

Arnhall Moss

Management Plan 2020 – 2024



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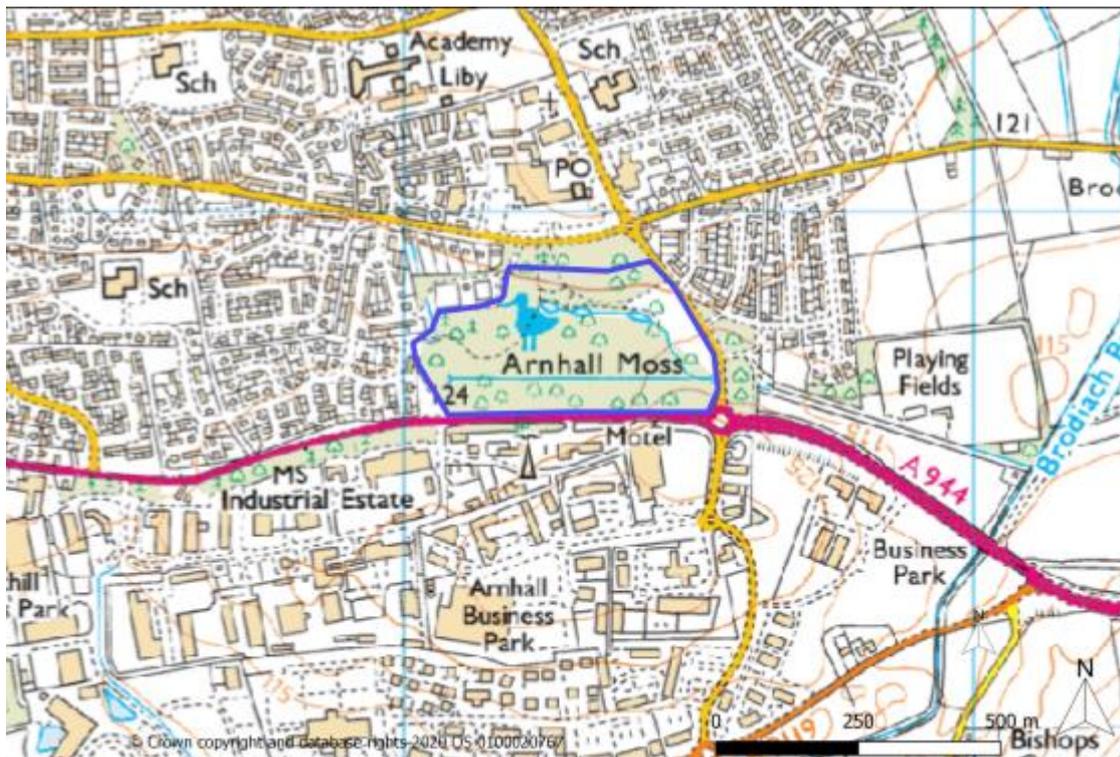
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1 Introduction

1.1 Location

Arnhall Moss is located to the south east of Westhill, immediately adjacent on the northern side is Denman Park. The busy A944 runs along the southern boundary. The location is shown in Figure 1.

Figure 1 – location of Arnhall Moss



1.2 Designations

Arnhall Moss was declared a Local Nature Reserve in 1992. It is also a Local Nature Conservation Site identified in the review of locally important sites for nature conservation in 2012.

1.3 Ownership and management

Aberdeenshire Council own and manage both Arnhall Moss and Denman Park. The Council produce management plans to guide the management of Arnhall Moss. There have been four management plans to date; the first written in 1993, the second for the period 2001–2005, the third for 2007–2011 and the fourth for 2013–2018. This plan continues work started in earlier management plans. One significant difference is that the premise underlying both this plan and the 2013-2018 plan is that the moss is now predominantly woodland and it can't practically be restored to an actively growing moss.

This management plan has three sections:

- Managing biodiversity
- Management for people
- Management of the local nature reserve

There are management proposals in each of the sections and these are repeated in a table of projects at the end of each section.

To manage a site efficiently it must be clear what each project is, when it will be carried out, who has the lead and who will deliver, and how much it will cost. So the project plan in Appendix 1 lists the projects and gives timing (when), who leads and delivers the projects and an indication of cost (how much).

1.4 Community consultation

To update this plan for the 2020–2024 period, a community consultation was undertaken in autumn 2019. The aim of this consultation was to find out what people liked and valued about Arnhall Moss and what they would like to see changed and improved. The consultation took the form of a physical display of information and questions, which was used at the Westhill Farmers Market and was also available in the Tesco superstore for 10 days. An online consultation also took place at the same time, which could be accessed via a link that was advertised on posters at the Moss and in an article in the Westhill Bulletin. Eight people responded to the online consultation and an estimated 27 people responded to the consultation display.

The results from the consultation were compiled and are included as Appendix 2.

2 Managing Biodiversity

Aim – Biodiversity

The woodland on Arnhall Moss continues to develop naturally. The heathland glade is kept open by regularly removing trees and shrubs. The water in the burn and ponds is clean and unpolluted, the wetland vegetation alongside the watercourse does not restrict water flow.

