Preliminary Ecological Appraisal – River Avon South West of Town Bridge

2020

Produced by Wild Landscapes of Wiltshire Wildlife Trust in Partnership With Chippenham Town Council

Wiltshire Wildlife Trust

UNITY & LOYALTY

CHIPPENHAM TOWN COUNCIL

Improving the quality of town life

Control Sheet

	Name	Organisation
Author/s	Nick Self	Wild Landscapes, Wiltshire Wildlife Trust Ltd.
Contributors	Will Tidmarsh – Head of Environmental Services Andrew Conroy – Planning Officer	Chippenham Town Council

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Disclaimer

Summary

This report is produced to present an initial assessment of the potential ecological constraints and opportunities relating to the area along the River Avon, south-west of Town Bridge, Chippenham, and to inform the land owners (Chippenham Town Council) of potential future management changes to benefit wildlife and the local environment.

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Site Information

Site name	River Avon south-west of Town Bridge	
Address	Chippenham	
Grid Reference	ST 91972 73346 (Town Bridge)	
Contact details	Name	Andrew Conroy
	Email	aconroy@chippenham.gov.uk
	Number	n/a

Figure 1: Satellite image of site (Google Earth)

Introduction, Terms of Reference and Scope

Wiltshire Wildlife Trusts 'Wild Landscapes' project has been contacted by Chippenham Town Council (the client) to conduct a preliminary ecological assessment of the entire length of the River Avon managed by the Council, from Monkton park in the north to Westmead in the south.

This report focuses on the on the section of the river that runs down-stream from Town Bridge, south to the pedestrian bridge at Westmead, near Avenue la Fleche.

This report presents the findings of the desk study and site visit, carried out on September 8th, 2020, and then goes on to present discussion and key recommendations for each part of the site.

The whole site encompasses approximately 8.5 acres and has a number of defining features/areas:

- Town Bridge to Weir
- The Weir to Gladstone Road Bridge
- Avon Valley Path to Westmead

Site Context

The site is located to the south-west of Chippenham town centre and consists of river valley, in an urban setting, which straddles a 625m section of the Bristol Avon River.

To the west the site is bounded by the main A4 road, Avenue la Fleche and to the east by a mixture of residential and commercial properties. To the north the course of the river is impeded by a large radial gate weir, below which Hardenhuish Brook joins the River Avon from beneath Bridge Centre Roundabout. The river is then crossed by Gladstone Road Bridge underpass. The river here is prone to severe flooding during the winter months.

South of the underpass the Avon Valley Path is an important green space that is used by local residents primarily as a dog walking site and the location of the Millennium Wall, created by local school children. Anecdotal evidence was received during the site visit to suggest that certain individuals in the local area carry out management and maintenance tasks on an ad-hoc basis.

Wildlife Corridor

Although the site is mainly concentrated in the built-up centre of Chippenham, the linear aspect of the river corridor found at this site should not be overlooked. It is an important link between the areas of open countryside on the north-east and south-west of the town. There is a clear link through the town centre that is only broken by the installation of the radial gate weir and to a lesser extent the town bridge. Examples of species that will use this type of corridor include brown trout (*Salmo trutta*), Eurasian otter (*Lutra lutra*), and water vole (*Arvicola amphibious*).

Designations

The Multi-Agency Geographic Information for the Countryside (MAGIC) database was accessed on 25th September 2020 in order to establish the presence of statutory sites such as Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Local Nature Reserves (LNR) and important habitats.

The nearest habitats of significance lies to the east, where an area of Parkland at Monkton Park is highlighted under the Biodiversity Action Plan (BAP) England, and to the east at The Ivy an area of deciduous woodland is listed on the Priority Habitat Inventory for England. To the south, but currently undesignated is an area of new woodland at Westmead Open Space, owned by Chippenham Borough Lands Charity.

