisation
- **contribute to improved local air quality** - Exposure to elevated levels of air pollution can cause a variety of adverse health outcomes. [Species-rich grasslands can trap airborne pollutants and contribute to the improvement of air quality](#)

6. Anticipated risks and opportunities

- 6.1. Potential risks of any project should be identified at the first possible opportunity to ensure they can be mitigated and managed by boards. Some of these risks may offer opportunities as outlined in Table 6.1.

Table 6.1 - Risks and opportunities associated with grassland management change

No.	Risk	Opportunity
1	There is a risk that financial constraints could delay projects establishing, as there will potentially be initial costs associated with equipment purchase or supporting change to current maintenance regimes.	Equipment costs could be recovered over the lifetime of the change, as there would be less cost associated with less intensive maintenance.
2	There is a risk of inadequate planning for increased green waste .The removal of cuttings (varied cutting lengths) requires a green waste management Plan because they cannot be left on ground where cut . Requires sustainably managing the waste arising from meadow cuts. *Caution needed where cut grasslands have Invasive Non-Native Species (INNS) in the sward. *Be aware potential pollutants litter or animal waste.	Adoption of local garden waste solution such as low-cost onsite composting and reuse of material safely on site as fertiliser or mulch under tree and formal shrub areas. Sustainable management of green waste as part of a sustainable waste management strategy could reduce need to purchase fertiliser/ mulch materials or could be used to create habitat where space and location permits.
3	There is a risk that staff may require additional resourcing to ensure upskilling which requires upfront investment. For example, staff will now have a new requirement to ensure monitoring to review management as necessary. Site monitoring required to inform ongoing management of grassland for biodiversity enhancement.	Upskilling will invest in green skills to support a resilient workforce for the future and enable staff to carry out the required changes. Collaborating with local groups and environment trusts and volunteer organisations could attract additional resources and be beneficial.
4	There is a risk that grounds maintenance contracts may require amending and additional professional input or support from an ecologist or	Professional advice will help to ensure that biodiversity is mainstreamed across the estate and ensure contracts and procurement are sustainable, resilient and

No.	Risk	Opportunity
	landscape architect to ensure good design and effective transition.	reflect the current landscape of strategic policy.
5	There is a risk that changed grassland management could affect access road safety for example ensuring the correct Line of sight when designing projects along road verges or travel corridors.	Utilise a variety of native low growing plants which will contribute to biodiversity across the estate (refer Section 5.3 Plant life for species)
6	There is a risk that the community (staff, patients, site users or members of the surrounding settlements) may prefer the aesthetic of monoculture amenity grass areas or perceive the new grassland practices as being unkempt while they become established.	Engage with a variety of stakeholders to co-design projects and raise awareness of biodiversity within the organisation and surrounding communities. Seek design advice, for example apply a tidy edge frame cutting regime, combined with signage to indicate continuing stewardship rather than abandonment.
7	There is a risk that Infection control could be of particular importance for settings where there are vulnerable service users such as immunocompromised patients or the elderly. Consider if there are any specific additional or increased infection control risks associated with the change proposed by consulting relevant infection control specialist staff.	Review design and develop an informed mitigation strategy to the risks identified. For example, consider proximity layout and positioning and microclimate when locating seating areas and public walkways in relation to wildflower areas.

7. Establishing improved grassland management practices

- 7.1. A strategic approach is recommended to evaluate all the site options and change management practices at scale, including developing a whole health campus or site landscape strategy for the sites selected. Large sites, or several smaller networked sites set over a campus, will benefit from the specific skill set and input of a landscape architect and ecologist. Their input ensures good quality site appraisals to inform the selection, planning, design and implementation of the new biodiverse grassland and management of any associated risk.
- 7.2. For NHS boards who may wish to start with a simpler and smaller scale approach, to initially implement low-cost and slower approach to change on suitable sites, para 10.2 and 13.5 below details how this could be done.

8. Site appraisals

- 8.1. Site appraisals, will facilitate and enable NHS boards to quantitatively monitor the proportion of grassland, identify other habitats, map the site greenspace opportunities and constraints, and assess habitat connectivity.
- 8.2. NHSboards undertaking a strategic and whole site(s) approach and information to select areas where a change to the management of grassland would be appropriate, should be considering the information below to ensure the best chance for success.

Historic management and future facilities expansion plans

- it is useful to consider what has previously grown on your site and how it was managed, for example, if chemicals such as pesticides or fertilisers were previously used, as these chemicals may affect success of establishing new meadow areas. For example, a rich fertile soil due to previous fertiliser use will need to have fertility reduced to encourage wildflowers.
- it is necessary to establish future built expansion or development intentions and consult with facilities capital planning staff. Creating new wildflower meadow on vacant sites awaiting development can be an effective temporary and positive use of the ground (many development or expansion sites can be vacant for many years)

