

# Astonfields Balancing Lakes Habitat Management Plan

2021 - 2026



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## Executive Summary

Astonfields LNR is 4.2 ha of reedbed, open water and woodland. It has a great variety of wildlife including uncommon plants and birds. To maintain the habitats found on the reserve, it is essential that management take place. A detailed appraisal of the work can be found in the text but in summary, approximately £1500 is needed annually to:

- Maintain paths and verges
- Control vegetation/tree works
- Maintain hedges

By managing the Borough's natural assets, the Council is following national and local policy set out in:

- NERC Act 2006 - Section 40 and 41
- SBC Corporate Plan
- SBC Climate Change and Green Recovery Strategy

# 1 Introduction

In declaring Astonfields a Local Nature Reserve, Stafford Borough Council made a public statement recognising the site as a valuable resource for both local wildlife and local people. The declaration contributes towards the main aim of the Stafford Borough Biodiversity Strategy, namely "to conserve and enhance the characteristic biodiversity of Stafford Borough for present and future generations".

**Management History:** This document updates and replaces the original Management Plan, which has directed management at the site since its formal declaration as an LNR in 2004.

**Name:** Astonfields Balancing Lakes

**Area:** 4.2 ha

**Grid reference:** SJ 926 248

**OS Map:** Explorer 244 (6) 1:25,000

**Ownership:** Stafford Borough Council

**Local Planning Authority:** Stafford Borough Council

**District:** Stafford Borough

**Conservation Status:** Staffordshire Site of Biological Importance, Local Nature Reserve (LNR)

**Access:** The site has free and open access and can be entered via five main access points. Two of these are off the Isabelle Trail cycleway and footpath that marks the northern boundary of the site. One is the pathway located off Astonfields Road on the southern edge of the site and the other is from the Astonfields Industrial Estate on Drummond Road. Within the site boundaries a surfaced footpath circles the balancing lakes.

## 2 Site Description

Astonfields Balancing Lakes are situated on the northeastern edge of Stafford. The primary purpose of these water bodies is flood defence, but over the years a series of important habitats have developed on the site. The area of land where the balancing lakes are located was originally wet meadowland, which flooded regularly. The northern balancing lake was constructed in the late 1970s to protect parts of Stafford from flooding. In 1990 the southern balancing lake was constructed to increase the flood retention capacity and the northern one was dredged at the same time.

The northern lake is mostly open water with a developing reedbed on the eastern edge. In contrast, the southern lake contains little open water throughout most of the year. At one end of the southern lake is an extensive reedbed that is dominated by Common Reed; whilst at the other there is a small area that contained a saltmarsh community flora. The saltmarsh is of botanical interest because this type of habitat has been found at only one other location in Staffordshire. Notable species include Round-fruited Rush and Buttonweed (a non-native species that is not found anywhere else in the county). Marsh Arrowgrass and Lesser Sea-Spurrey can also be found in this location.

There are records of the lakes being used by numerous species of bird including Teal, Water rail, Sedge and Reed warbler. The steep, dry banks of the lakes support grasslands containing a variety of species such as Common Knapweed, Creeping Cinquefoil and Meadow Vetchling. The LNR covers an area of approximately 4ha and is already identified as a grade 1 Site of Biological Importance (SBI). The SBI survey document can be found in section 9 of this Management Plan.

## 3 Management objectives

Local Nature Reserves are a valued part of our heritage and it is important that we treat them as such. We want to encourage and enhance biodiversity within our Borough and encourage as many of our residents to visit and to enjoy our LNR's.

- To maintain and enhance both open water and reedbed habitats and to encourage the associated flora and fauna.
- To maintain the rare saltmarsh habitat and its uncommon species by preventing invasion by scrub and aggressive herbaceous species of lower conservation value.
- To maintain and enhance the lakes as an important area for birds.

- To maintain and enhance the populations of any notable species.
- To enhance the educational value of the site and increase the number of educational visitors.
- To contribute towards achieving the aims, objectives and targets identified in the UK Biodiversity Action Plan, the Staffordshire Biodiversity Action Plan, the Stafford Borough Biodiversity Strategy and Stafford Borough Council's Climate Change and Green Recovery Strategy.

## 4 Main management operations

This section details the main management operations that are required to protect and enhance the biodiversity of this site and maintain its community amenity value. This current plan should be revised at any time during that period, if necessary, to provide greater protection to the important habitats and species that are found on this site.

Two separate balancing lakes, which contain a variety of wetland habitats, can be identified at this site. The Marston Brook enters at the north of the site via a culvert beneath the old railway line. It flows through the lakes and exits the site at the southern boundary on Astonfields Road where it joins the Sandyford Brook. A variety of birds, including Staffordshire Biodiversity Action Plan species such as Snipe and Kingfisher take advantage of the wetland habitats that are present on this site.

