



Portlethen Moss

Management Plan 2020 – 2024



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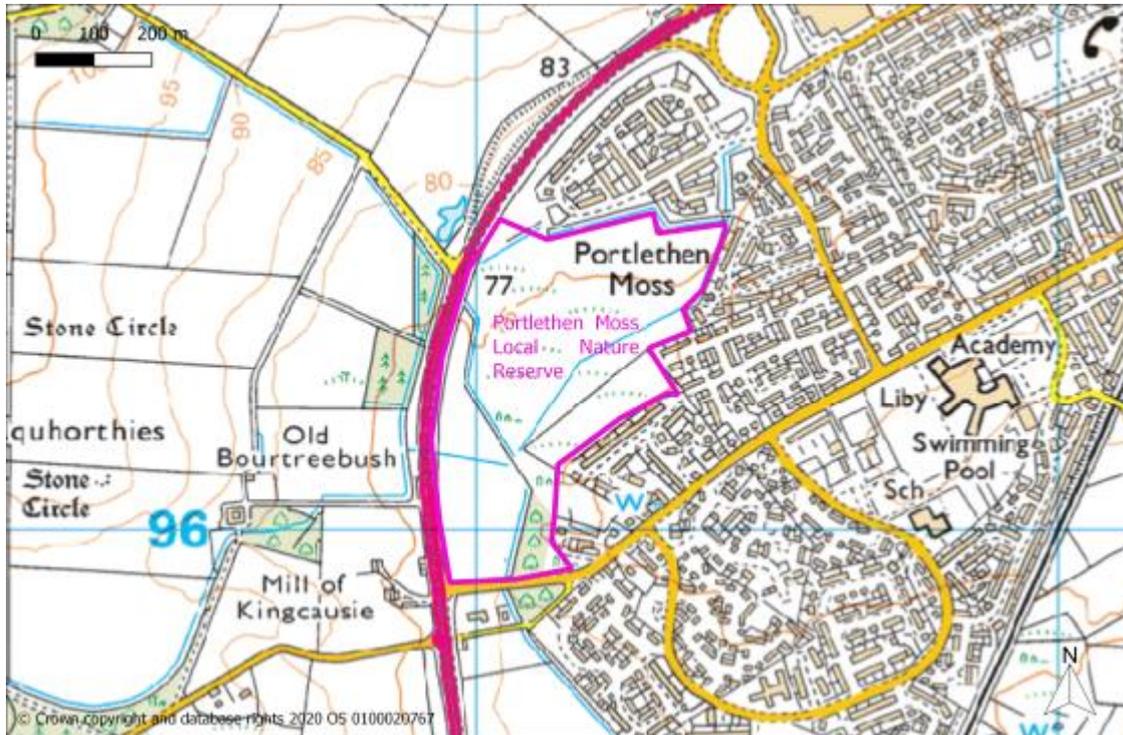
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1 Introduction to Portlethen Moss

1.1 Location

Portlethen Moss is located on the western edge of the town of Portlethen, 9 miles south of Aberdeen, as shown in Figure 1 below.

Figure 1 – Location of Portlethen Moss



The name Portlethen Moss is used to describe different areas of land. For the purpose of this plan Portlethen Moss refers to the area of ground owned by Aberdeenshire Council; this forms part of the larger Local Nature Conservation Review Site (LNCS).

Figure 2 below shows the boundary of land owned by Aberdeenshire Council and the boundary of the Local Nature Conservation Site.

1.2 Designations

Portlethen Moss is a Local Nature Conservation Site (LNCS) identified in the review of locally important sites for nature conservation in 2012. An assessment of the site for the LNCS was undertaken in 2010. The LNCS includes the privately owned part of the moss, the council owned land and the adjacent rushy pasture field. Portlethen Moss LNCS, although degraded, is still an active raised bog so it is very important to try and conserve the site.

Raised bog is a very important habitat, both nationally and internationally. The following is an extract from the UK Biodiversity Action Plan Priority Habitat Description: “As elsewhere across north-west Europe there has been a dramatic decline in the area of lowland raised bog habitat since around the start of the nineteenth century. The area of lowland raised bog in the UK retaining a largely undisturbed surface is estimated to have diminished by around 94% from an original c95,000 ha to c6,000 ha at the present day (Scotland 28,000 ha to 2,500 ha). Historically, the greatest decline has occurred through agricultural intensification, afforestation, and commercial peat extraction. Future decline is most likely to be the result of the gradual