How the site is currently used and managed

- Stakeholder mapping and consultation exercise can be undertaken for larger more complex sites. It is important to consider how the public, patients and staff use and access the site:
 - there may be sites where an area of grassland has an existing active use, or an amenity function, overlooked by a facility, and there may be existing desire lines (informal paths) for walking or cycling or the space is used infrequently for events
 - it is important to consider existing uses into designs and notify relevant stakeholders of the changes to be made. Doing so, will ensure the longevity of the new grassland management scheme, and make members of the public, patients, and staff feel included on the journey to creating resilient and species-rich spaces
 - assess current use of site to ensure no conflicts with other potential uses, such as clinical and therapeutic spaces. Establish the function of the space and engage with staff and community to avoid conflicts and identify areas of opportunity and where there are constraints
 - areas of opportunity may include grassland projects to positively impact on microclimate for climate adaptation purposes
 - identify any site risk consideration that can be mitigated for in the initial design of a project, for example avoidance of attracting birds near helipads or avoiding informal seating and paths in sensitive or exposed areas

- consulting with your board infection control regarding any concerns or constraints around facilities will ensure associated risks can be mitigated for
- consider opportunities to enhance existing greenspace, for example, when including species rich grassland/ wildflower areas placed close to existing gardens, therapeutic areas, alongside pathways, heath walks or alongside roads or verges
- changing grassland management may also offer a better solution for areas where it is too difficult to mow, or where the ground drainage is poor

Existing ecological condition

8.3. There are several conditions that will impact what can grow at a location, such as the prevailing weather conditions, light and water availability, soil type and nutrients (which may require soil testing), site topography and proximity to the built environment:

- initial site planning should note and map the location and condition of natural features including ponds, ditches, wet marshy areas, woodlands, scrub, linear features such as hedgerows, existing meadows, and peatland
- if Invasive Non-Native Species (INNS) are found on site, appropriate measures friendly to pollinators should be identified to remove and manage long term
- special consideration should be given to any listed or protected species under national legislation. It is important to consider what species are already growing and utilising the area you plan to alter, and how changes may impact them
- species-rich grassland and wildflower meadows thrive on nutrient poor soil. Compacted sites where the land is vacant derelict or has had buildings heavy plant vehicles on it and is very compacted ground may need rotovating or digging over
- soils typically found in urban environments (especially brownfield sites) can offer a unique opportunity to establish or enhance existing wildflowers if they are not over compacted. It is important to be aware these types of sites also provide specific habitats and species that thrive in these conditions; for example, various solitary bees and wasps dig nests in hard dry compacted ground; open mosaic habitats on previously developed land can be extremely important for invertebrate species and some specialised flora. These habitats can be valuable and should not be changed without careful consideration
- establishing the function of existing habitat will enable the project to enhance what exists. This is likely to require some specialist input from an ecologist or staff with the requisite ecological/ horticultural training
- Local Authorities have biodiversity officers, collaborating with the local biodiversity officer and the Local Authority Biodiversity Action Plan (LBAP) can bring technical knowledge and support into project planning

Wider connectivity

8.4. Fragmentation of habitats is considered one of the greatest challenges to addressing the biodiversity emergency. Nature networks between habitats should be incorporated into whole-site design supporting wider connectivity in areas outside site boundaries, consult pollinator plans, LBAPs and other national strategic documents for opportunities.

- 8.5. Grasslands serve as crucial habitat linkages for a variety of species, most notably pollinators. If the grassland serves a connective function to a wider grassland corridor, or if it may intersect with existing pollinator corridors, projects such as Bug life's B-Line project, covering over 10,000 hectares. (Refer resources Appendix B para-B.11)
- 8.6. It is recommended that boards keep mapping records of sites where grassland projects are implemented to support the ongoing maintenance, and future ambitions to improve habitat connectivity.

9. Data gathering and habitat survey

- 9.1. Data gathering is recommended for larger and more diverse sites where it may be appropriate to undertake habitat surveys to support the design and implementation of a grassland project. For smaller sites, and those that have been managed as amenity grassland, where there is no species diversity, it will be sufficient to rely on the considerations outlined above in site appraisals.
- 9.2. Local biodiversity partnerships, record centres and botanical organisations (such as the Botanical Society of Britain and Ireland (BSBI)) may also hold species lists regarding your site. Ensuring you have a baseline of data will allow you to demonstrate enhancement at the successful installation of a grassland project.
- 9.3. LBAPs provide valuable contextual information about the ecology of the environment in areas surrounding NHS facilities. It would be valuable to consult your local authority's plan during the early stages of a project, to ensure it reflects local priorities and captures opportunities for nature connectivity.
- 9.4. For larger sites, sites that have been vacant for a prolonged period and as such have become recolonised by vegetation, sites with existing species diversity, or areas where it has previously been highlighted protected species may be present, it might be beneficial to undertake any of the following surveys.

UK Habitat Classification (known as UKHAB) survey

- 9.5. In larger healthcare sites, or those that have not been actively managed or have an existing level natural features and species diversity, it may be helpful and good practise to instruct an ecologist to carry out a UKHAB survey. The survey covers both freshwater and terrestrial habitats and can be used both in urban and rural areas. Once an initial site survey is completed, this can then be re-surveyed to demonstrate the benefit of a project for biodiversity.

National vegetation classification

- 9.6. A National Vegetation Classification (NVC) survey will identify and map the communities of vegetation on site, indicate their composition and structure and provide a species list vegetation classification.