The balancing lakes were constructed to protect parts of Stafford, in particular the Sandon Road and surrounding areas, from flooding. Although the site has since naturally developed into an area of biological importance, flood defence remains its primary function.

The Environment Agency is responsible for maintaining the flood capacity of the balancing lakes and undertake routine management of the central path between the lakes.

The northern lake was dredged when the southern lake was constructed in 1990. There has been no subsequent dredging of either lake. **It is important that any future dredging work should be carefully planned to protect the wildlife value of the site whilst ensuring that the flood capacity of the lakes is maintained.**

## 4.1 Reedbeds

- The extensive reedbed at the top end of the southern lake is mainly composed of Common Reed (*Phragmites australis*), although it also contains species such as Common Reedmace, Lesser-pond sedge and Yellow Iris. The reedbed is larger than many other local examples and supports a broad variety of bird species.
- Over the last 20 years, reeds began to colonise the northern lake and are developing along the eastern boundary, creating a new reedbed.
- As successional changes occur in the southern lake due to the inability to manage the reedbed (management of the reedbed through cutting has not proved possible) any losses to this area are being compensated by the reedbed development in the northern lake.

## 4.2 Saltmarsh Vegetation

The community of saltmarsh vegetation is mainly located in the southern lake. There are also traces of saltmarsh vegetation along the western shoreline of the northern lake and along parts of the Marston Brook to the north of the proposed LNR area. It is essential that scrub invasion be prevented. Young self-set trees should be up-rooted and larger trees should be coppiced. This work should be carried out each winter.

This area was re-surveyed by Dr Sarah Whild and Alex Locton in June 2009 who had originally surveyed the salt marsh in 1997. They found that the site has altered with a loss of much of the salt marsh community. The vegetation has developed and the ground is much drier. There is an increase in species like False Fox Sedge (*Carex obtrubae*), grasses and weeds such as thistles and docks. In their opinion the most significant plant remaining is Round-fruited rush (*Juncus compressus*), which is only recorded on two other sites in the County.

In order to restore the marsh, it would be necessary to excavate the top layer of soil off site to re-expose wet mud. This would then naturally succeed back to its current state anyway. It would be both expensive and temporary. The only probable means of achieving this would be if and when the site is cleared for future flood prevention works.

## 4.5 Grassland Management

There are several areas of grassland vegetation around the site, which provide an important habitat for invertebrates including Small tortoiseshell butterflies, Six-spot burnet moths, Nursery web spiders, Common green grasshoppers and bumblebees.

- The banks of the lakes are rich in a variety of wildflower species including Common Knapweed, Meadow Vetchling, Creeping Cinquefoil, Hairy Tare and 'garden escapes' such as Bluebells. Teasel, which provide a food source for seed-eating birds, are particularly common around the northern lake.
- To prevent the loss of these grassland areas the growth of scrub and trees should be controlled. This includes the removal of both natural regeneration and planted exotic species. In particular it would be desirable to remove many of the young trees from the banks of the northern pool as these could eventually 'shade out' many wildflower species. The spread of brambles onto grassland areas should also be controlled. However, areas of currently well-developed scrub and individual mature trees should be retained, as they will provide important diversity of habitat.

### 4.5.1 Area to the east of the footpath alongside the northern lake

- When the Balancing Lakes were last dredged in 1990 all of the dredgings were deposited on this area of land. Nutrient levels in the soil are consequently high and species such as nettles and cleavers thrive.

## 4.6 Strip of woodland to the east of the southern lake

- There is great potential for diversifying the ground flora of this area. Currently the ground flora is not particularly diverse, although lesser celandine and forget-me-not can be found alongside the footpath. These species should be encouraged to spread naturally and other native wildflowers such as wild garlic, red Campion, native bluebell and foxglove have been planted to provide greater floral diversity.
- Wet grassland flower species such as cuckooflower have been identified in small numbers alongside the footpath at the far southeastern corner of the southern lake. These are likely to be a remnant of the wet meadow vegetation that was historically found on this site. Efforts should be made to protect these species and encourage them to spread by controlling nearby patches of bramble and other competitive species.

## **4.7 Tree, Scrub and Hedgerow Management**

Around the site there are a variety of woodland, hedgerow and scrub habitats. These all provide valuable habitat diversity and should be managed sensitively to benefit the fauna that utilise them. Native tree/shrub species should be strongly encouraged on this site.