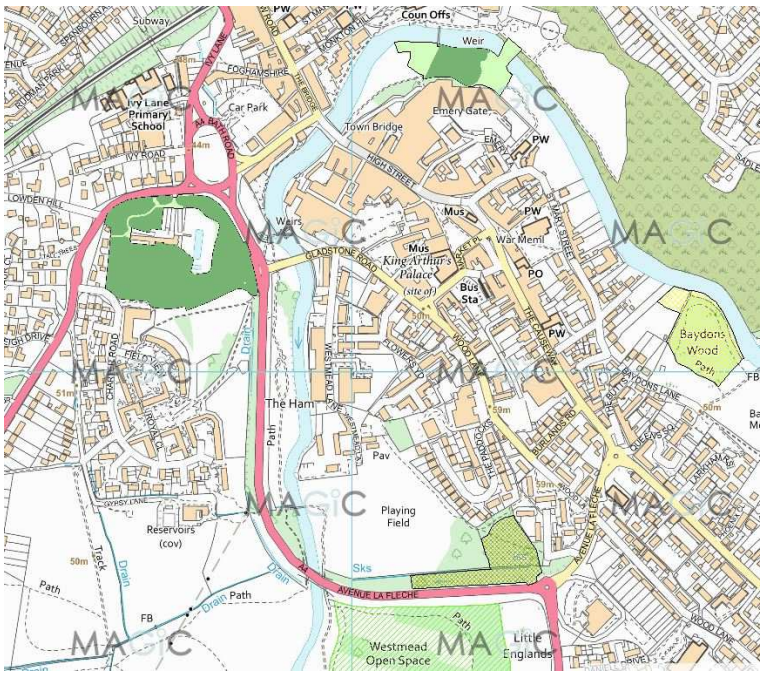

Figure 2: Geographical map of site (Magic Maps, 2020)

Table 1 MAGIC Priority Habitats in the Local Area

Habitat	Map Colour	Summary Interest
Deciduous, Broadleaved Woodland	Solid Dark green	This is a spatial dataset that describes the geographic extent and location of habitats of principal importance. Areas identified as deciduous, broadleaved woodland are a significant habitat in urban settings for wildlife.
Parkland	Solid Pale Green with tree symbols	Parkland is the product of historic land management and designed landscapes, and represent a vegetation structure rather than a particular plant community. Parkland differs from wood pasture in that deliberate planting, often with non-native species, represents a significant component. Parklands are frequently designated for their historic and landscape value. (Natural England, 2020)

Significant Features

Town Bridge to Weir

From the Town Bridge the river, 25m wide at this point, flows westwards before turning south on the approach to the radial gate weir. On both sides the river is surrounded by commercial buildings and hospitality outlets, yet the banksides are lined with numerous trees, shrubs and reeds. The river here is wide and slow flowing.

Figure 3 & 4: View from Town Bridge & near Weir (Authors own, September 2020)

This section draws heavily on the Monkton Park Advisory Report, (Baker, 2020). Written by Wiltshire Wildlife Trust Water Team, the full text of this document can be found in Appendix A. This section should also be read in conjunction with the Monkton Park site assessment and management plan.

Town Bridge

During the site assessment visit it was clear to see that there is an issue with public feeding the ducks and pigeons just upstream of the Town Bridge. This is creating an area that is unsightly and overrun with rats, in addition bread is bad for wild birds and pollutes the river.

It is recommended that the area of bank in question be landscaped to create tiers which can then be formally planted and managed with native wildflowers and shrubs. This will discourage people from feeding the birds there and create a more pleasantly aesthetic area.

It is important to provide an alternative option for people to feed the birds otherwise the issue will be recreated somewhere else. It is recommended that either a bird seed dispenser be installed on the bridge or local businesses near the bridge sell bird seed as part of a community initiative. In addition to this information signage should be installed on the bridge to let people know the importance of feeding the right food, where they can get it and that they can only feed the ducks off the bridge. This method has proven effective in other locations where larger businesses have sponsored the sale of the bird seed to contribute to the protection of the river.