10. Simple changes to implement better grassland management

- 10.1. A long term lower-cost approach to improving existing grass areas could be taken by selecting grassland on or toward quieter areas of a site, for example site boundaries, and doing the following:
- implementing a reduced and changed cutting regime or even cessation of cutting could be done, with a tidy frame mown along paths/ road edges and maintained as usual
 - not sowing new seed for the first one to two years
 - existing seed source could be allowed to grow through and establish a baseline wildflower grassland.
 - after the first couple of years an assessment can be undertaken to assess the success of the project and identify opportunities for enhancement
 - if the original amenity grasses remain too dominant, they can be reduced improve species diversity by sowing Yellow Rattle (Note: correct variety to use *Rhinanthus minor* should be sown not Greater Yellow Rattle weed *Rhinanthus Angustifolius* which is considered beyond its native range in Scotland) (see ref 10)
 - select sowing or plug planting where necessary could be undertaken over time to increase species diversity
- 10.2. This approach could help to minimise costs, however:
- may take longer to develop species diversity
 - mowing annually may still be needed to reduce ground fertility and create conditions attractive to wildflowers
 - the cuttings must be removed uplifted to reduce soil fertility and create conditions attractive to wildflower species
 - is not recommended to just cut grass and leave it behind because the nutrient in soil needs to be depleted
 - If INNS are present, they will need to be removed and reduce moving waste material around

Figure 10.1 - Grassland Area (photo Erz Landscape Architects)



- 10.3. The figure above illustrates reduced or no cutting regime over the existing grassland areas but with a mown edge or path and the area chosen is located toward or on the boundary of the health facility site. Implementing this approach can allow estate managers to monitor what seed sources appear naturally over time, to provide a baseline wildflower grass land. This could then be supplemented or enhanced over time with additional seed or plug planting.

11. Design considerations

- 11.1. The design treatment of the NHS greenspaces, and specifically along edges of species rich tall grassland areas is important. Well designed and maintained grassland can demonstrate the change to species-rich tall grassland was intentional, and that areas have not simply been left unmanaged. Varying grass cut heights provide a transition zone between different cut areas which often creates different light and conditions which can increase biodiversity in grassland. Refer to para 1.48 below for more information on design and link to report on good design of NHS Outdoor estate.

Figure 11.1 - Levensdale Psychiatric Hospital , Glasgow edge treatment (cuts) along main path Includes range cut heights and meadow mix sown on slopes (Image credit: ERZ Landscape Architects)



- 11.2. Straightforward design solutions to improve acceptance of new species-rich tall grassland areas include the following:
- **mown edge** - retain a close mown edge; retain a narrow 300mm or 1 mow width mown edge to all new meadow and tall grass areas. This will still reduce mowing requirements significantly but provides a clear maintained edge and demonstrates visually that the meadow is not an abandoned or unmanaged area
 - **mown paths** - consider adding curving mown paths/ routes through and around new meadow areas improves acceptance and wayfinding and use of the new- tall grassland meadow areas, as well as improving access to estate greenspace
 - **avoid using herbicides and pesticides** - avoid the application of herbicide along path edges to keep vegetation back, or around signposts other edges. This should not be common practise because it is not a nature-friendly practice and inappropriate close to meadow areas
 - **integrate management plans** - Integrate planned change to grassland management with design for improved surface and site water management. For example, by developing multi-purpose biodiverse Sustainable Urban Drainage Solutions (SUDS), such as bio swales (shallow vegetated channels designed to capture surface water and

storm run-off from hard surfaces). This approach should be achievable anywhere and can also be retrofitted potentially depending on initial construction. A SUDS can provide a mix of mown and long grassland, standing water, emergent plants, scrub, paths, and seating that has benefits for people, habitat connections and a varied flora and fauna

- **signage** - putting up signage to say that land is being managed for biodiversity and that paths are cut through so that it can be enjoyed. [Nature Scot](#) has 'Managed for Wildlife' signs available; they indicated a new mowing regime does not equal abandonment but rather a positive change for biodiversity
- **include wildflower seed mix** (Fig 1.4 below) - one alternative edge treatment that has been successfully applied on NHS sites is initially, during grassland establishment years 1 and 2, is to incorporate wildflower seed mix
- to do this, prepare a seed bed area (on nutrient poor soil) and sow a dense wildflower annual seed mix along a 300mm or wider size edge alongside newly established developing tall perennial meadow grassland areas. This will support pollinators and provide an attractive and bold seasonal visual statement
- wildflower edges created alongside developing meadow grasslands provide a visually attractive seasonal feature that could help to build public acceptance of the transition to tall grassland, whilst the new grass management regime embeds and main meadow area develops
- the sowing of annuals wildflower edges could support change in maintenance programme for 2 or more years, and then these edge areas could be sown with perennial wildflower mix and left to evolve, no longer requiring annual sowing

Figure 11.2 - Example of seed mix, which is visually dramatic and contains annual wildflowers such as poppies, intermixed with perennials such as Oxeye Daisies (Image credit: NHS Tayside Eden Project)



- **establish a management regime** - an appropriate annual management regime will need to be adopted to encourage the wildflower meadow to establish. The correct cut and lift regime and timing will determine the long-term success of the meadow and help ensure it is not overrun by the grasses