### **4.7.1 Hedgerows**

- The hedgerows are located in the southern half of this site and mainly consist of hawthorn and blackthorn. Some sections may be suitable for hedge laying, but no such management has ever been carried out on any of the hedges on this site. They were planted along the boundary of the site as a screen between the lakes and the adjoining Industrial Estate.
- All hedgerows on the site should be carefully managed. Wherever possible hedges should be cut or laid during January so that spring nesting birds are not disturbed and the autumn supply of berries are not affected.
- However, the hedgerows are planted very close to the footpath that leads to the lakes from the Astonfields Road entrance, so summer growth seriously affects access. In this case overhanging vegetation should be carefully cut back during August.
- Work will need to be done on the main hedge as it is beginning to “crown”. This work will be needed over the next few years and should be looked at every five years.

### **4.7.2 Areas of willow woodland/scrub**

- Trees to the east of the northern lake are a similar age and were probably planted after dredgings from the balancing lakes were deposited on this area in 1990.
- Some management of these trees will be required to ensure their long-term health and encourage a greater structural diversity (i.e. a variety of growth stages and ground flora). A programme of rotational coppicing should be implemented, which would ideally involve coppicing two of the trees each year. Cut material should either be stacked in ‘habitat piles’ within woodland/scrub areas or chipped into the perimeter hedgerows. Practical considerations mean that this work is carried out less frequently but in larger blocks and has been carried out by Streetscene’s tree operatives.

- About half of this woodland was removed during development of new housing. It was later replaced with a greater diversity of broadleaved trees, which included a memorial bench. Work was carried out by local volunteers as part of a memorial to a colleague during 2019/20. The area is now maintained by volunteers.
- There is also a small area of willow woodland just to the south of the southern lake. The trees here are more mature and more densely planted than those alongside the northern lake, but there is a similar lack of structural diversity. A programme of rotational coppicing would be beneficial.

### **4.7.3 Strip of woodland to the east of the southern lake**

- This is the largest section of mature woodland around the balancing lakes, so it consequently provides an important habitat for birds and bats.
- The willow and poplar trees, many of a similar age, began dying off and created a health and safety concern due to the proximity of the back pathway. Many trees have now been felled and monitoring of the area is maintained as part of the Council's tree management.
- Replacement planting was carried out in 2019 with willow and alder. A Caucasian Wingnut tree has also been planted to provide botanical interest.
- No tree management operations should be carried out without authorisation from Stafford Borough Council.

### **4.7.4 Other areas of scrub and trees**

- The guelder rose shrubs on the western bank of the southern lake, which were planted in the early 1990s, may require some management to prevent encroachment onto the footpath. Any coppicing or pruning should be carried out in late winter after birds have taken advantage of the supply of berries.
- Areas of bramble should be retained as they provide both cover and a food source for local wildlife. However, they may need to be controlled if they spread excessively over surrounding vegetation.

- If tree planting is carried out on the site then only native tree and shrub species should be used. Species such as dogwood, guelder rose, holly, rowan, willow and hawthorn would be suitable on this site. Non-native species such as a rhododendron and evergreen coniferous trees should be discouraged. Further planting should be prevented and existing specimens should, wherever possible, be removed.

## **4.8 Other Site Management Tasks**

There are numerous general site management tasks that need to be undertaken. Some of these are suitable to be undertaken by volunteer work-parties, whilst others will require the use of specialist contractors.

### **4.8.1 Footpaths**

- Monitoring of the condition of on-site footpaths should be undertaken regularly.
- Over-hanging vegetation will be cut back from all footpaths on the site during late July/early August each year. A 1m wide strip should be strimmed either side of the paths to maintain easy pedestrian access.
- Any footpath repairs should be arranged as necessary.

### **4.8.2 Litter**

- Litter-pick are arranged during volunteer work parties with Staffordshire Wildlife Trust. Stafford Borough Council will remove the litter that is collected.
- Volunteers who litter-pick around the site regularly can make arrangements with Stafford Borough Council to be provided with blue bags and litter-pickers. Any bagged litter will be collected by arrangement (call the street cleaning hotline on 01785 619407) from Schott Glass car park by the entrance to the reserve.
- Dog fouling problems should be monitored closely. All site users should be required to clean up after their pets. Any new bins should be identified as poop-scoop receptacles.
- Businesses on the Astonfields Industrial Estate have been contacted to encourage them control their litter to prevent it spreading onto the LNR. So far, response has been poor.

### 4.8.3 Bollards and barriers

All fencing on the site should be maintained. The site boundaries should be monitored, and any encroachments should be reinstated.

## 5 Community

The site had a community group, the 'Friends of Astonfields Balancing Lakes' that ran successfully for around 10 years. The group was involved with a variety of practical activities, including litter picking, nest box installation and wildflower planting. Members of the group were also involved in the development of the original management plan for the site. It was not possible to maintain the group for a number of factors.

Since then however, volunteers have been involved with the site, creating the memorial area on the central eastern boundary.

Every year a programme of practical conservation activities is organised for the site through the "Wild about Stafford" partnership with Staffordshire Wildlife Trust. The events are open to any members of the local community.

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