

Kennington Pit PSYM survey

Oxford Flood Alleviation Scheme

Environment Agency

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Quality information

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1. Introduction

- 1.1 The Oxford Flood Alleviation Scheme (FAS) involves the excavation of a new channel to the west of Oxford to reduce the risk of flooding to property and critical infrastructure. The Environment Agency is currently seeking to understand the baseline environment within the scheme area.
- 1.2 As part of the effort to gather environmental baseline for the FAS, AECOM was commissioned by the Environment Agency to undertake a Predictive System for Multimetrics (PSYM) survey of Kennington Pit, a pond towards the southern end of the scheme. Kennington Pit was also previously surveyed as part of a wider suite of waterbodies potentially affected by the FAS (AECOM, 2016).
- 1.3 Based on previous survey results, Kennington Pit classified as a 'Priority Pond Habitat' under the UK post-2010 Biodiversity Framework. Priority Ponds are designated habitats under the Natural Environment and Rural Communities (NERC) Act 2006.
- 1.4 The data from the survey described in this report will be used to ensure up to date baseline information for Kennington Pit and will subsequently be used by the Environment Agency to inform design decisions and mitigation for any potential environmental impacts.

2. Methodology

Site Survey

- 2.1 The survey was undertaken by AECOM aquatic ecologists on Kennington Pit on the 4th August 2020. It involved macroinvertebrate sampling and recording macrophytes throughout the pond area, in line with the PSYM methodology (Pond Action, 2012).
- 2.2 Following this method, macroinvertebrates samples were collected by 'kick and sweep sampling' of pond habitats for three minutes using a standard Freshwater Biological Association (FBA) pattern pond net (mesh size: 1 mm), followed by a one-minute hand search of floating objects. The three-minutes sample was divided equally between the different meso-habitats present within the pond.
- 2.3 Macrophytes were recorded within the outer edge of the pond by walking the entire perimeter of the pond and using a grapnel for sampling in deeper areas by a competent macrophyte surveyor.
- 2.4 Environmental variables were also recorded on site, including National Grid Reference (NGR), altitude, pond area, pond overhung, pond base substrate, presence of an inflow, emergent and submerged plant cover and presence of grazing. In addition, pH was measured on site using a YSI Pro Plus water quality probe.

Laboratory Analysis

- 2.5 Detailed sorting of the entire macroinvertebrate samples was carried out for approximately eight hours by a trained and experienced taxonomist in the laboratory using stereo-microscopes (under low power) and appropriate identification keys in line with Environment Agency (2014) guidance.
- 2.6 While only family level identification of macroinvertebrates is required by the PSYM method, it was considered preferable to identify specimens to 'mixed taxon level' (species level for most groups) in order to be consistent with previous surveys (AECOM, 2016) and provide information on the conservation value of species present within the pond. Macroinvertebrates were identified to 'mixed taxon level' (as described in Environment Agency (last issue: 2014) Freshwater macro-invertebrate analysis of riverine samples, Operational instruction 024_08). Mixed taxon level is to species level for the majority of groups (where practicable), with the exception of immature or damaged specimens, which were identified to the maximum resolution possible on a case-by-case basis. Macroinvertebrates removed from the samples have been preserved and will be stored until it is confirmed they are longer be required.

Data Analysis

- 2.7 The macroinvertebrate, macrophyte and environmental data recorded were subsequently sent to the Freshwater Habitats Trust for PSYM analysis and classification of the quality of the pond.
- 2.8 Macroinvertebrate species data was also analysed using the Biological Monitoring Working Party (BMWP) scores and Average Score Per Taxon (ASPT) values (Hawkes, 1997, Appendix E), which is used for the assessment of macroinvertebrates in relation to general degradation, particularly organic pollution, but the metric is also sensitive to toxic pollution and other pressures. BMWP scores were designed for use on rivers and other flowing waters, but also used to assess ponds as part of the PSYM analysis method.
- 2.9 The macroinvertebrate data was also reviewed using species scores assigned under the Community Conservation Index (CCI) (Chadd & Extence, 2004, Appendix F).