In-channel Habitat Management

The quality of the in-channel habitat of the River Avon through Chippenham is impacted by the weir downstream of the Town Bridge. The weir is impounding the channel, resulting in deep water, sluggish flows and the interruption of natural process of fish passage and sediment movement. The impacts of this reach far upstream through Monkton Park. As a result of this impoundment there is limited scope for in-channel habitat improvement works until the impoundment issue is dealt with. Overhanging trees should be left in situ, especially where branches and/or roots enter the water as this provides valuable habitat that will benefit fish such as European perch (*Perca fluviatilis*) and water birds such as common kingfisher (*Alcedo atthis*) and moorhen (Gallinula chloropus).

Riparian Habitat

The bankside habitat throughout this area strikes a good balance between tidy, river viewpoints for the public and dense habitat with trees, shrubs and reeds for wildlife. This management should continue.

Water Quality & Citizen Science

There is a lot of opportunity for citizen science monitoring of the River Avon. This is also a great way to engage local residents and connect them with the river, instilling a sense of ownership and protection of their open blue and green space. Opportunities include Outfall Safaris and Waterblitz events.

An 'Outfall Safari' is a way of monitoring surface water outfalls that convey rainfall run-off into rivers. These can be points of pollution entering the river if there are misconnections within the system. It involves trained volunteers walking the riverbank, assessing outfalls for any evidence of pollution.

A Waterblitz is a citizen science water quality monitoring event. Held in partnership with Freshwatch, volunteers are provided with easy-to-use water quality monitoring kits and are encouraged to take samples from across the catchment. Results help to build a picture of water quality and target any areas for future management.

Town Bridge Wildlife Underpass

In addition to the weir structure, the Town Bridge is also a barrier to the wildlife corridor that runs through Chippenham. It is recommended that feasibility options be looked into for the transfer of wildlife between the river bank upstream of the Town Bridge and the river bank downstream.

This could take the form of a tunnel or ramp, but would need to take into account the risk of seasonal flooding and the issue with rats detailed above. It is recommended that a separate feasibility study be commissioned to take this forward.

The Weir to Gladstone Road Bridge

At this point the River Avon is bisected by a large, concrete, radial gate weir that forms part of the Chippenham Town flood defences. On the far side of the weir there is a concrete fish pass and a small foot bridge crosses the weir structure. At the bottom of the weir is the junction with the Avon of Hardenhuish Brook, which flows in from the north. Then the river flows under Gladstone Road Bridge, the underpass of which contains a graffiti wall. This area is prone to severe flooding in winter.

Figure 5 & 6: The Radial Gate Weir (Authors own, September 2020)

Radial Gate and Weir

The radial gate is owned by Environment Agency and performs two functions. Firstly, it creates an impoundment during normal flow conditions and secondly, it manages flood risk by opening during high flow conditions.

As an Environment Agency asset it is beyond the scope of this report to give advice on changes or improvements to the structure itself and advice will be limited to bankside habitat management works above and below the inflow structure. However, contact was made by Wiltshire Wildlife Trust Water Team to inform EA that this report was being carried out. This will enable better crossover of advisory work, better partnership working, and alleviate duplication of effort.

However, Environment Agency have issued a statement via email regarding the radial gate and weir. The full document is supplied in Appendix B, and states:

"*The Environment Agency are currently investigating options for long term replacement of the radial gate and adjacent weir. We are keen to work with partners to explore what the preferred option may be here. Rather than just look for a like to like replacement, we would like to investigate the opportunity to make more significant changes here, and ideally look to remove the gate and weir entirely.*" (Whittaker, 2020).

Whilst this project will undoubtedly take many years to plan and execute, and involve lengthy consultation with a variety of local stakeholders, the environmental and ecological benefits to the River Avon can be high. However, there is also the possibility that weir removal will increase some ecosystem services at the expense of others.

In the short-term the potential of a future weir-removal project could affect the implementation of certain other projects, such as replacement of fishing pontoons at Monkton Park, due to the effect that removal would have on water levels. Therefore it is advised that any in-stream works be re-assessed, or postponed, until any removal works are complete.

Gladstone Road Bridge Underpass

Figure 6a & 6b: Graffiti wall and underpass (Authors own, September 2020)

After the radial gate the River Avon flows south under Gladstone Road Bridge. A pedestrian foot path enables access from the radial gate to the southern section of the Avon Path.