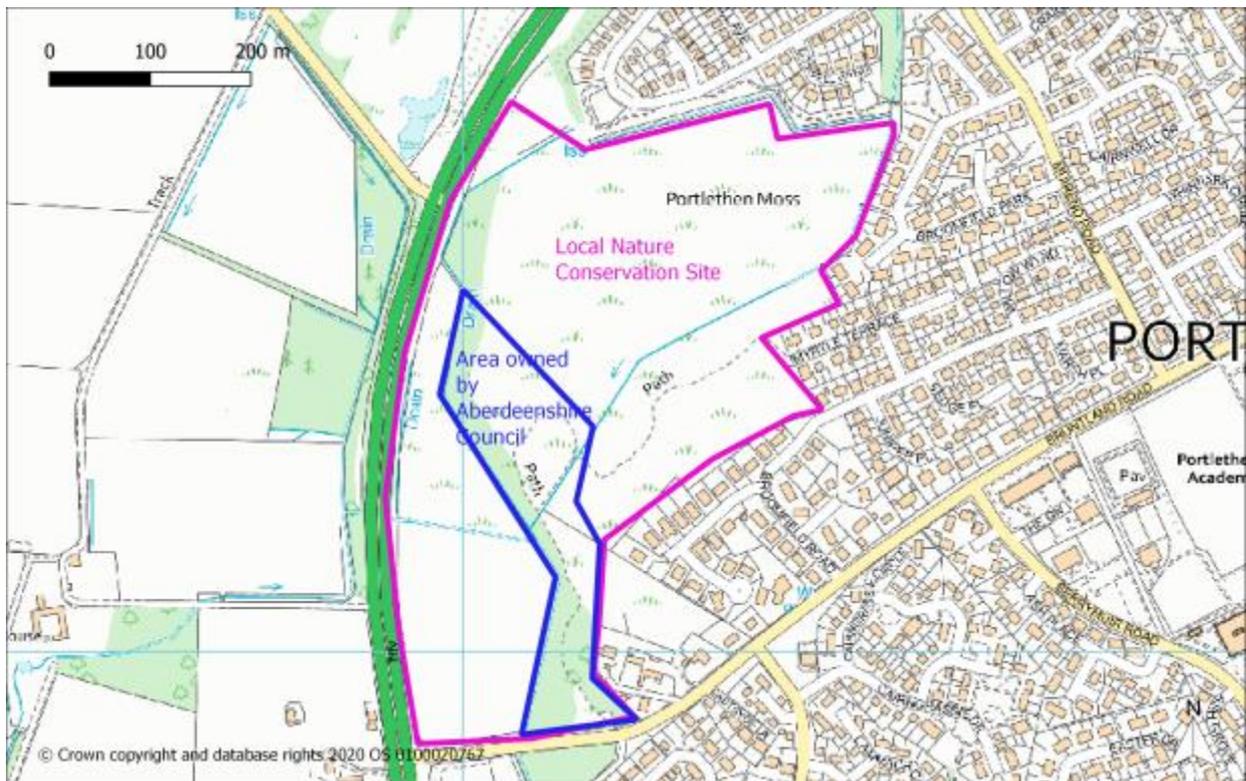
desiccation of bogs damaged by a range of drainage activities and/or a general lowering of groundwater tables.” (UKBAP, 2008)

Portlethen Moss is an active peat bog and will be acting as a carbon store, but it will release carbon dioxide if it dries out. The importance of peat as a carbon store is increasingly being valued and the Scottish Government’s Climate Change Plan sets out a target to have restored 250,000 hectares of degraded peatlands by 2030 (Scottish Government 2018). Every effort should therefore be made to conserve and enhance Portlethen Moss.

1.3 Ownership and management

Most of Portlethen Moss is privately owned, with the area to the south of the remnant raised bog owned by Aberdeenshire Council. This is shown in Figure 2.

Figure 2 – Boundary of Aberdeenshire Council owned land within the Local Nature Conservation Site



Two organisations are closely involved with managing the part of the moss owned by the Council. The first is Aberdeenshire Council itself. Within the Council, the Environment Team has the lead responsibility for setting the overall direction and producing plans for the site, Landscape Services carry out some maintenance and the Ranger Service tackles more specialist habitat management and raises awareness of the Moss by working with schools, community groups, volunteers and organising events.

The second organisation is the Portlethen Moss Conservation Group. This is a local community group and registered charity. The group has made a great contribution to the management of the Moss since its formation. Their members have raised funds for a variety of activities and helped with clearing gorse and planting trees.

Other bodies help out too, including local schools, community payback teams and local companies.

In contrast the privately owned part of the moss has not been actively managed for many years.

A Management Plan for 2007-2010 was produced by Dr Una Urquhart to assist the Council with their application to the Woodland In and Around Towns Initiative (WIAT). Both the Council and the Portlethen Moss Conservation Group used that management plan to guide their work on the Moss. The works specified in that plan are now complete.

The 2014-2019 plan set out a number of actions in terms of establishing future aspirations for the site – most notably whether or not to allow the process of succession to take place or to try and maintain the moss as a raised bog. Whilst the management group has now agreed that they wish to maintain the site as a bog if at all possible, that aim is still limited by the complex ownership of the site. The group continue to wish to extend their ownership and / or management of the site into the privately owned areas, but to date that has not been possible. Other actions, within the Council owned area of land, which were set out in the previous management plan have been completed.

Aberdeenshire Council secured a grant from the Forestry Commission's Woodland In and Around Towns Initiative (WIAT) to carry out various management activities on Portlethen Moss from 2007-2010. Portlethen Moss Conservation Group has also obtained funding from local companies for various projects, such as OPITO trainees designing and installing an information board at the entrance to the site.

1.4 Structure of this Management Plan

This management plan has three sections:

- Managing biodiversity – this looks at what action is needed to manage the habitats and species on site.
- Management for people – this considers what action is needed to manage the visitor facilities on the site and what action can be taken to promote the Moss.
- Management of the local nature reserve – this looks at what action is needed to manage the site in terms of land ownership, the relationships between those involved in managing the site, the manpower needed to manage the site and the money needed to fund the work.

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

2 Managing Biodiversity on Portlethen Moss

Aim – Biodiversity

To manage the heathland and woodland at Portlethen Moss for wildlife.
Ultimately to manage the whole moss as a raised bog

2.1 General description

A century ago there were many more lowland raised bogs in Aberdeenshire, as shown on old maps, but only a few remain intact today. Most have been drained for agriculture, or planted with conifers, or have gradually dried out and been invaded by trees, or have been built upon, like Portlethen Moss.

Peat cores were taken on Portlethen Moss as part of a public event in 2009. These traced the origins of the peat to 11,000 years ago, so after the end of the last ice age. The moss probably started life as a fen in a glacial kettle hole. Organic matter would have accumulated in the depression until the water table was raised above the surrounding surface allowing a raised bog to form. There are suggestions that the bog may have been 3m higher than it is now, and may have been even more extensive than shown on maps.

Early maps indicate that Portlethen Moss was once more extensive than it is today. Unfortunately part of the raised mire was destroyed in the 1980s when housing was built on it. Ideally what remains of Portlethen Moss raised bog should now be conserved for the future.

Portlethen Moss was cut for peat in the past and the wettest bog with actively growing *Sphagnum* seems to be in the old peat cuttings. There are wet areas dominated by cotton grass and other more marginal areas dominated by rushes. Willow carr is slowly colonising wet parts of the bog, while gorse scrub is colonising the drier heathier areas, accompanied by a scattering of birch and conifers. Over time, the bog will gradually follow a process of succession into woodland. Left alone this process may take many years, but it could be accelerated by factors such as weather, fire or drainage. Active intervention management will be needed to maintain and secure the raised bog for the future.