2.1 General description

The name Arnhall Moss is a misnomer nowadays because the site is largely covered in woodland, mostly birch woodland, and is no longer a 'moss'. It undoubtedly was a moss in the past, as is clear from maps dated 1869 and 1899 and aerial photos from 1946; Arnhall Moss is shown on these as an open wet area. Birch seems to have colonised the moss in the second half of the last century (Ferreira, 1997) reported that the site was dominated by birch in 1977. In the 1980s the town of Westhill was being constructed and the building works significantly altered the drainage patterns around Arnhall Moss, this probably accelerated the rate at which the moss was drying out. Arnhall Moss is not an isolated case, many of the lowland bogs in Grampian have suffered a similar fate and have become wooded because of active drainage and/or land use change.

Arnhall Moss LNR and the adjacent Denham Park are now surrounded by houses, shopping centres, a business park and busy roads. There is no active peat formation at the present time and realistically there is no prospect of Arnhall Moss ever becoming an active peat moss in the foreseeable future. Restoration of the moss would be hugely expensive, require constant management effort and there would be no guarantee of success given the changes that have occurred around the Moss. In the immediate future therefore it is likely Arnhall Moss will remain birch woodland, in time other trees will colonise as the birch dies and as it ages the wood will become more diverse. The diversity of the woodland is increased by having an open glade with heathland vegetation.

This section covers the habitats (woodland, heathland, wetland and grassland) and then the species. There is a table of projects at the end of the section.

2.2 Woodland

Previous management plans show three types of woodland on the site – two types of birch woodland (acid birch woodland and neutral birch woodland) and a block of planted spruce. The willow carr at the eastern end of the site was shown on maps in earlier management plans as marshy grassland. As well as birch there are willows in wetter hollows, and rowan and Scots pine trees scattered through the wood.

2.2.1 Birch woodland

Birch has colonised the moss as the peat has dried out. The oldest trees are probably around 70 years old but most are younger than this. The more mature birch trees are on drier ground over an understory of bramble and broad buckler fern, this is likely to be the longest established woodland. There are multi-stemmed (i.e. previously-cut) trees growing on the peaty ground with small remnant patches of heathy ground cover of straggly heather and blaeberry. There are dense thickets of 'pole stage' young birch on the most recently

colonised areas. There are one or two non-native trees in the wood. At the eastern end of the wood and alongside the A944 there are very wet areas with birch in standing water in winter as well as an area of willow carr where earlier maps show marshy grassland.



Previous management – There are indications that the moss was cut over for peat in the past; some of the wet hollows are probably former peat cuttings. Multi-stemmed trees provide evidence that birch was cut in the past too. In recent years work parties have selectively felled some of the pole stage birch and left the cut brash lying on the ground.

If left alone (non-intervention management) this birch woodland will gradually become more diverse because other tree species will colonise as birch trees die naturally and gaps open up in the canopy.

This process can be accelerated by active (intervention) management, which could include various combinations of felling, creating glades and planting of shrub species. However, this management is not practicable on Arnhall Moss unless more resources can be found. It is good practice to remove any non-native trees from wildlife sites because they set seed and can colonise the wood.

Management proposals – Any new non-native trees which are found in the woodland will be removed.

2.2.2 Spruce block

There is a block of spruce at the north-east corner of the site. Local residents value the shelter from the wind provided by these trees. It is not known when the trees were planted, but some are tall and could cause considerable damage if they blew down. However, during the period of the previous management plan, advice was obtained from a forestry expert who confirmed that the trees could be safely left. This should continue to be monitored.

Previous management – A few spruce trees were felled approximately 10 years ago.

Management proposals – Continue to monitor the trees to ensure they do not become a risk.

2.2.3 Leylandii hedge

The remains of a high hedge of Leylandii are present along part of the western boundary of the site adjoining gardens. Parts of this have been cut down in the past.

Management proposals – No management proposed.

2.2.4 Woodland edge

In some sections of the Moss there is an abrupt edge between the woodland and the mown grassland of Denman park. These edges could be softened by planting more native shrubs and wildflower areas. Wildflower species would need to be carefully selected to ensure that they are not arable weed species which require regular ploughing, but are species which require less labour intensive management. Anything which is planted along the edge of the A944 will also need to be relatively salt tolerant due to the amount of spray from vehicles.

The idea of more shrubs and wildflower areas was popular in the community consultation, so consideration should be given to additional planting where possible.

Management proposals – Wildflower and shrub species could be planted along the A944 edge of the site. Research will be required into suitable species as they will need some degree of salt tolerance.

2.3 Heathland

There is one open heathland area within the woodland, this glade adds variety to the woodland and will benefit invertebrates that favour the warmth and shelter in woodland glades. The heathland will continue to be invaded by birch from the surrounding woodland, and this will have to be removed regularly to keep the area open.

Most respondents to the community consultation wanted to keep the existing open glade and there was little support for losing it or increasing its size. Keeping the glade will require ongoing removal of colonizing birch trees to prevent it from disappearing into the main woodland.



Previous management – In recent years various work parties have removed trees and shrubs by cutting, pulling and spraying; this effort will have to be maintained to keep the heathland free of trees and shrubs.

Management proposals – There is an existing project to clear trees and shrubs from the heathland glade to keep it open. This project is carried forward but this work needs to be carried out at least once a year because birch is such a fast growing tree. Ideally whole trees/shrubs including the roots should be removed because birch can re-grow from cut stems, so pulling up young trees is preferable to just cutting them, careful spraying is also an option.