The bridge superstructure is used as a graffiti wall and was the subject of a town council project in the past. In exchange for not creating graffiti in other parts of town, youths were allowed access to this site to use.

The main issue with this part of the site is that it is extremely prone to flooding even in fairly low rainfall weather events in the late summer and autumn. In winter the footpath is flooded almost 100% of the time. This creates some health and safety issues as the graffiti wall is often flooded and inaccessible. However, the mud banks, often present are great habitat for invertebrates and birds.

There are also signs of other anti-social activities such as drug-taking and homelessness, however, this area is unlikely to be used during the winter due to the water-levels and lack of access.

Here there is the potential to carry out a feasibility study to assess the possibility of rerouting and improving the path to enable all year round access, whilst also keeping some of the wetland type habitat present. However, due to the proximity of the radial gate and the changes to water-levels that may occur should the gate be removed, this may best left until the radial gate project is complete.

Avon Valley Path to Westmead

This is the longest section of the site. The river, which is narrower here, flows south from Gladstone Road Bridge until it reaches the foot-bridge at Westmead, an area owned by Chippenham Borough Lands Charity. Avenue La Fleche bypass runs above the river to the west and retirement apartments are situated to the east. The river here is flanked by a riverside path containing areas of grassland, scrub, a small copse of ash trees and also the Millennium Wall, constructed by local school children. The area is prone to flooding and the river banks are dominated, in places, by Himalayan balsam (*Impatiens glandulifera*).

Figure 7 & 8: Avon Valley Path & Millennium Wall (Authors own, September 2020)

Figure 9 & 10: River Avon & Himalayan Balsam (Authors own, September 2020)

Wildlife Sightings

During the site visit several bird species were observed that indicated a reasonable level of river health. These included kingfisher (*Alcedo atthis*), grey heron (*Ardea cinerea*), and grey wagtail (*Motacilla cinerea*). The grey wagtail, in particular, is usually found on fast-flowing streams in hilly terrain. However, in urban areas they can sometimes be found on surrogate rocky areas such as around weirs, as is the case here.

Below the weir and radial gate the Avon is faster flowing. Here the river lies in a steep sided channel between retirement apartments on one side and Avenue la Fleche bypass on the other. The secluded nature of this stretch ensures that public access is relatively low and wildlife can thrive with little disturbance.

The main public usage along this stretch is dog walking although there were some signs of ad hoc fishing usage. Several members of the public were seen and engaged with during the site visit, with one person reporting having seen otter (*Lutra lutra*) in the past. These sightings and reports illustrate how important the River Avon is as a wildlife corridor, even in the most urban of areas.

Himalayan Balsam

In general the riparian habitat along this stretch is adequate with a good mix of dense vegetation, including trees, along the entire section. However, large swathes of Himalayan balsam dominates the sward along parts of both banks.

This non-native plant can be invasive because it spreads quickly and forms dense thickets that alter the ecological balance and character of the riverbank. Many seeds drop into the water and can contaminate the riverbank further downstream, but the explosive nature of its seed release means it can also spread upstream too. It produces a lot of pollen over the growing season and is attractive to pollinating insects, but there is concern that its presence may result in decreased pollination for native plants.

Himalayan balsam needs to be dealt with before it sets seed. If control is undertaken early enough to prevent flowering then eradication is possible in two or three years. The plant is shallow-rooted and can be pulled out and disposed of by composting carefully, or by burning if seeds are present. If this is done on a regular basis and the plant is not allowed to set seed, it will eventually die out. Regular strimming of larger areas is also an option, as long as it is done often enough to prevent flowering.

The steep sided banks along this stretch of the river may preclude all plants from being pulled from the bankside and there is scope for plants to be removed from within the river itself depending on depths and availability of equipment. In addition to this, the ideal solution would stipulate removal of all plants from both banks. Partnership working with the organisations that own the retirement apartments on the east bank would be required for this to be achieved.

Volunteer Involvement

With regard to managing this section of the river there is scope for engagement with local residents, volunteer groups, and other stakeholders. Particularly the management and eradication of Himalayan Balsam will benefit from the involvement of local people taking ownership of public sites that they know and use.