The Council land lies at the margin of the raised bog. There is no active raised bog here, it is mostly heathland, much of which has been invaded by gorse.

In 2007 the vegetation in the WIAT area was mapped for the previous management plan. The area has been actively managed in accordance with the management plan, and as a result some changes in the vegetation have occurred.

The Council and the Portlethen Moss Conservation Group continue to manage the area within their control. Unfortunately it will not be possible to retain the raised bog simply by managing this small area, and action will be necessary across the entire site to prevent a gradual change to woodland.

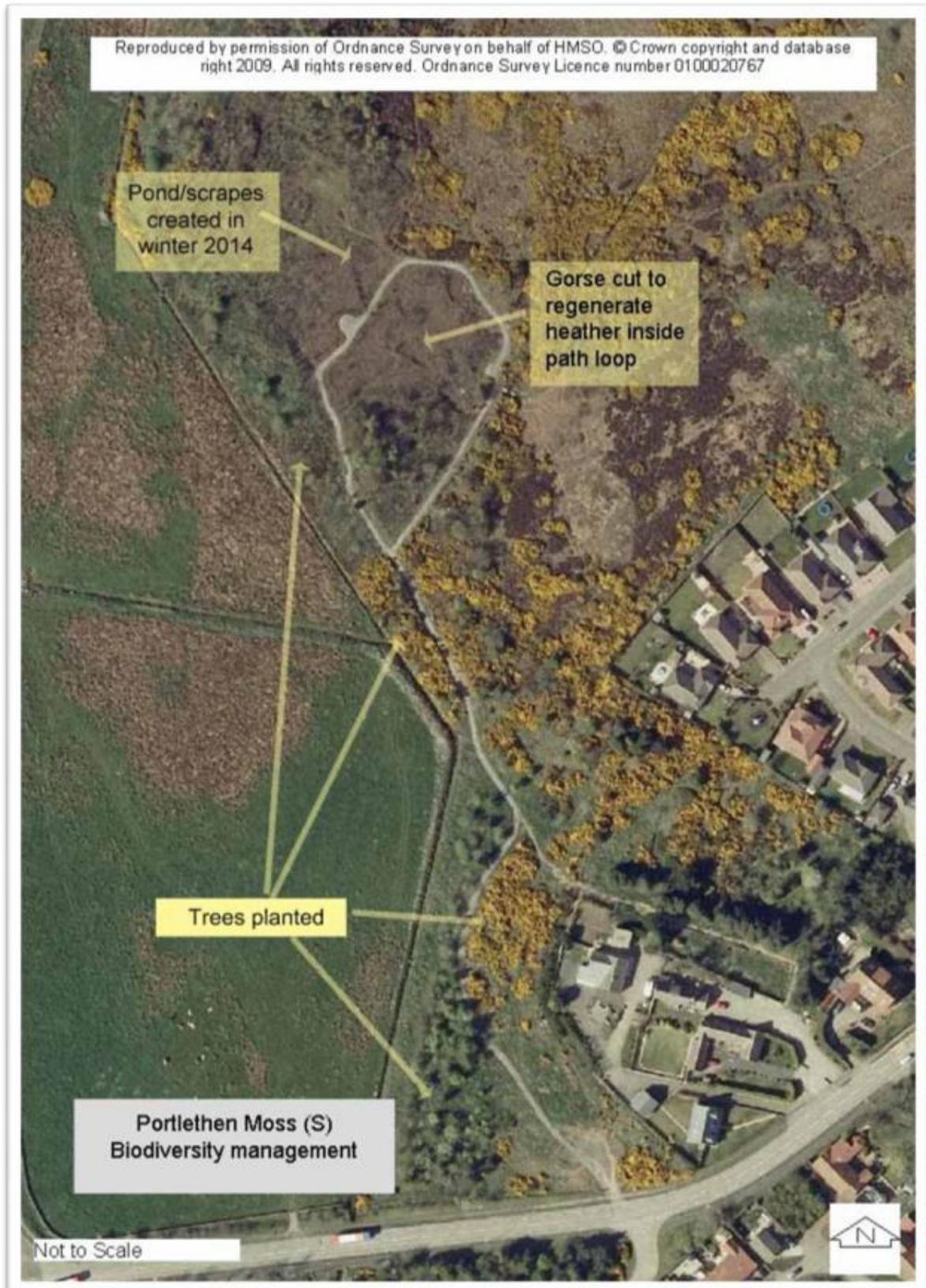
During the period of the previous management plan (2014-2019) all interested parties have considered the future management of Portlethen Moss Local Nature Conservation Site. The consensus is that the site should be managed and maintained as a raised bog, which will require active intervention management. The beginnings of this process have started through the installation of dams to block drainage ditches on the Council owned area of the site. However, similar active intervention is required across the whole site to fully secure the future

of the raised bog. Until such time as the management group has ownership / management of the full site, this will not be possible.

Figure 3 – Aerial photo of all Portlethen Moss showing key habitats



Figure 4 – Portlethen Moss managing biodiversity



2.1 Woodland and scrub

2.1.1 Willow carr

Description and previous management – There is a small patch of wet willow carr straddling the north-east boundary of the Portlethen Moss and extending onto the privately owned land. This is a natural woodland type and can be left alone for the time being.

Management proposals – None.

2.1.2 Planted trees/young woodland

Description and previous management – A number of trees of various species were planted in the areas (grassland and gorse) identified in the previous management plan. The trees were planted in tubes and staked. The trees have established well and have been managed by removing stakes and tubes. Some of the trees are shown in Figure 5.

Management proposals – The trees should be checked for any damage or loss.