- **management of native plants/ thistles** - brambles and/or thistles may begin to encroach on grassland areas and require some management to keep some open areas grassland, these are all wild plants and extremely valuable for a variety of wildlife as well as. Thistles are a significant nectar and pollen source (bumblebees love them) as are bramble flowers and many flowers of shrubs (native or otherwise). The seeds and fruits of these are also important food sources for birds and small mammals.
- docks and grasses are also valuable as foodplants for example butterfly and moth caterpillars and their seeds are also eaten by birds. The fact that these species have been persistently removed from grasslands and scrub has meant that many species that rely on them are now also quite depleted and becoming even more so. For example, small copper butterfly is seen less and less due to 'cleaning' up of docks and sorrels

12. Implementing and managing change

Health Boards who have planned their approach and carried out site appraisals and are ready to go forward and implement changes to Grassland management, Appendix A and B provides detailed information to guide this stage and are intended to support implementation.

The management objectives and prescription contained in Appendix A detail the actions required on the ground to implement the change required to grassland management to deliver species rich grassland and enhance NHS Greenspaces. How to create and manage species rich Grassland including setting management objectives.

How to create and manage species rich grassland

This section of the report provides Health Boards with an important baseline, start point, to inform and amend existing maintenance plans and contracts, and to help identify where upskilling of staff would be beneficial. It provides estate grounds staff with the necessary technical information to understand what needs to be done, when, and why.

Resources to support Health boards change grassland management

Details the support available to Health Boards to enable them to deliver action on the ground and put the planned changes into practise.

Monitoring

- 12.1. The establishment and ongoing management of a species-rich grassland requires long-term goals to increase biodiversity, and commitment to ensure it establishes and flourishes. (Refer Appendix A setting management objectives for each Grassland type).
- 12.2. Active seasonal monitoring of species will inform management and help to carry out this monitoring could be available through collaboration or partnering with a local environmental trust, biodiversity action group, local authority, or community group.
- 12.3. It should be noted that not everything in a seed mix will grow up and flower in the first year. Many wildflower species take two years to mature, so it should not be assumed that the mix has partly failed in year one.
- 12.4. In the short term, the meadow development phase, this lack species may lead to users of the space raising concerns regarding the “unkempt” nature of the site, until site maturation. This can be mitigated for using signage, undertaking public awareness activities, and engaging staff.

13. Examples from across NHSScotland

- 13.1. Several NHS boards have already started the process of reviewing their current approach to grassland management and are making positive changes, and several projects have either been completed or are underway. Examples have been included in this section to demonstrate successful projects and the wide set of benefits that result from changing grassland management practices.

NHS Greater Glasgow and Clyde (NHS GG&C) - Royal Alexandra Hospital (RAH), Paisley

Figure 13.1 - Royal Alexandra Hospital - 'the pond and beyond project'.

Pond and Beyond Project
Royal Alexandra Hospital
Paisley NHS GGCHB



- 13.2. NHS Greenspace funding (provided by Scottish Government (SG), and NHS board match funding) supported the delivery of a Greenspace improvement capital project called the “Pond and beyond project”. Phase 1 focused on restoring the pond and creating a nature area.
- 13.3. A pilot project the “Nature Based Management plan” for the whole RAH hospital campus was commissioned to support the long-term care and management of the whole hospital site including the pond area, phase 1 Greenspace improvement Project.
- 13.4. The Landscape Architects ERZ were asked to consider and specify how further improvements to the wider hospital estate greenspaces could be made by taking a more sustainable and nature-based approach to whole site management.
- 13.5. The management plan includes maintenance techniques required to develop species rich grassland and provides NHS boards with a working example of a typical NHS site to adapt as appropriate to their own local circumstances. Refer RAH ‘Nature based management

plan' Erz Landscape Architects - August 2023 - Commissioned by Green Exercise Partnership and NHS GG&C.

- 13.6. Appendix 1 of this report (How to create species rich grassland) contains detailed maintenance specifications and grassland management practice detail (based on p33-38 from the above report) This provides an example specification so that other NHS boards can use this information as a baseline or starting point to adapt their own maintenance practices and contracts to make changes which support changing to a more species rich and biodiverse grassland area.

NHS Tayside and the Eden project

Figure 13.2 - NHS Tayside Eden Project



- 13.7. The Eden Project supported the NHS Tayside's estate team to learn about creating and maintaining meadows, including the harvesting of seeds. Together, they worked in partnership, to sow the first seeds for a small wildflower meadow near the entrance to Ninewells Hospital. This meadow is the first of its kind on the NHS Tayside estate with others to follow at different sites across the estate. The planting programme is part of Eden's commitment to the city, ahead of the opening of Eden Project Dundee in 2025, and supports delivery of NHS Tayside's ambition to meet the NHSScotland targets of being a net zero health service by 2040.
- 13.8. Funded by the Alexander Moncur Trust, the Eden project directly addresses the decline of natural wildflower meadows that support bees and other pollinating insects. Species sown June 2023 will flower in late summer and include native local provenance species such as corn chamomile, poppy, oxeye daisy and red campion.
- 13.9. The Eden Project assist with drafting ecology reports and, at the start of the project, monitored it, however, there is a longer-term ambition to involve staff, students, patients, and families in using a citizen science approach to looking at the biodiversity and monitoring of the new meadows. There is a further ambition to have ward areas of hospitals look out to meadows to encourage patients, if able, to get out of bed to look at them. This would then lead onto encouraging patients to get out into the greenspaces around them when they

are discharged and raise awareness of ongoing greenspace activities that are good for physical and mental health.