2.4 Grassland

2.4.1 Marshy grassland

Previous management plans show a small area of marshy grassland at the eastern end of the site. This is no longer present and it seems to have evolved into willow carr. The plan to retain the marshy grassland by cutting down trees was not implemented and there is no point in reviving this project. No management required.

2.4.2 Neutral grassland

The previous plan shows an area of neutral grassland by the roundabout. Today this is an area of rough grassland, seemingly on disturbed ground probably associated with the construction of the road and roundabout. In order to keep it as grassland the vegetation would need to be cut regularly which does not seem worthwhile. It is more practical to let the area develop naturally; it will probably be colonised by shrubs and trees in the next few years. No management required.

2.4.3 Amenity grassland

The previous plan shows an area of amenity grassland and proposed wildflower meadow between the wood and the burn. The amenity grassland is mown regularly by the Council's landscape services and this will need to continue. The vegetation alongside the burn is a mixture of non-native and native shrubs and grasses. The wildflower meadow was planted by the main entrance instead.

2.4.4 Wildflower meadow

A wildflower meadow was planted in 2011 at the edge of Denman Park. The wildflower meadow was welcomed by some visitors interviewed in the visitor survey. The wildflower meadow will never again be as showy as it was in its first year. Wildflower seed mixes usually contain a mixture of showy cornfield annuals and perennials. Cornfield annuals don't reappear after the first year because they need disturbance (like ploughing) to survive, so from year 2 onwards perennials take hold as the grassland matures. The wildflower meadow will need to be cut at least once a year. The timing and frequency of cutting will influence the species that flower, cutting and removing cuttings in the early part of the year (into May) can reduce the vigour of grasses allowing flowers to do better.

The community consultation showed support for areas of wildflowers so if resources can be found, this area could be rejuvenated by rotavating it and reseeding.

Management proposals – The existing project to mow the wildflower meadow needs to continue. The timing and frequency of cuts may need to be adjusted over time.

2.5 Wetlands

2.5.1 The burn and ponds

The burn running through the site emerges from under the main bridge and exits close to the roundabout. The watercourse is an attractive feature and adds to the biodiversity on site but does not appear on the old maps.

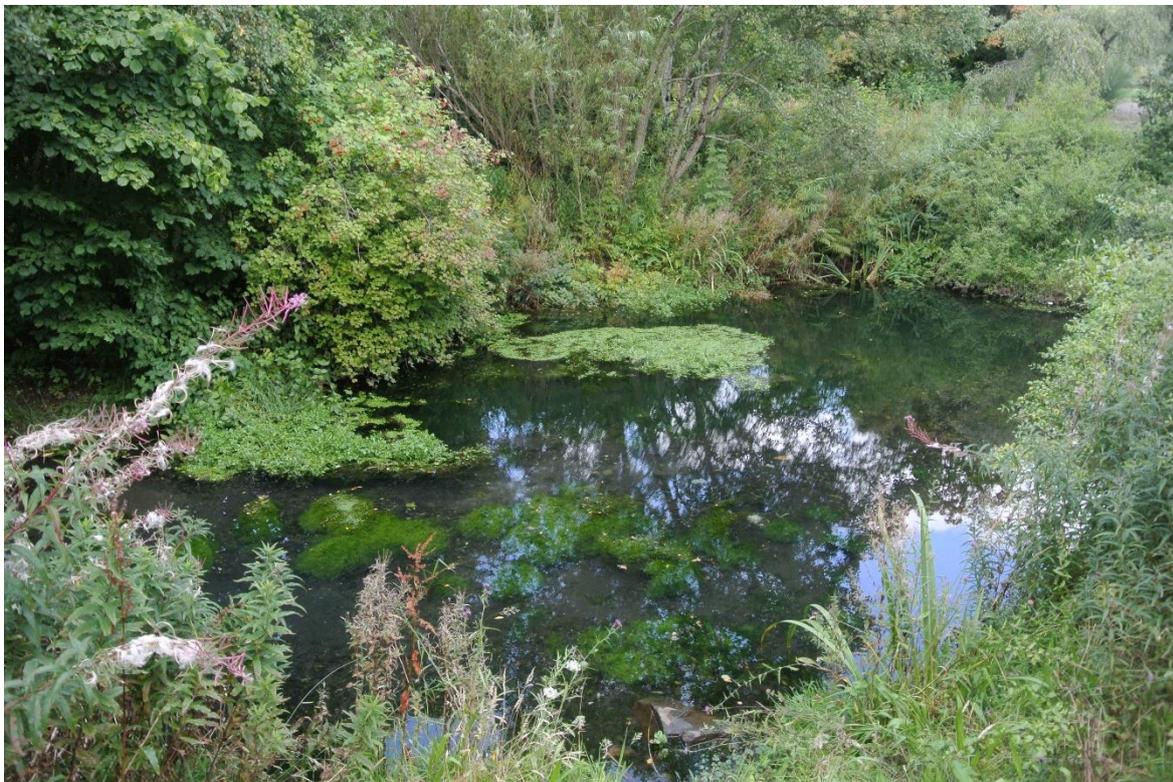


Previous management – The records indicate that Council sculpted the ponds sometime in the mid 90s. The burn suffers from diffuse pollution at times, probably due to mis-connections between foul and surface water drainage upstream, which may mean that foul water is draining into the burn. Emergent vegetation (including bulrush) in the ponds can also be very dense and by 2016 had choked the pond and watercourse. The reptile and amphibian charity Froglife carried out a pond clearance project in 2016 which is shown in the attached photos. A return visit and pond life survey by the former Froglife contractor in 2019 found that vegetation was most dense in the middle pond. This vegetation will have to be cut back and removed on a regular basis.