Figure 5 – Young woodland area



2.1.3 Gorse scrub

Description and previous management – Gorse scrub is widespread across the raised bog because it is colonising the drier peatland. Gorse fixes nitrogen and attracts calcium so over time it reduces the acidity of the soil allowing the vegetation to change too. Gorse will continue to expand where it can; although not as 'rare' as raised bog habitat it is not bad for wildlife because it has a long flowering period attractive to insects and is a favoured perch for birds like the stonechat. Left unchecked, trees will gradually invade the gorse and over many years woodland will replace the gorse. Trees have been planted into some areas of gorse thus accelerating the natural process, here the trees will eventually overtop and shade the gorse and kill it. The trees will also accelerate the drying out of the raised bog.

The gorse has been managed in two different ways. In one small area the gorse has been cleared by hand to rejuvenate heathland. In other areas trees have been planted into the gorse to create woodland.

Management proposals – The future of the gorse on Portlethen Moss is inextricably linked with the future of the raised bog. If the raised bog is lost, then the gorse will eventually turn into woodland. As there is a desire to conserve the raised bog it is necessary to remove the gorse to rejuvenate the heathland – although this is a time-consuming process which requires continuous effort and money. Where possible, the cut stumps should be treated as this will reduce regrowth rates. Until such time as the management group have access to the whole site, it will only be possible to cut gorse from the open area of heathland within the Aberdeenshire Council owned area. However, within this area proposals are:

- Continue to cut gorse and young trees to maintain area of open heathland when resources allow.
- Treat/spray cut stumps, regrowth and seedling trees.

2.2 Dwarf shrub heathland

Description and previous management – A small area of heathland is being conserved by cutting out the invading gorse and regenerating birch. This is shown in Figure 6. The gorse cutting should continue, and if resources or management access allows, expanded to cover a larger area.

Management proposals – Maintain open heathland area by cutting gorse and birch regeneration. Consider extending gorse cutting over larger area if resources can be found or if the group are able to manage other areas of the moss in the future.

Figure 6 – Area of heathland



2.3 Grassland and marsh

Description and previous management – There are strips of tall wet marshy grassland alongside the burn on the western side of the moss. Trees have been planted into this grassland in accordance with the previous management plan and grant. As the trees mature this will become a woodland strip.

Management proposals – No grassland management required.

2.4 Wetlands

Ideally, the entire site should be managed to reduce drainage and ensure that the lowland raised bog habitat is maintained. However, this is not possible whilst some of the land is in private ownership and management. Work could, and has, been undertaken to reduce drainage of water away from the site on the Council owned land, but this will only have a limited impact as it only covers a relatively small part of the site.

2.4.1 Watercourses and drains

Description and previous management – There are several drains which drain water away from the moss. Any action to clean out these drains will increase water flow off the bog and accelerate the drying out of the raised bog. In order to try and maintain the moss, a series of dams has been installed in one of these ditches, with seven dams installed on the drain within the Council owned land. These are shown in Figure 7.

Management proposals – The dams should be checked on a quarterly basis to ensure they are not damaged and are still holding water effectively.

If the management group is able to secure ownership / management of the rest of the site, then previous hydrological survey should be revisited and potentially updated to establish effective locations for additional dams within this area. This is likely to require consultation with neighbouring houses.

Figure 7 – Dams on drain



2.4.2 Ponds

Description and previous management – Two ponds were excavated in a wet peaty hollow during the winter 2013/14 to attract wildlife. These are shown in Figure 8.

These have developed some pond vegetation, including Sphagnum mosses, but in some sections they have dried out in the summer months. This may limit the amount of vegetation they develop, particularly if climate change leads to hotter, drier summers in North-East Scotland. In addition, some gorse scrub is extending towards the ponds and this is likely to require cutting back in the future.

Management proposals – Monitor vegetation cover and water levels in ponds and decide on appropriate management if the ponds repeatedly dry out. Cut back gorse scrub if it begins to encroach on the ponds. Record wildlife that colonises and visits the ponds.

Figure 8 – One of the ponds in winter 2013/14



2.5 Species

2.5.1 Mammals

Description and previous management – The North East Scotland Biological Records Centre (NESBReC) has no records of notable mammals on Portlethen Moss. However it is very likely that larger mammals like roe deer and foxes will be present, and small rodents like voles will probably inhabit the moss too.

Management proposals – It would be useful if visitors could send wildlife records to NESBReC.

2.5.2 Birds

Description and previous management – The NESBReC database has records of several notable bird species on Portlethen Moss; these include seabirds which were presumably flying over the site. RSPB led ranger events have also taken place on the site to identify the birds present. The notable birds most likely to be living on the site include six listed in the UK Biodiversity Action Plan (UK BAP) namely bullfinch, song thrush, grasshopper warbler, yellowhammer, house sparrow and linnet. Another bird, the common snipe, is listed as species of Conservation Concern in the UK. Another, the woodcock, is a bird which has declined by 25% or more in Scotland in last 25 years and is therefore on the Scottish Biodiversity List. Although a couple of these birds are associated more with gardens, most are characteristic of scrub and wet boggy habitats found on the moss and are in decline because these habitats are being lost.

Management proposals – No specific management is needed for these birds, the best way to ensure they can continue to live here is to manage the habitats as proposed above.

2.5.3 Reptiles, amphibians, fish, Invertebrates

Description and previous management – The older literature mentioned the great crested newt occurred on Portlethen Moss; this is probably an error as Great Crested newt have not been recorded any closer to the north-east than Fife and Nairn. However, it does indicate that other species of newt could well be present. The 2018 Froglife volunteer training event found both frogs and common newts living on the moss.

NESBReC has records of 12 notable moths on Portlethen Moss, all listed in the UK Biodiversity Action Plan. Helen Rowe, a ranger and moth expert, provided the following information about these moths:

Of the 12, some are noted as local, scarce or rare on the NE list and have particular habitat requirements: Heath Rustic, Haworth's Minor & to some extent, Broom Moth need heathland/moorland. More specifically, Haworth's Minor is mainly found in upland/lowland raised bogs, with cotton grass as main larval food plant, though it also eats grasses too. Large Wainscot is restricted to where its sole larval food plant, common reed is present. Hedge Rustic likes open grassland & uses various grasses, including mat-grass and Deschampsia sp. Knot Grass feeds on many plants, but bramble & birch are quoted as usual food plants on NE list. Therefore it would be desirable to retain mosaic of heath, bog, wetland and grassland to support such species as well as mix of native trees and shrubs for others.