NHS Greenspace - Good design of the outdoor estate guide

Figure 13.3 - Newcraigs Hospital NHS Highland (Image credits: ERZ Landscape Architects)



Figure 13.4 - QEUH NHS Greater Glasgow and Clyde (Image credits: ERZ Landscape Architects)



- 13.10. The NHS Greenspace: Good design of the outdoor estate guide contains three case study sites, NHS Highland's New Craigs Hospital and two smaller Health and Community Care sites within NHS GG&C NHS board, Eastwood Health and Possil Park Health and Care Centres (Refer section 4 of Report case studies).
- 13.11. These NHSScotland sites were previously managed as amenity grass. The areas alongside main paths and approaching entrance to the hospital have been changed to a tall meadow grass edge with native trees. The design has improved wayfinding and made the approach to entrance of hospital and path routes between buildings more welcoming, attractive and nature friendly. The planting design adds colour and use of seasonal mix provides colour throughout the year. All the case studies include establishment of new meadow areas and creation of natural grass species-rich grassland as a core element of design.
- 13.12. For more information, please go to NHS Sustainability Action - [NHS Greenspace - Good design of the outdoor estate](#).

Appendix A How to create and manage species rich grassland

Process

Key grassland management considerations

- A.1 There are 3 key grassland management requirements to enable development of species-rich grassland:
- change cut heights, frequency and timings allowing the grassland areas to become more species diverse and varied in structure
 - reduce fertility of soil - no chemical fertiliser to be applied and once cut seed heads left to lie for 48 hours remove all cuttings off site and this will allow light and water and seed to reach the soil surface
 - monitor grassland to ensure grass develops increases biodiversity over time and to review and adjust management accordingly (refer support and resources section 5)

Seed mix and importance of seed sources

- A.2 Grasses are extremely competitive, and it is worth initially sowing wildflower meadows without grass species or extremely limited amounts of a non-competitive meadow species. Grasses will naturally establish in a meadow providing a natural aesthetic.
- A.3 Another solution could be sowing yellow rattle with or in advance of seed mix can help if competitive existing coarser grasses are present. Yellow rattle (*Rhinanthus minor*) is an annual hemiparasite (*plant parasite*) sometimes known as “nature’s lawnmower”. It prevents competitive grass species from dominating and excluding other species. The flowers of yellow rattle are also pollinated by larger bee species, which makes the use of this species to control grass, a pollinator friendly strategy. If considering this approach, it is important that the yellow rattle species be native to Scotland. A link to further information is provided in Section 5.3.
- A.4 The location of the new grassland site needs to be appropriate for the seed mix being sown. For example, refer below solutions to adopt on sloping sites where soil erosion could be an issue. Seed mix and Importance of seed sources.
- A.5 On exposed sloping sites, where soil erosion could be a problem due to the meadow being more open in the earlier years and the soil is exposed to rain deluges. In these circumstances grasses are required for mitigation, to bind soil quicker prevent and erosion and it is recommended that a pollinator friendly mix of native meadow grass species are used. For example, such as:
- meadow foxtail (*Alopecurus pratensis*), common bent (*Agrostis capillaris*), crested dogs’ tail (*Cynosurus cristatus*) and chewings fescue (*Festuca rubra*). Wildflower seed is more

expensive than grass seed and, while unlikely to be prohibitive, costs may need to be considered.

- A.6 A wide variety of wildflower seeds is available from specialist Scottish provenance native seed suppliers. Most naturally, occurring habitats have a local resonance - species relate to their locality, underlying substrates and geology, climate, hydrology, and ecological characteristics. A similar resonance should be included when creating habitats to ensure that biodiversity has a long-term future.
- A.7 The example specification below was developed as a pilot project, nature-based Management plan for Royal Alexandra Hospital (RAH) site in Paisley, it is set out in a format that can be adapted to specific local circumstances and used by other NHS boards as a baseline to inform and support making appropriate changes to existing grounds maintenance contracts.

Part 2 - Specification

Landscape management and maintenance

The RAH nature-based approach management plan includes maintenance techniques required to develop a range of habitat types including species rich grassland and provides NHS boards with a working example of a typical NHS site to adapt as appropriate to their own local circumstances. Refer RAH '[Nature based management plan](#)' [Erz Landscape Architects - August 2023 - Commissioned by Green Exercise Partnership and NHS GG&C Health Board](#).

- A.8 This is not a definitive list but should be used as a set of guidelines that can be used as a starting point. These should be reviewed to ensure they meet local site requirements and monitored in future to check that they are achieving the aims or whether there are more effective ways of working.
- A.9 Each grass landscape type is considered separately. A brief description of the current condition is given followed by the management aims for this grass landscape type.
- A.10 A table sets out the prescriptions for achieving these objectives along with suggested timescales for monitoring success. This will allow the specification to be amended or updated to best deliver on the vision.