Before pond clearance (2016)



After pond clearance (2016)



Management proposals – Resolving the diffuse pollution issues will take time and will require a dual approach. An awareness raising campaign should be undertaken to encourage local residents to check their drainage connections. At the same time, investigations should take place into the possibility of creating a reedbed in the upstream pond, which will help to filter out some of the diffuse pollution.

Encroaching vegetation in the ponds will need to be cut back every 3 years.

2.5.2 Central drainage ditch

The central drainage ditch is a historical feature visible on old maps from the 19th century. Previous management plans have suggested damming the ditch to re-wet the moss. This is unlikely to result in completely re-wetting the moss, but the use of a leaky dam made of woodland brash may help to maintain water levels in the woodland during drier summers.

Management proposals – When tree growth in the glade is cut down, the resulting brash could be used to create a leaky dam across the ditch. This will help to hold water back, though it will not return the moss to a raised bog.

2.6 Species

Arnhall Moss now stands as an isolated ‘green’ island in a sea of urban development. It would benefit wildlife if the site was connected to other semi-natural habitats, either along green corridors or stepping stones. This would allow wildlife to travel more easily and avoid becoming trapped on the site.

2.6.1 Mammals

The mammals known to use Arnhall Moss are roe deer, foxes and various bat species. Visitors could be encouraged to send records of their mammal wildlife sightings to the North East Biological Records Centre (NESBReC).

Management proposals – Encourage visitors to submit all wildlife records to NESBReC.

2.6.2 Birds

Many of the trees on Arnhall are relatively young so don’t have holes suitable for hole-nesting species. To provide more ‘holes’ the rangers have placed a number of bird boxes around the wood for nesting birds.

Management proposals – Continue the existing project to maintain and repair the bird boxes.

2.6.3 Reptiles, amphibians, fish, invertebrates

James Stead from Froglife undertook a survey in the ponds in 2019. He found freshwater hogglass, daphnia, mosquito pupae and midge larvae present in the upstream ponds and freshwater hogglass, pond skater, pond snail, juvenile small newt, frog larvae, lesser water boatman, daphnia, midge larvae and beetle larvae present in the lower pond. Fish were also present in all 3 ponds, although they were not identified to species level.

If vegetation starts to choke the ponds, some of these species may be at risk.

Management proposals – Ensure encroaching vegetation is cut back on a 3 yearly cycle.

2.6.4 Plants

Previous plans suggested clearing brambles and raspberry from the undergrowth but without explaining why. These plants are browsed by roe deer and will only grow excessively rampant if there aren't any browsers feeding in the wood. However, they may need to be cut back on occasion to prevent them encroaching over paths etc.

A few non-native garden escapes were observed growing in the ground vegetation, notably garden yellow archangel (*Lamniastrum galeobdolon*). To date this does not appear to have spread excessively but if they start to spread aggressively then control should be considered because this is a non-native species.

Management proposals – Cut back brambles if they are encroaching on paths etc.

Table 1 – Projects to manage biodiversity on Arnhall Moss

Project number	Habitat	Project title	Existing or new?
Habitats			
B1	Woodland	Remove any new non-native trees in the woodland	Existing
B2	Woodland	Continue to monitor the spruce trees to ensure they do not become a risk	Existing
B3	Woodland edge	Plant salt tolerant wildflower and shrub species along the A944 edge of the site	New
B4	Heathland	Remove trees and shrubs from the heathland glade at least once per year	Existing
B5	Grassland	Rotovate and re-seed the wildflower meadow, then cut annually	New
B6	Wetland	Undertake awareness raising campaign to address foul drainage issues	New
B7	Wetland	Investigate the potential for installing a reed bed in the upstream pond	New
B8	Wetland	Clear encroaching vegetation in the ponds once per 3 years	Existing
B9	Drainage ditch	Use brush to create a leaky dam across the ditch	New
Species			
B10	Species	Encourage visitors to submit species records to NESBReC	Existing
B11	Bird boxes	Continue to repair and replace boxes	Existing
B12	Plants	Cut back brambles if they are encroaching on a path	Existing

3 Managing Arnhall Moss for People

Aim – Managing for people

Visitors enjoy visiting Arnhall Moss because it is safe, clean and well maintained. Visitors know about and appreciate the wildlife living on the site. Local schools make good use of the site for learning activities.