Limitations

- 2.10 While most of the south and east banks of the pond are easily accessible via a public footpath, the west and north banks are densely vegetated, making access to the pond margins difficult. Therefore, the presence of plant species might have been overlooked and macroinvertebrate sampling could not be carried out in these areas.
- 2.11 Although the macroinvertebrate sampling method used allows characterisation of the macroinvertebrate communities of Kennington Pit to be established, it does generate a comprehensive list of every taxon present. The survey recorded species and conditions that could be identified at the specific time of the survey and other species that may be present at other times of year, sporadically and/or in low numbers may not have been recorded. This is because of the nature of the standard sampling method for macroinvertebrates and is generally accepted as a limitation within surveys of this nature for this taxonomic group. It is not considered that this would significantly influence the quality assessment of the pond.
- 2.12 In addition, it may not have always been possible to identify specimens collected to a species level, for example where specimens collected were juvenile, damaged or females (i.e. for some groups of invertebrates, identification of a species relies on male features).

3. Results and Discussion

3.1 Kennington Pit is located at National Grid Reference SP 51879 03351 to the south of Oxford (Appendix A). It is an approx. 5000 m² man-made pond lying between Kennington Road and Hinksey Drain, to which it is hydrologically connected. The west and north banks are densely vegetated, making access difficult, but the east and south banks are more open, with a public footpath running along the east bank. The dense woodland to the north-west provides heavy shade to the pond (approximately 60% of the pond area is shaded, Appendix B, Plate 1 and Plate 2), while the south-east area is more open water.

Macrophyte Data

3.2 The macrophytes recorded during the survey within the pond area are presented in Table 3-1 below.

Table 3-1: list of macrophyte species recorded within Kennington Pit

Type	Latin name	Designation / Legislation	Common name
Emergent	<i>Alisma plantago-aquatica</i>	Least Concern ³	Water plantain
	<i>Apium nodiflorum</i>	Least Concern ³	Fool's water-cress
	<i>Berula erecta</i>	Least Concern ³	Lesser water parsnip
	<i>Carex pendula</i>	Least Concern ³	Pendulous sedge
	<i>Carex remota</i>	Least Concern ³	Remote sedge ³
	<i>Carex riparia</i>	Least Concern ³	Great pond sedge
	<i>Carex</i> sp.	Least Concern ³	Sedge
	<i>Epilobium ciliatum</i>	Least Concern ³	Fringed willowherb
	<i>Epilobium hirsutum</i>	Least Concern ³	Great willowherb
	<i>Epilobium palustre</i>	Least Concern ³	Marsh willowherb
	<i>Equisetum fluviatile</i>	Least Concern ³	Water horsetail
	<i>Equisetum palustre</i>	Least Concern ³	Marsh horsetail
	<i>Galium palustre</i>	Least Concern ³	Common marsh bedstraw
	<i>Hypericum tetrapterum</i>	Least Concern ³	Square-stalked St John's Wort
	<i>Iris pseudocarus</i>	Least Concern ³	Yellow iris
	<i>Juncus inflexus</i>	Least Concern ³	Hard rush
	<i>Lycopus europaeus</i>	Least Concern ³	Gipsywort
	<i>Lysimachia nummularia</i>	Least Concern ³	Creeping jenny ¹
	<i>Lythrum salicaria</i>	Least Concern ³	Purple loosestrife
	<i>Mentha aquatica</i>	Least Concern ³	Water mint
	<i>Myosotis scopioides</i>	Least Concern ³	Water forget-me-not
	<i>Phragmites australis</i>	Least Concern ³	Common reed
	<i>Potentilla anserina</i>	Least Concern ³	Silverweed ³
	<i>Rumex hydropalatum</i>	Least Concern ³	Water dock
	<i>Scrophularia auriculata</i>	Least Concern ³	Water figwort
	<i>Scutellaria galericulata</i>	Least Concern ³	Skullcap
	<i>Solanum dulcamara</i>	Least Concern ³	Bittersweet
	<i>Sparganium erectum</i>	Least Concern ³	Branched bur-reed
	<i>Valeriana officinalis</i>	Least Concern ³	Common valerian ³
	<i>Veronica</i> sp.	Least Concern ³	Speedwell
Floating-leaved	<i>Cladophora</i> sp.	Least Concern ³	Blanketweed ³
	<i>Lemna</i> sp.	Least Concern ³	Duckweed
	<i>Lemna gibba</i>	Least Concern ³	Fat duckweed ¹
	<i>Lemna trisulca</i>	Least Concern ³	Ivy-leaved duckweed ¹
	<i>Nuphar lutea</i>	Least Concern ³	Yellow water lilly