Grasslands

Amenity grassland

Current condition

- A.11 Currently a substantial proportion of many hospitals NHS estate's landscape is short regularly mown cut grass which is low in biodiversity value.

Management aims

In areas of existing regularly mown short amenity grassland type represented the following changes are recommended.

- maintain some areas as cut grass where appropriate, to allow for outdoor activity.
- work to turn remaining areas into species-rich wildflower meadows.
- create large areas of habitat that have a variety of plants that flower at various times of year, attracting a range of pollinators.
- manage to allow tall vegetation that can provide shelter for invertebrates.
- create a visually stimulating landscape that is interesting for patients to look out on and that provides changing interest through the seasons
- form cut grass pathways through the meadows to a series of simple mown spaces for therapy or social activities for staff, patients, and visitors.
- vary mowing regime at the edges of grassland habitat to create biodiverse 'transition edges' between habitat types

Management objectives and prescriptions

Table A.1 - Actions required to change management on selected sites amenity grassland landscape type

Objectives	Prescription	Monitoring
<p>Change cut grass to species-rich wildflower meadow.</p>	<ul style="list-style-type: none"> • in the first year cut grass weekly and remove arising to reduce vigour of grasses. Do not feed or apply weedkiller • in the second year, leave grass to grow and plant wildflower plug plants • plug plants can either be purchased or grown from locally collected seed in year one if space and staff allow. See following page for appropriate species • plant at a rate of 6-10 plugs/ m2, in drifts of same species • plant in autumn to avoid plants drying out but water as required. • any large tussocks of grass should be removed to avoid over competing 	<ul style="list-style-type: none"> • assess establishment at the end of year 2, prior to autumn cut, via visual survey of the amount and distribution of plants • plug plants can be vulnerable to rabbits, monitor for presence of rabbits and assess any damage

Objectives	Prescription	Monitoring
<p>Maintain cut grass paths, borders, and spaces.</p>	<ul style="list-style-type: none"> • mown edges are important as a tool to mitigate against negative feedback from a public perception of a lack of management • 1m strip and paths to be cut minimum 6no. times between spring and autumn • arisings (cuttings) removed to reduce soil fertility and add to appearance of cleanliness • reduced soil fertility should allow low growing flowers to colonise verges • grass should be kept to a max height of 75mm 	<ul style="list-style-type: none"> • Monitor if the routes of paths and cut spaces are used/ located correctly • Shift paths if new desire lines begin to form
<p>Maintain meadow once established.</p> 	<ul style="list-style-type: none"> • once wildflower meadow is established • meadow should be cut twice a year, once in May/ June and once in September/ October, after seeds have dropped. Cut to 50mm height • arisings (cuttings) should be left in situ for 48hrs and no longer than a week to allow seeds to drop and invertebrates to leave, after that arisings should be removed to compost. (develop a sustainable green waste strategy) • reseed/ plug plant in autumn to top up species and fill any gaps 	<ul style="list-style-type: none"> • monitor annually from year 3 to assess the diversity of the meadow • note number of distinct species and approximate distributions

Undermanaged grassland

Figure A.1 - Royal Alexandra Hospital Paisley - example of undermanaged grassland area



Current condition

A.12 There are usually areas of undermanaged or less frequently cut grassland often towards the boundaries or more inaccessible areas of the NHS estate that have been under - managed and as such, are being colonised by brambles and other species such as dock and thistle.

A.13 Management Aims:

- survey existing grassland species mix to understand/ check biodiversity value of existing grassland
- maintain areas to allow finer grasses to establish themselves and create improved conditions for wildflowers to establish and biodiversity to increase
- as areas are at the edges of the estate and on steeper slopes, these areas should be primarily managed for biodiversity, complementing the newly created wildflower meadows

Management objectives and prescriptions

Table A.2 - Actions required to change management on selected sites of existing under managed grassland landscape type, an example of this can be seen in figure A.1 above

Objectives	Prescription	Monitoring
<ul style="list-style-type: none"> • First check existing biodiversity value to ensure these areas are not already existing semi natural species-rich areas this is uncommon but an important habitat. 	<ul style="list-style-type: none"> • As per the amenity grassland, in the first year cut grass weekly and remove arising (cuttings) to reduce vigour of grasses. Do not fertilise. • In the second year onwards adopt the same cutting 	<ul style="list-style-type: none"> • Assess establishment at the end of year 2, prior to autumn cut, via visual survey of the amount and distribution of plants. • Monitor spread/ and manage where necessary reduction of other species to retain