Some damsel and dragonfly events have also taken place on the site, with a variety of species recorded. Maintaining some areas of open water will be important to enable these species to thrive.

Management proposals – No specific management proposals. The projects designed to manage the raised bog habitats and open water will help conserve the habitat and food plants for the notable moths and other invertebrates, as long as patches of woodland are retained too.

2.5.4 Plants

Description and previous management – Most raised bogs do not have many 'rare' plants; in fact, rare plants associated primarily with wet bogs tend to have very restricted distributions.

There two notable plant recorded in the NESBReC database are Black-bindweed and Charlock both are most commonly associated with cultivated or disturbed ground. Both plants have declined 25% or more in Scotland in last 25 years. One locally important species, Coralroot Orchid, was recorded in 1994 but has not been re-found again despite searching by botanists.

Management proposals – No special management action is needed for plants on Portlethen Moss.

Table 1 – Projects to manage biodiversity at Portlethen Moss

Project No.	Area	Project Title	Existing / new
Habitats			
1	Woodland	Check trees for damage and loss.	Existing
2	Gorse/heathland	Continue to cut gorse and young trees to maintain area of open heathland. Treat/spray cut stumps, regrowth and seedling trees, if funding can be sourced. Extend area of cutting if resources can be found or additional areas of the moss come under PMCG management.	Existing
3	Ditches and drains	The dams should be checked on a quarterly basis to ensure they are not damaged and are still holding water effectively.	New
4	Ditches and drains	If the management group is able to secure ownership / management of the rest of the site, then a hydrological survey should be undertaken to establish effective locations for additional dams within this area. This is likely to require consultation with neighbouring houses.	Existing
5	Ponds	Monitor vegetation cover and water levels in ponds and decide on appropriate management if the ponds repeatedly dry out.	New
	Ponds	Cut back gorse scrub if it begins to encroach on the ponds.	New
	Ponds	Record wildlife that colonises and visits the ponds.	New
Species			
6	All species	Encourage visitors to submit wildlife records to NESBReC.	Existing

3 Managing Portlethen Moss for People

Aim – Managing for People

To manage Portlethen Moss to allow visitors to experience and learn about lowland raised moss habitats

3.1 General description

This section is divided into two parts. The first part is about managing the visitor infrastructure including the paths, bridges and information boards. The second part is concerned with promoting and raising awareness of the site.

There are just over 9,000 people living in Portlethen (Aberdeenshire Council, 2019). The Moss is within easy reach of other nearby towns and will be accessible to people living in the new developed areas such as at Hillside.

Raised bogs are very wet habitats and inherently fragile so it can be difficult and expensive to provide and maintain visitor facilities on bog habitats. The provision for visitors on Portlethen Moss is fortuitously appropriate - visitors are directed to the path on the more robust part and there is minimal provision for visitors on the more fragile northern section. The informal (unsurfaced) path around Portlethen Moss can be almost impassable in places due to the damp ground.

Parts of Portlethen Moss can be quite noisy, from the traffic on the A92, which detracts a little from a 'quiet' wildlife experience.

3.2 Managing the visitor facilities

3.2.1 Paths and seats

Description and previous management – A surfaced loop path around Portlethen Moss was constructed in 2007 and is shown in Figure 9. Entry is from Bruntland Road at the southern end of the site, which is close to those living in the south of the town. There is an informal, unsurfaced path from the eastern entrance linking to the surfaced path. This entrance is closer to more people in the town. Both these paths are core paths.

There are 2 seats on the loop path that will need to be checked and maintained.

Management proposals – Maintain surfaced path. Ensure wet hollows are filled if needed. Spray around entrance to keep weeds under control. Spray surfaced path to prevent weeds encroaching onto path – 1.8 m wide. Maintain seats.

Figure 9 – Surfaced path around Portlethen Moss



3.2.2 Signs

Description and previous management – There are two signs by entrance. One was installed using a grant and the other built by trainees from OPITO. Best practice recommends there is a ‘welcome’ sign and an ‘orientation / you are here’ sign close to the entrance. The information panel in the middle of the site is well placed and has good information to explain to visitors what they are seeing and about the interest of the site. Signs become tatty and tired unless they are looked after and out-of- date information gives the impression that a site is not well cared for, so these signs will need to be cleaned and smartened up from time to time.

Management proposals – Maintain the signs, clean if dirty, repair or replace when they become tatty. Ensure information on signs is up to date.

3.2.3 Litter and litter and dog waste bins

Description and previous management – When a site is covered in litter or dog waste people tend to treat it with less respect and add to the problems, so it is always good practice to keep a site clean. Litter clearance days are helpful and the volunteers who help out on these days should be congratulated for their efforts.

Management proposals – Monitor the litter and if necessary organise litter clearance days to keep the site clean and tidy. Encourage visitors to clean up after their dogs and dispose of dog waste in the bins.

3.2.4 Health and safety

Description and previous management – The visitor infrastructure should be inspected regularly and maintained properly.

Management proposals – Aberdeenshire Council to continue to implement a health and safety inspection reporting and recording system, so that faults can be identified and remedied quickly.

3.3 Awareness and promotion

3.3.1 The Public

Description and previous management – There is no visitor survey of this site, so neither the number of visitors nor their demographics are known. However, it is reasonable to assume that majority of people visiting this site are likely to be local people, with friends and families, out for a short walk or attending an event. Portlethen Moss is unlikely to become a significant tourist attraction and given its fragility should not be developed as such. The Council is pleased that local people know about the importance of Portlethen Moss, can visit the site, read information boards and attend events on the site.

The Ranger has been very proactive in organising events so that people can learn more about the wildlife and get involved with managing the moss. It would be good for this to continue so that people (adults and children) can enjoy, learn about and get involved hands on with managing the site.