The embryo of local input and volunteering is already present. Whilst carrying out the site visit a member of the public stated that some ad hoc work removing Himalayan Balsam is already carried out.

Volunteer engagement and river management activities could be carried out in partnership with other organisations already heavily invested in the field such as Wiltshire Wildlife Trust Water Team and Bristol Avon Rivers Trust. This collaboration is already being pursued within the Monkton Park management plan, but all stretches of the River Avon within the Chippenham Town Council Area would benefit from being included within this.

Grassland and Scrub Areas

The grassland around the area of the millennium wall is part of the river route and the path verge is cut every 2-4 weeks depending on conditions. The larger areas have walkways cut in a variety of places, then the remainder has is cut on a twice a year schedule.

Large areas of scrub provide feeding and roosting opportunities for a wide variety of wildlife and should be kept where appropriate. Cutting on a long rotation should continue in the more public areas such as around the millennium wall.

Broadly, the management schedule should continue in its current form. The area is prone to seasonal flooding and any change of management would need to take this into account. Within the cutting regime a 2m buffer zone should be introduced to protect the bankside riparian habitat. Details of bankside habitat management can be found within the proposed Monkton Park Management Plan document.

In addition, however, there are opportunities monitor the grassland areas and create improvements to the diversity. Depending on soil conditions and nutrient levels native wildflowers, in either seed or plugs, could be introduced.

To the south of the Millennium Wall there is a small copse of mainly ash trees (*Fraxinus excelsior*) and a number of willow (*Salix* spp.). Although a basic examination of the trees present didn't show the presence of ash dieback (*Hymenoscyphus fraxineus*), a full check by a professional arborist is advised. The long term goal should be to remove the ash trees and replace with other native species that can tolerate wet conditions such as alder (*Alnus glutinosa*).

Key Recommendations

- Town Bridge to Weir
    - Create landscaped area to alleviate rat problem
    - Install signage and seed dispensers on bridge
    - Leaving trees overhanging channel in situ
    - Continue current riparian zone management regime
    - Implement citizen science projects to monitor water quality
    - Commission feasibility study for bridge wildlife underpass

- Weir to Gladstone Road Bridge
    - Develop and encourage partnership working with Environment Agency and other stakeholders to look at the possibility of the future removal of the radial gate weir
    - Re-assess or postpone any in-stream works that might be affected by future weir removal
    - Look to assess the feasibility of rerouting or improving the Avon Path to limit the risk from flooding and provide year round access to the southern section

- Avon Valley Path to Westmead
    - Engage with public usage of the site and improve recording of wildlife sightings to WSBRC
    - Put in place bankside management regime to deal with non-native, invasive, Himalayan Balsam
    - Engage and manage public volunteering groups and individuals

- Engage and work with river management organisations such as Wiltshire Wildlife Trust and Bristol Avon Rivers Trust
- Broadly continue with current cutting management regime
- Manage scrub on long cutting rotation
- Introduce 2m bankside buffer zone where appropriate
- Consider some wildflower planting after monitoring soil conditions
- Arborist to check ash copse with long term goal to replace

List of references and figures/tables

Figure 1: Satellite image of site (Google Earth) [online], Google Earth, September 2020 https://www.google.co.uk/intl/en_uk/earth/

Figure 2: Geographical map of the site [online], MAGIC, DEFRA September 2020 https://magic.defra.gov.uk/home.htm

Table 1: MAGIC Priority Habitats On-site at John Coles Park, MAGIC, DEFRA September 2020 https://magic.defra.gov.uk/home.htm

Figure 3: River Avon at Town Bridge (Author's own, September 2020)

Figure 4: River Avon near the radial gate weir (Author's own, September 2020)

Figure 5: The radial gate and weir (Author's own, September 2020)

Figure 6: The radial gate and weir (Author's own, September 2020)

Figure 6a: Graffiti wall and underpass (Authors own, September 2020)

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Figure 7: Avon Valley path (Author's own, October 2020)

Figure 8: Millennium Wall (Author's own, October 2020)

Figure 9: River Avon and Himalayan Balsam (Author's own, September 2020)

Figure 10: River Avon and Himalayan Balsam (Author's own, September 2020)

Whittaker, C. (2020). Environment Agency Chippenham Radial Gate Briefing. [Email].