3.1 General description

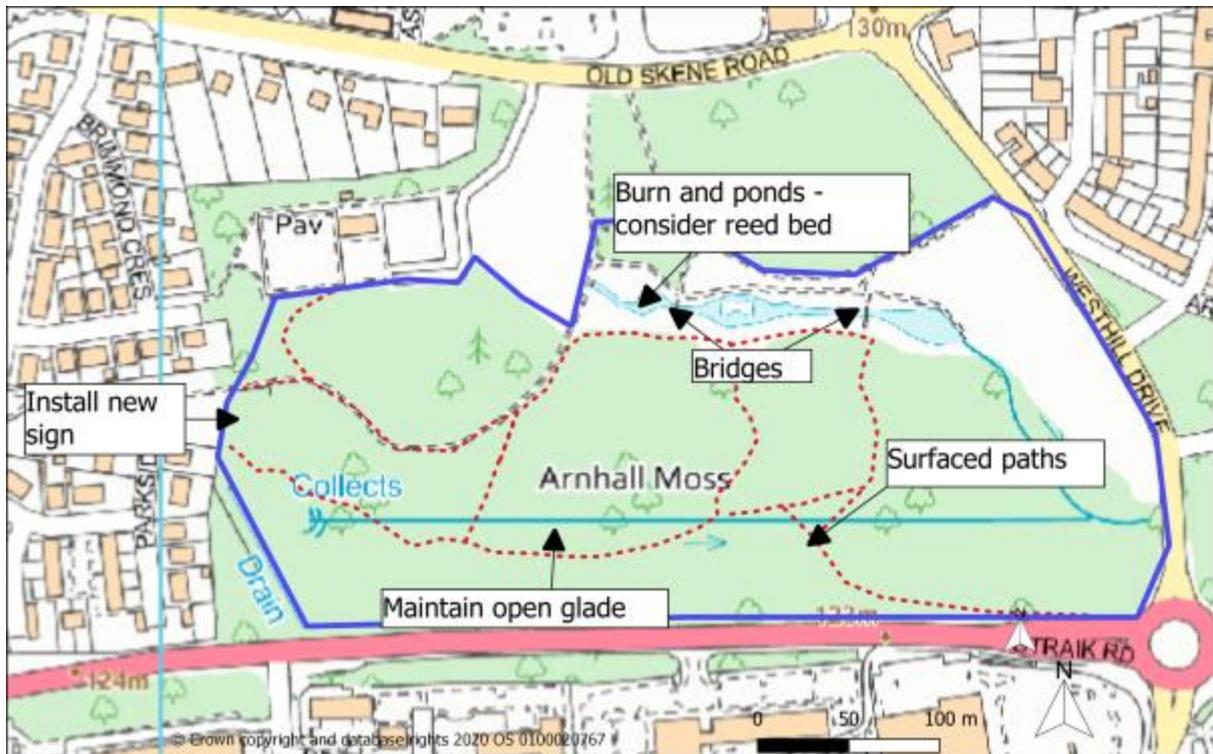
Aberdeenshire Council have constructed footpaths to enable visitors to enjoy Arnhall Moss since the Local Nature Reserve was declared in 1992. There are two main access points; the site can be reached either through Denman Park or from the houses at the western end of the Moss.

The site is well known and well used by local residents. The Ranger Service has run many events over the years for the public and school groups to increase awareness of the site.

This section is divided into two parts. The first part is about managing the infrastructure on the site such as paths, bridges, bins and the second part is concerned with promotion and raising awareness of the site.

Relevant features are shown on the map in Figure 2.

Figure 2 – relevant site features at Arnhall Moss



3.2 Managing the visitor facilities

3.2.1 Paths

The Council has steadily increased and improved the paths during the last twenty years. The recent improvements were funded by a grant from the Forestry Commission Scotland.

Visitors, mainly local residents, (most wearing shoes not walking boots!) regularly walk the paths. Visitors, who were interviewed in December 2012, were generally happy with the site and wanted it kept as a wild place but suggested further improvements to the paths - at the time there were some very wet, muddy and icy sections after a prolonged spell of cold wet weather.