Objectives	Prescription	Monitoring
<ul style="list-style-type: none"> • More commonly the grassland areas will be a species poor undermanaged grassland then change management regime to encourage increase in biodiversity as detailed here • Recommend Existing species-rich semi-natural grassland areas that have not been previously managed regularly have ecologist input/ habitat survey. 	<p>regime as the wildflower meadows.</p> <ul style="list-style-type: none"> • Meadow should be cut twice a year, once in May/ June and once in September/ October, after seeds have dropped. Cut to 50mm height • Arisings (cuttings) should be left in situ for 48hrs to a week to allow seeds to drop and invertebrates to leave, after that arisings should be removed to compost. (you may wish to develop a sustainable green waste strategy to support this) • Reseed/ plug plant in autumn to top up species and fill any gaps • Species that are becoming overly dominant such as Dock, Thistle should be managed. Treatment includes careful cutting or pulling (avoid use of contact herbicides, management by other means is preferred). Thistle is a common species in grassland and supports pollinators - creeping thistle can be pernicious need managing • Areas of scrub should be managed so to avoid them becoming dominant. Some scrub cover provides valuable habitats. Scrub to be reduced each year, not eradicated 	<p>open grassland but be aware brambles thistles and so on are good for pollinators</p>
<p>Should development of the estate result in land being disturbed, replacement grassland</p>	<ul style="list-style-type: none"> • Any disturbed soil should be checked for suitably low nutrient levels and then prepared for planting. 	<ul style="list-style-type: none"> • Monitor annually from year 3 to assess the diversity of the meadow.

Objectives	Prescription	Monitoring
<p>should be species-rich wildflower meadow.</p>	<ul style="list-style-type: none"> • If budget allows, a suitable wildflower turf should be used. • If not, the area should be seeded with a local wildflower meadow seed mix. • Management of the established grassland should follow the prescriptions set out previously. 	<ul style="list-style-type: none"> • Note number of different species and approximate distributions

Species information

Yellow rattle

A.14 Yellow Rattle (*Rhinanthus minor*) is a hemi-parasitic species that reduces the vigour of grasses as it grows. It can reduce the density of a sward which has the benefit of both removing the amount of grass to be cut and arisings to remove, but also opens space for other wildflowers to establish.

A.15 It is an annual species and so any cuts to the meadow must only take place after it has set seed. It is good to over sow with additional seed in the autumn to ensure it establishes the following year. It requires contact with the soil to germinate so it is best to sow directly after the cut.

Potential wildflower species

A.16 The following species are a list of suitable wildflowers that grow well in the west of Scotland, this is not an exhaustive list, and depending on a site’s geographical location and condition and objectives the most appropriate native wildflower seed mixes will vary - seek advice from Native seed supplier and/ or ecologist if a habitat survey has been carried out:

- *Achillea millefolium*
- *Centaurea cyanus*
- *Centaurea nigra*
- *Cerastium fontanum*
- *Daucus carota*
- *Echium vulgare*
- *Gallium verum*
- *Glebonis segetum*
- *Hypochaeris radicata*

- *Knautia arvensis*
- *Lathyrus pratensis*
- *Leucanthemum vulgare*
- *Leontodon hispidus*
- *Papaver rheoas*
- *Pimpinella saxifraga*
- *Plantago lanceolata*
- *Primula veris*
- *Primula vulgaris*
- *Prunella vulgaris*
- *Ranunculus acris*
- *Rhinanthus minor*
- *Rumex acetosa*
- *Scorzoneroides autumnalis*
- *Succisa pratensis*
- *Tripleurospermum inodorum*
- *Vicia cracca*
- *Viola riviniana*

- A.17 Once the improved grassland has been established, it should require only one maintenance cut and tidy per year, but it may require two cuts depending on species mix and grasses - one at each end of season. Once cut, arisings should not be left any longer than a week and then taken off. Leaving there for a few days allows any flower heads to drop their seed, thereby providing ongoing seed source. Lifting the arisings off then prevents excessive nutrient input to the ground which would hamper regrowth of the wild plants.

Monitoring and reviewing sites

- A.18 Involving local volunteering groups and community members such as through citizen science projects or other third sector community organisations and environment trusts and charities in site monitoring and ongoing care can provide valuable resource and support.
- A.19 Often after the initial establishment and success, the continued establishment of meadows will need monitoring and temporary adjustments to management regime to correct or enhance failed areas.
- A.20 Techniques to improve areas that have become species poor/ failed include following:
- temporary change to cutting regime; replacement of winter cutting with flailing (a specific grass cutting technique) and remove all cuttings for composting

- add tall leafy shade tolerant species into grassland area as plug or pot plants, instead of re-seeding. Plants in pots are more successful than plugs and taller plants are more successful than short ones, shade tolerant species are more successful
- alternatively, change to a summer cut and the recommendation to cut meadows between late June and end of August to around 5-8cm and over sow Yellow Rattle (*Rhinanthus minor*) and then plant and over sow additional meadow species
- Yellow Rattle is an attractive, semi-parasitic, grassland annual. It weakens grasses in a garden or grassland management context; however, this suppression of grass growth is warranted as it produces a better display of wildflowers and eases the mowing required
- plant bulbs such as wild daffodils, snowdrops, bluebells, and fritillaries to add seasonal interest. These should be planted in random drifts in the autumn at a depth of 3 or 4 times the height of the bulb. Wild primrose plugs can also be planted amongst the bulbs for further variety and colour. Choose a density and spacing appropriate to the site, your budget, and the effect
- the lower the density the longer it will take to naturalise and for plants to spread. Early flowering bulbs, like snowdrops, fritillaries, and crocus, are now vital nectar sources for early emerging pollinators like bumblebees, so if they can be accommodated within areas where they cannot escape into the 'wild' where a site is for example within defined garden area not adjoining countryside, then they are useful additions. Common primrose and cowslips are also valuable early flowering species

Appendix B Support and resources

- B.1 Appendix B signposts NHS boards to organisations with expert knowledge and experience, to work in partnership, and get support for the planning and delivery of species-rich grassland. Working collaboratively with other organisations can enable not just knowledge and resource sharing but to deliver on national and shared agendas, to reduce biodiversity loss, improve outcomes, and better connect local habitats and individual sites.
- B.2 There are organisations already experienced in managing species-rich grassland areas and collaborating with volunteers and/ or local Environment partnerships able to support NHS board estate teams to make the transition to better grassland management.
- B.3 In addition to the main resources listed below many areas have local environment trusts and community organisations that could offer on-going involvement support to help establish and monitor new meadow areas.