Type	Latin name	Designation / Legislation	Common name
Submerged	<i>Elodea canadensis</i>	Schedule 9 of the Wildlife and Countryside Act 1981	Canadian pondweed
	<i>Elodea nutallii</i>	Least Concern ³	Nutall's pondweed
	<i>Myriophyllum verticillatum</i>	Vulnerable ³	Whorled water-milfoil ¹
	<i>Sagittaria sagittifolia</i>	Least Concern ³	Arrowhead

¹Dominant

²Not included as part of PSYM classification

³Leach (2019)

- 3.3 As shown on Table 3-1 above, Kennington Pit supports a diverse macrophyte community, with a total of 39 species recorded within the outer pond edge.
- 3.4 The dominant species in the wetted area were whorled water-milfoil *Myriophyllum verticillatum* (>60% of the pond area), fat duckweed *Lemna gibba* and the ivy-leaved duckweed *Lemna trisulca*, which covered almost 100% of the water surface in some areas (Appendix B, Plate 1). On bank side habitats, the dominant species was creeping jenny *Lysimachia nummularia*.
- 3.5 While most of the macrophyte species recorded are relatively common, whorled water-milfoil *Myriophyllum verticillatum* is designated as 'Vulnerable' based on International Union for Conservation of Nature (IUCN) categories (Leach, 2019).
- 3.6 The common valerian *Valeriana officinalis*, which was previously assessed as 'Near Threatened' (Stroh et al., 2014) is now been evaluated as 'Least Concern' (Leach, 2019).
- 3.7 In addition, the invasive non-native species Canadian waterweed (*Elodea canadensis*) was relatively abundant in the north-eastern area of the pond. The species is listed on Schedule 9 of the Wildlife and Countryside Act (1981). Under section 14 of the Act it is an offence to release animals or plants listed in Schedule 9 into the wild.

Macroinvertebrate Data

3.8 The list of macroinvertebrate taxa recorded within Kennington Pit and associated scores are presented in **Error! Reference source not found.** below.

Table 3-2: list of macroinvertebrate taxa recorded within Kennington Pit

Family	Species	BMWP Score	Conservation Score	Estimated sample abundance
Flatworms				
Dugesidae	Dugesia lugubris/polychroa	5	2	5
Snails				
Viviparidae	Viviparus sp. (juvenile)	5		1
Lymnaeidae	Radix sp. (juvenile / damaged)	3		1
	Radix balthica		1	1
Valvatidae	Valvata cristata	3	2	10
Bithyniidae	Bithynia tentaculata	3	1	85
	Bithynia leachi	3	5	20
Physidae	Physa fontinalis	3	1	2
Succineidae		-		1
Planorbidae	Planorbarius corneus	3	4	10
	Planorbis sp. (juvenile)			25
	Anisus vortex		1	20
	Hippeutis complanatus		3	20
Limpets and mussels				
Acroloxiidae	Acroloxus lacustris	3	2	4
Sphaeriidae	Sphaerium sp.	3		10
	Pisidium sp.	3		10
Worms				
Oligochaeta		1		2
Leeches				
Glossiphoniidae	Helobdella stagnalis	3	1	5
Crustaceans				
Crangonyctidae	Crangonyx sp.	6		25
Asellidae	Asellus aquaticus	3	1	95
True bugs				
Nepidae	Nepa cinerea	5	3	1
Trueflies				
Chironomidae	Chironomidae (pupae)	2		5
	Tanypodinae			5
	Chironomini			30
Psychodidae		-		1
Ptychopteridae	Ptychoptera sp.	-		4
Other Taxa				
Lepidoptera		-		1
NTAXA				15
Number of non-scoring families				4
Total number of families				19
BMWP score				55
ASPT				3.7
CCI Score				10.0
CCI Score - interpretation				Fairly High conservation value
Total number of taxa				30