Baker, A. (2020). Monkton Park Advisory Report v_1. Wiltshire Wildlife Trust.

Appendix A

Wiltshire Wildlife Trust - Water Team

Advisory Report

River Avon, Monkton Park

River Avon at Monkton Park

12th November 2020

Alice Baker, Water Team Manager

&

Nick Wilson, Water Team Project Officer

8th January 2021

Edited by

Nick Self, Wild Landscapes Project Officer

Location

An advisory visit was requested by Wild Landscapes to inform a management plan they are writing for Monkton Park, on behalf of Chippenham Town Council (figure 1). Wild Landscapes engaged the specialist services of the Water Team to report on opportunities for habitat improvements to the River Avon in-channel and riparian zones.

Figure 1. Site map showing the River Avon through Monkton Park with areas marked out for reference.

Summary of Advice

In-channel

The quality of the in-channel habitat River Avon through Monkton Park is impacted by the weir downstream of the Town Bridge. The weir is impounding the channel, resulting in deep water, sluggish flows and the interruption of natural process of fish passage and sediment movement. The impacts of this reach far upstream through Monkton Park. As a result of this impoundment, the depth of the water and the spacey nature of the River Avon there is limited scope for in-channel habitat improvement works until the impoundment issue is dealt with. Overhanging trees should be left in situ, especially where branches and/or roots enter the water as this provides valuable habitat.

Riparian Zone

There are areas of good quality riparian habitat long the length of the river, with sections of reed bed habitat and wide marginal vegetation. However, there are also reaches that are lacking in bankside habitat and have been eroded by public use. The river corridor would benefit from wider riparian margins being left uncut and formalised fishing and public access points to prevent bank erosion and disturbance to marginal vegetation and the species that utilise it. There is scope for tree planting along the river edge in certain areas to enhance the riparian habitat (Area 4).

Management Recommendations

Riparian Zone

A wide riparian zone, allowing plenty of space for marginal vegetation to colonise is vitally important to the river. Not only does the root structure of the vegetation help prevent erosion in high flows but it provides habitat for a host of aquatic and riparian species, including invertebrates which are the vital food source for many fish, breeding birds, otters, water vole and cover for fish and amphibians.

Where possible we would recommend an uncut margin of at least 2-5m. The width of this could vary along the length of the river to keep create a variety and keep people connected to the river.

Demonstration Bank

A demonstration bank is a great way to demonstrate the effectiveness of good riparian management to the public and provides an opportunity for the installation of information boards. The Water Team supports Wild Landscapes' proposal to create a demonstration bank in Area 2. The bank should be planted with native riparian species, grading up to meadow plants at the bank top. The site for the demonstration bank should be an area with large amounts of footfall to increase public engagement and the effectiveness of the bank and signage. The Water Team has experience of building a highly successful demonstration bank in a park in Salisbury as part of a wider engagement project on managing riverbanks for wildlife.

Public Access

Public accessibility of the river is important in an area such as Monkton Park, the open blue and green space of the river and the park gives the local community the opportunity to immerse themselves in nature which brings a host of mental health and well-being benefits. Having said this, there needs to be a balance between accessible areas and sections left undisturbed for wildlife.

Some sections of the riverbank are being eroded by people and dogs accessing the river. As there is no formalised area for this, disturbance is happening all along the riverbank. It is recommended that formalised areas for access to the river be created through the Park.

The true left bank at ST 92417 73216 appears to be a heavily used spot (Area 3 and figure 2). This provides the perfect opportunity to create a formalised access area for people and dogs. A horseshow shaped 'pocket park' could be created, with gravelled steps cut into the bank preventing soil erosion and benches installed to make it a relaxing place for families to visit and picnic in summer months. At this site there is also a back-water area, it is over-shaded with willow preventing the growth of wetland species. It is recommended that the willows be pollarded (and then again on a 5 year rotation), this will allow reed bed habitat to colonise and the wood can be utilised in the creation of the gravel steps.