Available support and resources

NatureScot

- B.4 NatureScot is Scotland's nature agency, they work to improve our natural environment and inspire environmental stewardship. The NatureScot professional staff advisers include Grassland, pollinator and biodiversity specialists and advisers.
- B.5 Guidance on wildflower meadows is available on [NatureScot website](#).
- B.6 The NatureScot website contains relevant resources and information in relation to biodiversity, grassland management, meadow creation, training, and pollinator strategies. These include the following:
- [Grassland briefing](#) document
 - [Species-rich grasslands guidance leaflet](#)
 - [Pollinators - resources](#)
 - [Nature networks explained](#)

Butterfly Conservation

- B.7 Butterfly Conservation is a British charity dedicated to saving butterflies, moths, and their habitats. Their website hosts a vast variety of resources to support butterflies, moths, and their environments such as:
- [grassland management factsheet](#)
 - [habitat creation factsheet](#)
 - [UK Conservation Strategies](#)

- [making road verges buzz with wildlife](#)

B.8 Roads verges have been subject to management for improved biodiversity for many years, and there is existing guidance that has arisen from this work, and lessons learned, which can be applied to NHS sites, available on the links below.

Dr Phil Sterling from Butterfly Conservation: [Video training and advice resource](#)

Plant Life

B.9 Plant Life aims to make lasting positive changes for plants (including wildflowers) and fungi. The organisation aims to mitigate for the impacts of climate change while also rebuilding biodiversity. They host extensive guidance on their website as follows:

- [Managing Grassland and Greenspace](#)
- [Yellow Rattle information](#)

B.10 There is also an opportunity to manage or create nature-friendly road verges across the NHS estate. [Plant life](#) have very good guidance on how to do this.

Bug Life

B.11 Bug Life is an invertebrate conservation charity dedicated to conservation, education and policy change that protects insects and their habitats. They have detailed guides on the management of important habitat types for insects and developed the B-lines pollinator network initiative:

- [B-Lines](#)
- [habitat management](#)
- [species management information sheets](#)

The Central Scotland Green Network (CSGN) and Glasgow Clyde Valley Green Network Partnership (GCVGNP)

B.12 One of the largest environmental projects in Europe was designed to support, link up and build on, existing partnerships and programmes. It operates within central Scotland and has a range of initiatives and programmes that include support for establishing new meadow species-rich grasslands. More information can be found in the [Central Scotland Green Network website](#).

B.13 In the Glasgow and Clyde Valley area, the Glasgow Clyde Valley Green Network Partnership has undertaken a mapping exercise of potential pollinator connectivity opportunities under the Clyde Grasslands project. Further information can be found on the [Glasgow and Clyde Valley Network website](#).

The Conservation Volunteers (TCV)

- B.14 TCV Scotland has supported active management of new meadow areas on healthcare sites in several territorial boards. TCV offers a wide range of environmental activities in central Scotland to help enhance local greenspace and biodiversity, co-ordinating a diverse range of learning opportunities and partnership working. Learn more by visiting [The Conservation Volunteers website](#).

The Wildlife Trusts

- B.15 The Wildlife Trusts are a federation of 46 independent wildlife conservation charities across the UK. They manage nature reserves, undertake public outreach and awareness and host resources on their website including the following:
- [grassland habitats](#)
 - [act for insects](#)
 - [natural solutions to the climate crisis - glorious grasslands](#)

The Royal Society for the Protection of Birds (RSPB)

- B.16 The RSPB is a national charity which aims to advance the conservation of birds, other wildlife and the natural world, by protecting and restoring habitats and landscapes, saving species and connecting people to nature. Learn more by visiting the [RSPB website](#).

Abbreviations

BAP:	Biodiversity Action Plan
COP:	Conference of the Parties - biodiversity
CSGN:	Central Scotland Green Network
DL:	Director Letter
FAS:	Farm Advisory Service
GCVGNP:	Glasgow Clyde Valley Green Network Partnership
GMR:	Grassland Management Report
GG&C:	Greater Glasgow and Clyde
INNS:	Invasive Non-Native Species
LBAP:	Local Authority Biodiversity Action Plan
NBN:	National Biodiversity Network
NVC:	National Vegetation Classification
RAH:	Royal Alexandra Hospital
RSPB:	Royal Society for the Protection of Birds
SG:	Scottish Government
SUDS:	Sustainable Urban Drainage
TCV:	The Conservation Volunteers
UKHAB:	UK Habitat Classification

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