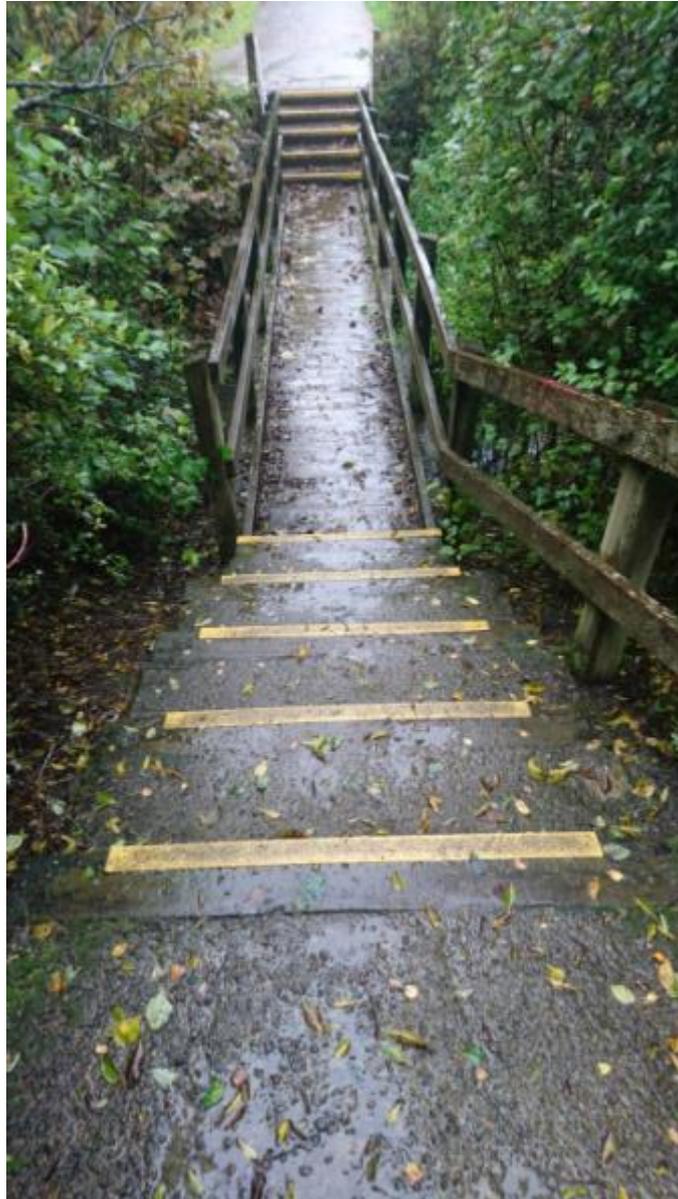


During the community consultation in 2019, most respondents were keen to see the paths upgraded and made more accessible. However, this will require significant resources, so a first step is to source funding for this work.

Management proposals – Upgrading the paths will require significant financial resources, therefore funding should be sought to upgrade the paths a section at a time. Potential funding sources could include local companies and organisations such as Sustrans. Finding an appropriate funding source is a time consuming project, therefore local volunteers will need to take this on if the project is to progress.

3.2.2 Bridges

There are three bridges across the burn, one stone bridge in Denham Park where the burn emerges from underground, and two wooden bridges. The wooden bridges become slippery in wet weather, and the addition of anti-slip coating would be helpful.



Management proposals – The wooden bridges should be inspected regularly and maintained. Broken chicken wire should be removed and an anti-slip coating applied. The steps down to the bridges and path linking these to the Moss should be repaired and maintained.

3.2.3 Signs

There are a number of signs on Arnhall Moss. These include the main sign at the entrance, the wooden sign, utilitarian signs about clearing up after dogs and warning signs about potholes and a redundant waymarker. There is no sign at the western entrance.



Additional signs have recently been added as part of a nature trail for children. These are wooden signs which feature species present in the Moss.

The community consultation in 2019 showed support for upgrading and refreshing the signage. However, this will require funding, potentially for design, printing and installation work. Therefore an initial action should be to seek funding resources for new / upgraded signs.

Management proposals – Clean all signs once a year. Put up new sign at western entrance. Seek funding for upgraded / improved signage within the moss.

3.2.4 Discovery trail

A new interpretation trail for children has been installed in the Moss. These signs will need regular checking and maintenance to ensure they are not damaged.

Management proposals – Check and maintain the new signs.

3.2.5 Litter and litter bins

Arnhall Moss is situated between the Westhill Academy and Tesco with a path line linking the two. There is some litter scattered throughout the wood and along the watercourse, with litter trapped in bushes and lying in the burn. Fortunately there are several community-spirited local residents who organise monthly litter picks. Cleaning up litter is an ongoing project which is necessary to prevent the site becoming dominated by rubbish.

Management proposals – The Garioch Countryside Ranger will continue to work with school groups to explain the need to avoid leaving litter at Arnhall Moss. The monthly community litter pick events need to continue to be supported by Aberdeenshire Council supplying a small skip to collect the bagged litter collected.

3.2.6 Dogs and dog waste bins

Arnhall Moss is very well used by people walking their dogs. Dog owners report that since the developments around Carnie woods there were fewer places where they could exercise their dogs in Westhill. Many dog owners use the site to exercise their dogs off the lead; a few visitors don't like this and would prefer to see dogs kept under more control. It will be difficult to resolve conflict between different user groups. The Scottish Outdoor Access Code (s3.55) says 'in places where other people are around, particularly children, keeping your dog under close control or on a short lead will help avoid causing them concern.'

Dog waste – Some people clean up after their dogs, others don't and leave a lot of dog waste lying in the wood. The Dog Fouling (Scotland) Act 2003 makes it an offence not to clean up after dogs in any public open space. An additional sign at the western entrance to the site would be helpful to encourage visitors to use dog waste bins. Temporary signs in and around the glade area could also be used to remind people that this area is used by school groups.



Management proposals – The dog waste bins must be maintained and the ground around the base made firm. Additional signs should be put at the western entrance to the site and temporary signs in the glade area.

3.3 Health and safety

Landowners are obliged to maintain visitor facilities in a safe condition, so all the visitor infrastructure must be inspected regularly and maintained properly. The Council has a system to record problems and ensure that any reported hazards are dealt with promptly.

Management proposals – Maintain health and safety inspection reporting and recording system.

3.4 Awareness and promotion

3.4.1 The public

The population of Westhill is over 11,000. Every year the Aberdeenshire Council Garioch Countryside Ranger organises events for the public at Arnhall Moss, including an annual mini beast safari, bat walks and use of the new discovery trail.

Management proposals – The ranger should continue to organise events at the site as resources allow.

3.4.2 Education

There is one academy - Westhill Academy - and four primary schools in Westhill - Crombie Primary, Elrick Primary, Skene Primary and Westhill Primary. The Aberdeenshire Council Garioch Countryside Ranger regularly works with these local schools.