The footpath in Area 4 is quite far from the river, whilst this allows for a lovely wide riparian margin the public have no visual access to the river. Along this reach the path could be scalloped, brought closer to the river in some points and then further away in others, providing the balance between access and undisturbed areas.

Figure 2. *Bank erosion at ST 92417 73216 where there is opportunity for the creation of a pocket park.*

Angling

Chippenham Angling Club hold the fishing rights to the true left bank of the river through Monkton Park. There are a number of fishing platforms, some of which are unsafe and unusable, in need of desperate repair, and it appears that the angling club have cut other access points into the bank. It is recommended that a meeting be held with the angling club to walk the river and identify preferred points for angling (to an agreed limit). This can act as a clean slate where new platforms can be installed and old repaired where agreed, with the remaining redundant old platforms removed. Then an agreement be met to upkeep the new platforms and that the club will not create any other access points to prevent additional disturbance to the riverbank.

Town Bridge

During the advisory visit it was clear to see that there is an issue with the public feeding bread to the ducks and pigeons on the true right hand bank just upstream of the Town Bridge. This is creating an area that is unsightly and overrun with rats, in addition bread is bad for wild birds and pollutes the river.

It is recommended that the area of bank in question be landscaped to create tiers which can then be formally planted and managed with native wildflowers and shrubs. This will discourage people from feeding the birds there and create a more pleasantly aesthetic area. It is important to provide an alternative option for people to feed the birds otherwise the issue will be recreated just upstream. It is recommended that either a bird seed dispenser be installed on the bridge or local business start selling bird seed and information signage be put on the bridge to let people know the importance of feeding the right food, where they can get it and that they can feed the ducks off the bridge. This method has proven effective in other locations where larger businesses have sponsored the sale of the bird seed to contribute to the protection of the river.

Wetland Area North of Emery Gate Car Park

The area known locally as the 'Black Lagoon' at ST 92198 73483 (Area 1) is the site of a historic watercourse that has been blocked up during development of the town centre. It is now a site that lies wet but is disconnected from the river by a stone wall. This provides the opportunity for wet habitat which has high value for invertebrates, birds and amphibians.

Currently, the area is over shaded preventing vegetation growth and the trees provide a secluded area for nuisance behaviour. It is recommended that the trees be managed to let light into the area and the debris be cleared from the top layer of the ground to create a wetland/pond habitat. There may be some native seeds in the seedbank bit some additional planting of species such as common reed (*Phragmites australis*) is recommended to encourage colonisation.

Invasive Species

There are reports of the invasive non-native plant Himalayan balsam (*Impatiens glandulifera*) along the riverbank (none was visible at the time of the visit as balsam dies back in winter months). Balsam is very detrimental to riverbanks, it will outcompete native vegetation, causing dense monoculture stands, and has a very shallow root system to when the vegetation dies back over winter it leaves open, bare banks that are susceptible to erosion in high flows.

It is possible to manage Himalayan balsam manually as the plants are easy to pull out of the bank however it requires a large amount of man-power and strategic planning as each plant can produce up to 100 seeds in explosive seedpods which can be washed downstream.

It is recommended that a coordinated volunteer group be established to pull the balsam each summer, starting upstream and working down. This is something that the Water Team can help support, volunteers will need training in species ID and risk assessments for working near water will need to be in place.

In addition to Himalayan balsam, it is important to be vigilant of other invasive species that could be present along the riverbank, see Table 1.

Citizen Science

There is a lot of opportunity for citizen science monitoring of the river, this is also a great way to engage local residents and connect them with the river, instilling a sense of ownership and protection of their open blue and green space. Opportunities include Outfall Safaris and Waterblitz events.

An 'Outfall Safari' is a way of monitoring surface water outfalls that convey rainfall run-off into rivers. These can be points of pollution entering the river if there are misconnections within the system. It involved trained volunteers walking the riverbank, assessing outfalls for any evidence of pollution.

A Waterblitz is a citizen science water quality monitoring event. Held in partnership with Freshwatch, volunteers are provided with easy-to-use water quality monitoring kits and encourage to take samples from across the catchment. Results help to build a picture of water quality and target any areas for future management.