3.9 As shown on **Error! Reference source not found.** above, macroinvertebrate taxonomic diversity was moderate, with a total of 30 taxa recorded (15 scoring families under the PSYM method), of which 13 were recorded to species level and another 17 to genus or above. The macroinvertebrate community sampled

was dominated by snails, with a total of 12 taxa (species/genus) recorded, crustaceans and truefly larvae. No species of beetles, damselfly or dragonfly were recorded.

- 3.10 The ASPT score, which is used as part of the PSYM classification, of 3.5 indicates a community likely relatively tolerant to low dissolved oxygen. This is not unusual for communities typical of standing waters.
- 3.11 Although the diversity recorded was lower than in some of the previous surveys undertaken by the Freshwater Habitats Trust in 2019 (Freshwater Habitats Trust, Appendix C) and by AECOM in September 2016 (AECOM, 2016), which recorded more Coleoptera (beetles) and Odonata-Megaloptera (dragonfly, damselfly, alderfly) taxa, the composition and diversity of the community recorded is in line with the survey carried out by the Environment Agency in May 2016 (AECOM, 2016).
- 3.12 Therefore, such variations in diversity could indicate occasional water quality issues and / or natural variations in the composition of the macroinvertebrate communities of Kennington Pit. For example, water levels at the time of the August 2020 survey were somewhat lower than previously recorded and this could partially explain the lower diversity recorded in the sample taken on this occasion. These differences are also likely to reflect sampling variations.
- 3.13 Most of the species recorded are common or very common, with the exception of the Leach's bythinia *Bythinia leachi* and the great ramshorn *Planorbis corneus*, respectively 'Local' and 'Occasional' under the CCI index (Chadd & Extence, 2004). This results in a CCI score of 10.0, indicative of a 'Fairly High' conservation value based on macroinvertebrate species present.
- 3.14 None of the species recorded however have any statutory or non-statutory designations.

PSYM classification

- 3.15 The PSYM classification results (Appendix D) indicate that, based on the results of the present survey, Kennington Pit is of 'Moderate' quality (56% biotic integrity) and would not classify as a priority pond.
- 3.16 As discussed above, this is largely due to the absence of key macroinvertebrate taxa, notably Coleoptera, Odonata and Megaloptera in the macroinvertebrate sample collected. More than 39 plant species were recorded within the pond, including rare species such as the whorled water milfoil, which is in line with the criteria for a Priority Pond.
- 3.17 During a macroinvertebrate survey undertaken in 2019, the Freshwater Habitats Trust recorded a total of 31 scoring families under the PSYM method in 2019 (Freshwater Habitats Trust, Appendix C), including four Coleoptera and three Odonata-Megaloptera taxa. Based on this data, and following discussions with the Freshwater Habitats Trust, it is considered that Kennington Pit should still qualify as a Priority Habitat, despite the relatively low macroinvertebrate diversity results of the most recent survey.

4. Conclusion

- 4.1 The survey undertaken by AECOM ecologists on Kennington Pit on the 4th August 2020 demonstrated that Kennington Pit supports a diverse macrophyte community, with no less than 39 species recorded within the outer pond area. This included the 'Vulnerable' (based on IUCN criteria) whorled water milfoil *Myriophyllum verticillatum*, which was dominant amongst the submerged species present in the pond.
- 4.2 The macrophyte survey also recorded the presence of the invasive non-native Canadian pondweed *Elodea canadensis*, which is a Schedule 9 (Wildlife and Countryside Act 1981) species. Therefore, the biosecurity risks associated with the presence of the species in Kennington Pit will need to be considered and managed before any works are undertaken on the pond.
- 4.3 In terms of macroinvertebrates, the community sampled was less diverse and was dominated by snails, crustaceans and truefly larvae. None of the macroinvertebrate species recorded have any statutory or non-statutory designations.
- 4.4 Based on the results of the present survey, the PSYM classification of the pond returned a 'Moderate' quality. This is inconsistent with previous surveys of the pond, due to the absence of key taxa, notably Odonata, Megaloptera and Coleoptera, within the macroinvertebrate sample collected. The reason for the lower macroinvertebrate diversity and absence of these key taxa is likely to be due to sampling variation and lower water levels during the survey described in this report.
- 4.5 Further surveys could be undertaken regularly to understand whether there is any degradation in the quality of the pond, but following discussions with the Freshwater Habitats Trust and results of a macroinvertebrate survey undertaken in 2019, it is likely that Kennington Pit is still of 'Good' quality and a Priority Habitat.