Students from Scotland's Rural College (formerly the Scottish Agricultural College) have carried out projects on the site in the past. Aberdeen University and Robert Gordon University are also within easy reach.



Management proposals – The ranger should continue to organise events and activities for education.

3.4.3 Leaflet

Aberdeenshire Council produced a leaflet describing Arnhall Moss in 2008. The leaflet has a description of how raised bogs are formed and a map. As part of the 2019 Arnhall Moss Discovery Trail project funded by TAQA which has a base in Westhill the Elrick School pupils and the Countryside Ranger produced a leaflet to guide people around Arnhall Moss to look at the different wildlife living there. The leaflets can be found at

<https://elrick.aberdeenshire.sch.uk/important-links/arnhall-moss/>

3.4.4 Digital - websites and social media

There is some information about Arnhall Moss on the Aberdeenshire Council. There is also an Arnhall Moss Facebook page, although this is not very active. Additional information on the site could be added to the Westhill and Elrick Community Council website.

Management proposals – The Westhill and Elrick Community Council website could be further updated to include additional information on Arnhall Moss. The Facebook page could be updated more frequently.

Table 2 – Projects to manage Arnhall Moss for people

Project number	Habitat	Project title	Existing or new?
Managing the visitor facilities			
P1	Paths	Investigate funding sources for upgrades to the paths	New
P2	Bridges	Inspect and maintain the bridges and apply an anti-slip coating	Existing
P3	Signs	Clean all signs regularly	Existing
		Install an additional sign at the western entrance	New
		Seek funding for refreshed signs	
P4	Discovery trail	Check and maintain the new signs	New
P5	Litter	Continue litter picking events and explore options to work with the academy	Existing
P6	Dogs	Maintain dog waste bins	Existing
		Install an additional sign at western entrance and temporary signs in the glad area	New
Health and safety			
P7	Inspections	Maintain health and safety reporting system	Existing
Awareness and promotion			
P8	Events	Continue to organise events for the public	Existing
P9	Digital communication	Put additional information about the site on the Westhill website and update Facebook page more frequently	New

4 Managing the local nature reserve of Arnhall Moss

Aim – Managing the local nature reserve of Arnhall Moss

To manage Arnhall Moss efficiently and effectively with regular reports on progress.

4.1 Introduction

Aberdeenshire Council own and manage both Arnhall Moss and Denman Park. The purpose of the management plan is to guide the way manpower and resources are used in the next 5 years. However plans and projects are not set in stone and it is normal for new projects to appear and other projects to be dropped; the management plan should remain flexible but a recording system is useful to track progress.

This section looks at the management structure, the manpower and the money needed to deliver the management plan and report on progress.

4.2 Management structure

The Council owns Arnhall Moss Local Nature Reserve. Environment planners take lead responsibility for managing the site. The Council works with the Management Advisory Committee (MAC), which is composed of local residents, who keep an eye on the site, provide input to management plans and advise the Council about any problems. The MAC hope to have a more active role in the next few years.



Management proposals – The Council and the Management Advisory Committee should continue to meet twice a year and at other times as needed.

4.3 Manpower

The Council make use of a variety of manpower resources to manage the site.

- Rangers work with schools and other educational groups to undertake educational activities, including some practical management projects.
- Landscape services (who also manage the adjacent Denman Park) undertake some projects such as mowing the wildflower meadow.
- Volunteers from the local community play a vital role in clearing up discarded litter.
- Contractors are employed by the Council to work on larger or more specialist projects like path construction.
- Community payback teams have worked on some projects and this is likely to continue.

Proposed management – Continue to utilise appropriate Council resources for projects and also investigate if any companies in the nearby business park can provide additional labour for selected projects, such as TAQA’s recent support of the Discovery Trail.

A refreshed Management Advisory Committee may be able to provide links to the local community and develop shared projects.

4.4 Money and budget

Some resources are required for maintaining Arnhall Moss, but additional resources are also needed for large projects.

The project plan in Appendix 1 includes an indicative budget for each project.

Management proposals – Ideally the MAC should find a corporate sponsor from one of the many companies in Westhill close to the Moss.

At the end of the year the budget and work plan should be refreshed, updated and rolled forward for the year ahead; projects suitable for external funding should be identified and followed through, as described in Appendix 1.

4.5 Reports and plans

Planning and reporting are integral parts of efficient site management.

Management proposals – A progress report will be a standing item at meetings with the Management Advisory Committee. At the end of every year the management plan will be re-visited, and if necessary refreshed, for the following year.

A review of this management plan should be undertaken in year 5 (2024) before the new management plan is prepared.

4.6 Did the management plan succeed - measures of success

The following table proposes success measures which could be used in 2024 to evaluate whether the management plan delivered effective management at Arnhall Moss. The suggestions in this table are open to discussion.