Management proposals – The target audience is mainly local people, so local events to promote the moss and explain its importance to adults are essential. School children and youth groups are also encouraged to use the site for educational purposes with the Kincardine & Mearns Countryside Ranger but under the supervision of teachers. There are many creative ways for children to become involved and learn about the site and wildlife conservation if resources can be found.

The Kincardine & Mearns Countryside Ranger and the Portlethen Moss Conservation Group work together to increase awareness of local people about the site by organising events on site and exhibitions off site. Target – aim for two events per year.

The Kincardine & Mearns Countryside Ranger and Portlethen Moss Conservation Group continue to work with teachers to devise the best ways to educate local school children and youth groups about the site.

3.3.2 Promotional material

Description and previous management – As well as the on-site information boards, there is a leaflet describing the site and the Portlethen Moss Conservation Group run a website listing important events and other very useful information. The Group have also developed exhibition material for the site. Promoting the site, using various media off site - leaflets, press releases, exhibitions and the website are all important. The group also has a Facebook page where events and other information are promoted.

Management proposals – Continue all efforts to promote the site on paper and digitally. Refresh the leaflet when/if needed. Continue to issue press releases about important events/developments on Portlethen Moss. Continue to maintain the Facebook page.

Table 2 – Projects to manage Portlethen Moss for people

Project No.	Topic	Project Title	Existing / new
Managing the visitor facilities			
1	Paths	Maintain path. Ensure wet hollows are filled if needed. Spray around entrance to keep weeds under control. Spray path to prevent weeds encroaching onto path.	Existing
2	Seats	Maintain seats.	Existing
3	Signs	Maintain the signs, clean if dirty, repair or replace when they become damaged.	Existing
4	Signs	Ensure information on signs is up to date.	Existing
5	Litter	Monitor the litter and if necessary organise litter clearance days to keep the site clean and tidy.	Existing
6	Dog waste	Encourage visitors to clean up after their dogs and dispose of dog waste in the bins.	Existing
7	H&S	Continue using H&S inspection reporting and recording system, so that faults are identified and remedied quickly.	Existing
Awareness and education projects			
8	Public	The Kincardine & Mearns Countryside Ranger and Portlethen Moss Conservation Group to work together to organise events on site and exhibitions off site. Aim for 2 events per year.	Existing
9	Education	The Kincardine & Mearns Countryside Ranger and Portlethen Moss Conservation Group to respond to requests from schools to educate local school children and youth groups about the site.	Existing
10	Publications	Refresh and reprint the leaflet when/if needed.	Existing

Project No.	Topic	Project Title	Existing / new
11	Press	Continue to issue press releases about important events/developments on Portlethen Moss.	Existing
12	Website	Continue to maintain the Facebook page.	Existing

4 Managing the local nature reserve of Portlethen Moss

Aim – Managing the local nature reserve

Manage Portlethen Moss efficiently, following plans and keeping records. Explore ways to extend conservation management onto the rest of the raised bog.

4.1 Introduction and threats to the site

The Council owned part of Portlethen Moss is a small part of the remaining raised bog. Today there are policies in place which should prevent further destruction of this rare habitat, but encroaching development remains a potential threat

To maximise conservation impact the whole of Portlethen Moss should be managed as a single unit. This could be achieved by consolidating ownership of the moss and/or management of the moss. The management could then focus on more intensive ditch blocking and reducing drainage from the site, so that it stays wetter for longer. This would be the most important action to prevent the raised bog from drying out and gradually turned to scrub and woodland. However, as the Council only owns a small section of the site, this is not likely to be possible at the present time.

There is ongoing development around the Portlethen area, which could potentially impact on the drainage of the site. Therefore an important part of managing the site will be to retain an oversight of development proposals in the area and ensure their impact on the site is minimised.

The wetness and fragility of the raised bog habitat means that it is not appropriate to develop too many facilities for visitors. The Moss is better kept as a place primarily for wildlife with low key provisions for informal recreation.

4.2 Management Structure

Description and previous management – The Council own the land but work closely with the Portlethen Moss Conservation Group to manage the site. The Scottish Government encourages and supports local communities to manage local assets, so the local group could take on more responsibility if it wants to in future.

Management proposals – The Council and the Portlethen Moss Conservation Group should aim to meet formally twice a year to report progress and discuss forward plans. Informal contact should continue as needed.

The Council and the Portlethen Moss Conservation Group should continue to pursue discussions with the owners of the other sections of the moss, with an aim to bring the whole of Portlethen Moss into conservation management

As Portlethen Moss is a designated Local Nature Conservation Site in the Aberdeenshire Local Development Plan scrutiny needs to be given to any new development proposals in the area, which could potentially impact the drainage of the site.

4.3 Manpower

Description and previous management – The Council make use of a variety of manpower to manage the site:

- The Ranger works with schools, community groups, volunteers and other educational groups.
- Landscape services undertake some projects like tidying up the entrance and maintaining the paths.
- Contractors have been employed by the Council or the group to work on larger or more specialist projects like constructing paths and ponds and clearing gorse.

The Portlethen Moss Conservation Group also provide manpower by helping to organise work parties for activities like clearing gorse and taking care of trees.

Management proposals – The Council and Portlethen Moss Conservation Group to agree who takes the lead for each project in this management plan and agree the appropriate manpower for each of the projects.

4.4 Money and Budget

Description and previous management – The Council has used allocated money to manage the site from its own resources and had funding from the Woodland In and Around Towns Initiative (WIAT) scheme run by the then Forestry Commission Scotland. This grant funded the tree planting; the path works seats and information boards.

The Portlethen Moss Conservation Group obtained funds from a variety of sources mainly locally based companies. There are other funding sources that the group can tap into for improvement works.

It will not take much money to maintain the Council owned area of Portlethen Moss, but significant extra resources will be needed if habitat management can be extended to conserve the whole of Portlethen Moss LNCS. Sources such as the Peatland Action Fund should be considered for future funding of management work if the rest of the site is to be conserved.