5. References

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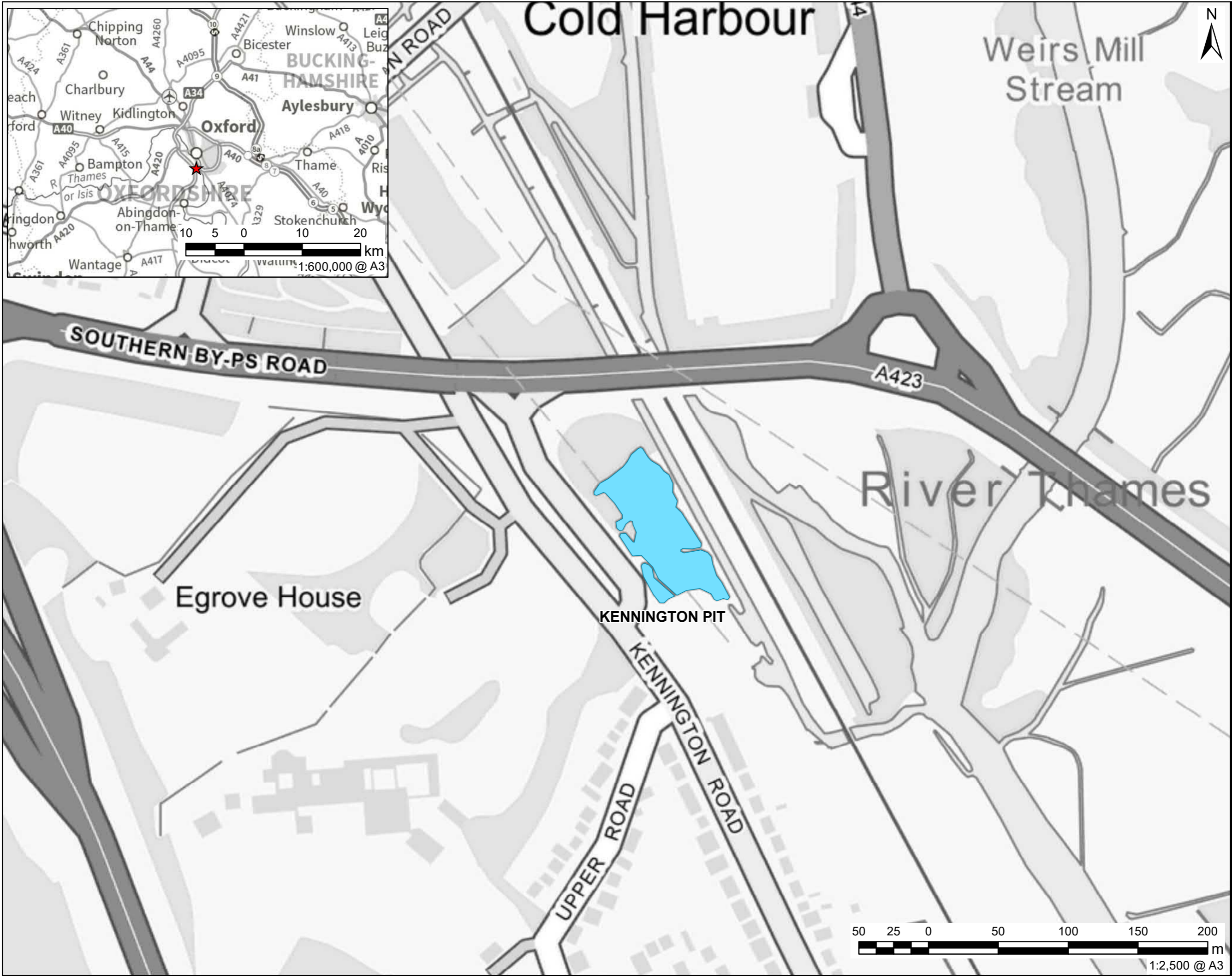
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Wildlife and Countryside Act 1981 (as amended) (WCA)