Permissions and Legal Considerations

It is important to be aware that any work in the river or on the riverbank will need a Flood Risk Activity permit from the Environment Agency.

If you require any further advice or assistance please feel free to contact a member of the Wiltshire Wildlife Trust Water Team.

Alice Baker
Water Team Project Officer

Wiltshire Wildlife Trust
Elm Tree Court
Long Street
Devizes, Wiltshire
SN10 1NJ
water@wiltshirewildlife.org
01380 736066

Disclaimer

This advice has been put together with as much diligence as possible. However, as it is only based on one site visit – not involving any water quality measurements – we cannot guarantee that implementing our recommendations will lead to the desired enhancements.

Images in this report have been sourced from several internet sources. They may be subject to copyright, further distribution to a wider audience (outside the direct target group of this report) is not advised.

Table 1. Invasive species to be aware of.

Japanese knotweed

New Zealand pygmyweed

Giant hogweed

Floating pennywort Image courtesy of GBNNSS

© Crown Copyright 2009

Himalayan balsam

Water primrose Image courtesy of GBNNSS

© Crown Copyright 2009

Parrot's feather

Image courtesy of GBNNSS

American signal crayfish

Appendix B

Briefing from Environment Agency – Email 12/12/2020

Chippenham town centre flooding briefing

Problem

A flood defence scheme was constructed in the 1960s on the River Avon through Chippenham consisting of re-construction of the river channel through the town centre and construction of the Chippenham Gate (radial gate with side weir and fish pass) to control upstream water levels. The purpose of the gate is to retain water levels during low and medium flows for amenity purposes whilst enabling high flows to pass through the structure, reducing the risk of flooding. The radial gate has however become increasingly unreliable and is nearing the end of its residual life. In this current asset state, there is a risk that the structure will fail in a closed position, requiring Environment Agency operatives to undertake a manual lifting procedure, with health and safety issues associated with this.

The flood risk to Chippenham if the gate operates correctly is relatively low. However, if the gate was to fail to open in a flood event then the flood risk would substantially increase, especially at frequent flood events. This is a very real risk as the gate is increasingly needing manual intervention to allow it to function properly.

There are also regular issues with the gate not closing fully after a flood event, leading to a drop in upstream water levels. This leads to visual, amenity, biodiversity and safety issues within the upstream river channel.

Whilst there is an existing fish pass alongside the gate, this will not enable upstream migration of all fish species. The upstream riverine habitat is also heavily influenced by the artificially retained water levels.

Opportunities

The Environment Agency are currently investigating options for long term replacement of the radial gate and adjacent weir. We are keen to work with partners to explore what the preferred option may be here. Rather than just look for a like to like replacement, we would like to investigate the opportunity to make more significant changes here, and ideally look to remove the gate and weir entirely.

This would require improvement works to the channel upstream through Monkton Park due to the change in low flow levels. This would give an opportunity to provide some significant amenity and biodiversity improvements within the channel and surrounding area by creating a more natural river environment.

This will also have the potential to reduce existing flood risk from both fluvial and surface water, although we do not know currently what the scale of this will be. We will need to consider the impacts of other river users, especially the canoe and sailing club, which may restrict how far upstream we can re-naturalise the channel.

We are at an early stage in this project, and are just looking to understand at this stage what enthusiasm other organisations may have to be involved in the project, and what additional information or resource they might be able to offer.

Mrs Carrie Whittaker
Flood and Coastal Risk Management Technical Advisor
Partnership and Strategic Overview Team – Dorset and Wiltshire.
Environment Agency, Rivers House, Blandford, DT11 8ST.
☏ 02030259455
✉ carrie.whittaker@environment-agency.gov.uk

Matt Pang
Catchment Co-ordinator – Bristol Avon & South and West Somerset
Strategic Planning and Partnerships Team
Wessex Area
Environment Agency, Rivers House, East Quay Bridgwater, TA6 4YS
Email: matthew.pang@environment-agency.gov.uk

Tel: 02030250254