Table 3 – Proposed measures of success

Whole Site	The 9ha site remains intact. There has been no adverse development (houses etc).
Biodiversity	
Woodland	The woodland has a full age range of trees – young to old. The trees in the wood are native species and non-native species of tree growing in the wood are kept to a minimum.
Heathland	The area of heathland glades in the woodland has remained the same. Trees and shrubs are cleared from the glade annually.
Wetland	Foul drainage misconnections have been minimised and a treatment reedbed installed to improve water quality. Litter on the banks or in the burn is minimised and cleared regularly. Marginal / emergent vegetation does not choke the burn and is cleared regularly.
Shrubs / wildflowers	Additional areas of shrubs and wildflowers for pollinators have been planted to soften the edges of the site.
Management for People	
Visitors	Visitors are content that the site is well-managed. Visitors behave responsibly.
Paths	Some sections of the paths have been upgraded and can be used by people of all abilities. There is a clear programme of action for upgrading other sections.
Litter	Litter on the site is limited and regular litter clearance events take place. Visitors do not complain about litter on the site.
Dogs	Visitors to the site are encouraged to manage their dogs responsibly.
Promotional material	All promotional material is accurate and up to date
Management of the local nature reserve	
Management structure	The local community are actively involved in managing the site, helping Aberdeenshire Council to deliver projects.
Project and budget management	Council records show what projects were completed when, by whom and how much they cost.

Table 4 – Projects to manage the local nature reserve of Arnhall Moss

Project number	Habitat	Project title	Existing or new?
Management structure and resources			
M1	MAC	Council and MAC continue to meet twice a year, or more frequently if required.	Existing
M2	Resources	Continue to use appropriate Council resources and seek additional resources from nearby businesses.	Existing
		A refreshed MAC provide additional links to the community.	New
M3	Funding	Seek funding support from external companies.	New
		Revisit budget annually.	Existing
M4	Management review	Check projects in management plan at end of every year and refresh/update for following year. Prepare new management plan in 2024.	Existing

5 References

Ferreira, REC (1977) North East lowland mires and bogs. Unpublished report. Nature Conservancy Council

Appendix 1 – Project plan

Project No	Area / Topic	Project Title	Lead	2020	2021	2022	2023	2024	Season	Cost
Habitats										
B1	Woodland	Remove any new non-native trees in the woodland	MAC	X	X	X	X	X	Winter	
B2	Woodland	Continue to monitor the spruce trees to ensure they do not become a risk	Ab CI	X	X	X	X	X	Summer	
B3	Woodland edge	Plant salt tolerant wildflower and shrub species along the A944 edge of the site	Ab CI and MAC		X				Summer	
B4	Heathland	Remove trees and shrubs from the heathland glade at least once per year	MAC	X	X	X	X	X	Autumn - spring	
B5	Grassland	Rotovate and re-seed the wildflower meadow, then cut annually	Ab CI and MAC	X	X	X	X	X	Spring	
B6	Wetland	Undertake awareness raising campaign to address foul drainage issues	MAC		X	X			All year	
B7	Wetland	Investigate the potential for installing a reed bed in the upstream pond	Ab CI and MAC	X	X					
B8	Wetland	Clear encroaching vegetation in the ponds once per 3 years	Existing	X			X		Autumn / winter	
B9	Drainage ditch	Use brush to create a leaky dam across the ditch	New		X				Winter	
Species										
B10	Species	Encourage visitors to submit species records to NESBReC	Ab CI and MAC	X	X	X	X	X	All year	

Project No	Area / Topic	Project Title	Lead	2020	2021	2022	2023	2024	Season	Cost
B11	Bird boxes	Continue to repair and replace boxes	MAC	X	X	X	X	X	Winter	
B12	Plants	Cut back brambles if they are encroaching on a path	MAC	X	X	X	X	X	Winter	
Managing the visitor facilities										
P1	Paths	Investigate funding sources for upgrades to the paths	Ab CI and MAC	X	X	X	X	X		
P2	Bridges	Inspect and maintain the bridges and apply an anti-slip coating	Ab CI and MAC	X	X	X	X	X	Annually	
P3	Signs	Clean all signs regularly Install an additional sign at the western entrance Seek funding for refreshed signs	Ab CI and MAC	X	X	X	X	X	Annually	
P4	Discovery trail	Check and maintain the new signs	Ab CI and MAC	X	X	X	X	X	Annually	
P5	Litter	Continue litter picking events and explore options to work with the academy	Ab CI and MAC	X	X	X	X	X	Annually	
P6	Dogs	Maintain dog waste bins Install an additional sign at western entrance and temporary signs in the glad area	Ab CI and MAC	X	X	X	X	X	Annually	
Health and safety										
P7	Inspections	Maintain health and safety reporting system	Ab CI	X	X	X	X	X	All year	

Awareness and promotion										
P8	Events	Continue to organise events for the public	Ab CI and MAC	X	X	X	X	X	All year	
P9	Digital communication	Put additional information about the site on the Westhill website and update Facebook page more frequently	MAC	X	X	X	X	X	All year	
Management structure and resources										
M1	MAC	Council and MAC continue to meet twice a year, or more frequently if required	Ab CI and MAC	X	X	X	X	X	Annually	
M2	Resources	Continue to use appropriate Council resources and seek additional resources from nearby businesses. A refreshed MAC provide additional links to the community	Ab CI and MAC	X	X	X	X	X	Annually	
M3	Funding	Seek funding support from external companies Revisit budget annually	Ab CI and MAC	X	X	X	X	X	Annually	
M4	Management review	Check projects in management plan at end of every year and refresh/update for following year Prepare new management plan in 2024	Ab CI and MAC	X	X	X	X	X	Annually	

Appendix 2 – Outputs from community consultation in December 2019

See separate spreadsheet