Management proposals – The Council can choose to use existing resources to maintain the Kincardine & Mearns Countryside Ranger led outdoor learning, existing habitats, and visitor information at the Moss. Additional resources will be needed to promote the Moss, upgrade the paths, expand any activities and run a programme of events.

The project plan in Appendix 2 includes an indicative budget for each project in this plan. At the end of the year the budget and work plan should be refreshed, updated and rolled forward for the year ahead and projects suitable for external funding should be identified and applications submitted.

The Council and Portlethen Moss Conservation Group needs to decide who pays for each project in this plan and where funds might be found on an annual basis.

4.5 Reports and plans

Description and previous management – Planning and reporting are integral parts of efficient site management. Management plans have been prepared for the site previously.

Management proposals –

Plans: The management plan sets the overall vision and direction for the next five years. But at the end of every year the plan should be re-visited and refreshed as necessary for the following year. Plans are not static, and in practice new projects will appear and other projects disappear, this is perfectly normal.

Annual Report: Ideally records should be kept about the work completed and money spent on Portlethen Moss. Ideally records should be consolidated into a brief report every year. This progress report should be a standing item at meetings between the Portlethen Moss Conservation Group and the Council.

Five year review: A review of this management plan should be undertaken in year 5 (2024) before the new management plan is prepared. This should look at more fundamental issues on the Moss and review which projects were successful and which failed and why.

Table 3 – Projects to manage the local nature reserve at Portlethen Moss

Project No.	Topic	Project Title	Existing / new
Whole site			
1	Threat - extent of site	The Council and the Portlethen Moss Conservation Group should continue to pursue discussions with the owners of the other sections of the moss, with an aim to bring the whole of Portlethen Moss into conservation management.	Existing
2	Threat – lowering of water table as a result of development proposals	The Council and Portlethen Moss Conservation Group need to pay close attention to any new development proposals which could affect drainage on the site.	Existing
3	Management structure	The Council and the Portlethen Moss Conservation Group should aim to meet formally twice a year to report progress and discuss forward plans. Informal meetings can be arranged as needed.	Existing
4	Manpower	The Council and Portlethen Moss Conservation Group to agree who takes the lead for each project in this management plan and agree the appropriate manpower for each of the projects.	Existing

Project No.	Topic	Project Title	Existing / new
5	Budget and funding	The Council and Portlethen Moss Conservation Group to decide who pays for each project in this plan and where funds might be found.	Existing
6	Management plan	Update projects in management plan annually.	Existing
7	Annual Report	Write annual report.	Existing
8	5 year review and next management plan	Write review of management in 2024 before writing next management plan.	Existing

4.6 Did the management plan succeed - measures of success

The following table proposes measures of success which could be used in 2024 as part of the five year review to evaluate whether or not the management plan delivered effective management at Portlethen Moss.

Table 4 – Proposed measures of success for Portlethen Moss

Whole Site	Progress has been made to conserve the whole of Portlethen Moss raised bog, not just the land owned by the Council.
Biodiversity	
Heathland	There is a well managed area of heathland, free of gorse and regenerating trees, in the loop of the path.
Species	Species characteristic of heathland and bog are thriving on both the Council owned land and the larger Portlethen Moss. Plants – heather and on larger site – cotton grass and Sphagnum mosses Birds – snipe, yellowhammer, linnet Invertebrates – Black darter dragonfly Amphibians – common newt, frog
Management for people	
Visitors	Visitors are well informed about the moss and satisfied with the visitor facilities.
Paths	Paths are in good condition.
Litter	There is no litter on the site.
Promotional material	Local people are aware of the conservation importance of the moss and many have visited the site.

Management of local nature reserve	
Management structure	The local community are actively involved with the management of the moss.
Project and budget management	Plans and reports are accessible so that anyone can see how the moss has been managed and how much it cost.

4.7 Concluding Remarks

Portlethen Moss is the remaining part of a raised bog which used to be much larger. It is not a pristine bog – peat has been cut – but nonetheless it is an active lowland raised mire. Active lowland raised mires are scarce in the UK and in Scotland – most are confined to the central belt and parts of Lanarkshire and the NE lowlands. Every effort should be made to try and conserve all of Portlethen Moss. Managing just the Council owned part in isolation from the rest of the moss is always going to present challenges. Therefore discussions should continue to see if the remaining areas of the moss can be bought into conservation management.

Attention should be paid to any new development proposals which could affect the drainage at the site.

In the long run Portlethen Moss will gradually change into woodland. This has been the fate of many of Aberdeenshire’s lowland mires in the last fifty years. It will take considerable commitment and resources to maintain Portlethen Moss as lowland mire for the long term. However, given the importance of conserving peatland habitats, not just for biodiversity but also for carbon storage, it is a worthwhile aim to pursue.

The fragile nature of wet raised mire habitats means it is difficult (and expensive) to develop extensive visitor facilities, so it is appropriate to stick with low key infrastructure for visitors and encourage educational events on the moss. It is better to develop more robust habitats, like Portlethen Community Woodland, for recreational use.

References

Aberdeenshire Council. Aberdeenshire’s towns – Portlethen.

<https://www.aberdeenshire.gov.uk/media/24576/portlethentownprofile.pdf>

Scottish Government, 2018. Climate change plan - The Third Report on Proposals and Policies 2018-2032

UK Biodiversity Action Plan Priority Habitat Description, 2008. Lowland Raised Bog

<http://data.jncc.gov.uk/data/aadfff3d-9a67-467a-ac65-45285e123607/UKBAP-BAPHabitats-31-LowlandRaisedBog.pdf>

Appendix 1 – Portlethen Moss timeline

Year	Events and actions
2019	Facebook consultation to ask community re new management plan
2018	Froglife amphibians training event
2017	Dragons and damsels event
2016	
2015	
2014	Ponds excavated
	Bird identification event
2013	Damsels and dragons event
	Moss exploration event
	Spider identification day
	Wetland management day
2012	Nature detectives event
2011	
2010	Green Butterfly award
	Plants on the Moss event
	Aberdeenshire design award - Commended for Rural landscape development
	Moths on the moss event
	Peat coring event
2009	Designed and constructed new interpretation board
	Gorse monitoring – every month
	Visit by Justice Secretary – Kenny MacAskill
	Mosses past and present event
	Family health walk
	Tour for Community Councillors
	For information board designed by OPITO trainees
2008	Gorse removal - activity days x 3
	WIAT Tree planting including Scots pine, hawthorn, blackthorn, ash, rowan, silver birch, alder, aspen
	Gorse removal - activity days x3
	New interpretive board installed
	Moths on the Moss event
2007	New path installed
	WIAT project
	Meeting about WIAT
	Clean Up Day – litter pick

Year	Events and actions
	Looking after the Moss event
	Portlethen Moss Past, Present and Future
	Exhibition in church hall
	PMCG fully constituted
	Portlethen Moss Day
	Gorse removal - activity days x 5
2006	Portlethen Moss day
	Moths on the Moss

Appendix 2

Project No	Area / Topic	Project Title	Lead	2020	2021	2022	2023	2024	Season	Cost
Habitats										
1	Woodland	Check trees for damage and loss	PMCG	X	X	X	X	X	Spring	
2	Gorse/heathland	Continue to cut gorse and young trees to maintain area of open heathland. Treat/spray cut stumps, regrowth and seedling trees, if funding can be sourced. Extend area of cutting if resources can be found or additional areas of the moss come under PMCG management.	Ab CI and PMCG	X	X	X	X	X	Spring	
3	Ditches and drains	The dams should be checked on a quarterly basis to ensure they are not damaged and are still holding water effectively.	Ab CI and PMCG	X	X	X	X	X	All year	
4	Ditches and drains	If the management group is able to secure ownership / management of the rest of the site, then a hydrological survey should be undertaken to establish effective locations for additional dams within this area. This is likely to require consultation with neighbouring houses.	PMCG							

Project No	Area / Topic	Project Title	Lead	2020	2021	2022	2023	2024	Season	Cost
5	Ponds	Monitor vegetation cover and water levels in ponds and decide on appropriate management if the ponds repeatedly dry out.	Ab CI and PMCG	X	X	X	X	X	Summer	
	Ponds	Cut back gorse scrub if it begins to encroach on the ponds.	PMCG			X	X	X	Spring	
	Ponds	Record wildlife that colonises and visits the ponds.	Ab CI and PMCG	X	X	X	X	X	All year	
Species										
6	All species	Encourage visitors to submit wildlife records to NESBReC.	Ab CI and PMCG	X	X	X	X	X	All year	
Managing the visitor facilities										
1	Paths	Maintain path. Ensure wet hollows are filled if needed. Spray around entrance to keep weeds under control. Spray path to prevent weeds encroaching onto path.	Ab CI and PMCG	X	X	X	X	X	Annually	
2	Seats	Maintain seats.	PMCG	X	X	X	X	X	All year	
3	Signs	Maintain the signs, clean if dirty, repair or replace when they become damaged.	PMCG	X	X	X	X	X	All year	

Project No	Area / Topic	Project Title	Lead	2020	2021	2022	2023	2024	Season	Cost
4	Signs	Ensure information on signs is up to date.	PMCG	X	X	X	X	X	All year	
5	Litter	Monitor the litter and if necessary organise litter clearance days to keep the site clean and tidy.	Ab CI and PMCG	X	X	X	X	X	All year	
6	Dog waste	Encourage visitors to clean up after their dogs and dispose of dog waste in the bins.	Ab CI and PMCG	X	X	X	X	X	All year	
7	H&S	Continue using H&S inspection reporting and recording system, so that faults are identified and remedied quickly.	Ab CI	X	X	X	X	X	All year	
Awareness and education projects										
8	Public	The ranger service and Portlethen Moss Conservation Group to work together to organise events on site and exhibitions off site. Aim for 2 events per year.	Ab CI and PMCG	X	X	X	X	X	All year	
9	Education	The ranger service and Portlethen Moss Conservation Group to respond to requests from schools to educate local school children and youth groups about the site.	Ab CI and PMCG	X	X	X	X	X	All year	
10	Publications	Refresh and reprint the leaflet when/if needed.	PMCG			X				
11	Press	Continue to issue press releases about important events/developments on Portlethen Moss.	Ab CI and PMCG	X	X	X	X	X	All year	

Project No	Area / Topic	Project Title	Lead	2020	2021	2022	2023	2024	Season	Cost
12	Website	Continue to maintain the Facebook page.	PMCG	X	X	X	X	X	All year	
Whole site										
1	Threat - extent of site	The Council and the Portlethen Moss Conservation Group should continue to pursue discussions with the owners of the other sections of the moss, with an aim to bring the whole of Portlethen Moss into conservation management.	Ab CI and PMCG	X	X	X	X	X	All year	
2	Threat – lowering of water table as a result of development proposals	The Council and Portlethen Moss Conservation Group need to pay close attention to any new development proposals which could affect drainage on the site.	Ab CI and PMCG	X	X	X	X	X	All year	
3	Management structure	The Council and the Portlethen Moss Conservation Group should aim to meet formally once a year to report progress and discuss forward plans. Informal meetings can be arranged as needed.	Ab CI and PMCG	X	X	X	X	X	Annually	
4	Manpower	The Council and Portlethen Moss Conservation Group to agree who takes the lead for each project in this management plan and agree the appropriate manpower for each of the projects.	Ab CI and PMCG	X	X	X	X	X	Annually	

Project No	Area / Topic	Project Title	Lead	2020	2021	2022	2023	2024	Season	Cost
5	Budget and funding	The Council and Portlethen Moss Conservation Group to decide who pays for each project in this plan and where funds might be found.	Ab CI and PMCG	X	X	X	X	X	Annually	
6	Management plan	Update projects in management plan annually.	Ab CI and PMCG	X	X	X	X	X	Annually	
7	Annual Report	Write annual report.	PMCG	X	X	X	X	X	Annually	
8	5 year review and next management plan	Write review of management in 2024 before writing next management plan.	Ab CI and PMCG					X		