Appendix A Site location plan



PROJECT

Oxford Flood Alleviation Scheme



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LEGEND

-  Site Location
-  Surveyed Pond

NOTES

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ISSUE PURPOSE

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SHEET TITLE

Kennington Pit PSYM Survey - Oxford Flood Alleviation Scheme

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Figure 1

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Appendix B Site photographs



Plate 1: areas of Kennington Pit heavily covered by duckweeds



Plate 2: Yellow water-lily and common reeds

Appendix C PSYM classification results (from Freshwater Habitats Trust)

Table C.1: PSYM classification data for Kennington Pit (survey date: 4th August 2020)

Site details

Site name	Kennington Pit
Survey date	04-Aug-20
Grid reference (e.g. SP123456 or higher precision)	SP 51879 03351

Plant metrics

No. of submerged + marginal plant species (not including floating leaved)	31
Number of uncommon plant species	5
Trophic Ranking Score (TRS)	9.064285714

Invertebrates metrics

ASPT	3.666666667
Odonata + Megaloptera (OM) families	0
Coleoptera families	0

Environmental variables

Altitude (m)	60
Easting	4518
Northing	2033
Shade (%)	60
Inflow (0/1)	1
Grazing (%)	0
pH	7.5
Emergent plant cover (%)	10
Base clay (1-3)	1
Base sand, gravel, cobbles (1-3)	3
Base peat (1-3)	0
Base rock (1-3)	0
Area (m ²)	5000

Results

Submerged + marginal plant species	
Predicted (SM)	27.0
Actual (SM)	31.0
EQI (SM)	1.1
IBI (SM)	3
Uncommon plant species	
Predicted (U)	4.6
Actual (U)	5.0
EQI (U)	1.1
IBI (U)	3
Trophic Ranking Score (TRS)	
Predicted (TRS)	8.41
Actual (TRS)	9.06
EQI (TRS)	1.08
IBI (TRS)	2
ASPT	
Predicted (ASPT)	5.15
Actual (ASPT)	3.67

EQI (ASPT)	0.71
IBI (ASPT)	2
Odonata + Megaloptera (OM) families	
Predicted (OM)	3.36
Actual (OM)	0.00
EQI (OM)	0.00
IBI (OM)	0
Coleoptera families	
Predicted (CO)	3.82
Actual (CO)	0.00
EQI (CO)	0.00
IBI (CO)	0
Sum of Individual Metrics	
	10
Index of Biotic Integrity (%)	
	56%
PSYM quality category (IBI >75%=Good, 51-75%= Moderate, 25-50%=Poor, <25%=V Poor)	
	Moderate
Is this a Priority Pond? (Good quality category)	
	No

Appendix D 2019 macroinvertebrate data from Kennington Pit (from Freshwater Habitats Trust)

Table D.1: Summer (July) 2019 macroinvertebrate data for Kennington Pit

Family	BMWP Score	Presence (1) / Absence (blank)
Flatworms		
Dendrocoelidae	5	1
Planariidae	5	1
Snails		
Viviparidae	6	1
Lymnaeidae	3	1
Hydrobiidae / Bithyniidae	2	1
Physidae	3	1
Planorbidae	3	1
Limpets and mussels		
Anyclidae / Acroloxidae	6	1
Sphaeriidae	3	1
Worms		
Oligochaeta	1	1
Leeches		
Glossiphoniidae	3	1
Piscicolidae	4	1
Crustaceans		
Gammaridae / Crangonyctidae	6	1
Asellidae	3	1
Mayflies		
Baetidae	4	1
Caenidae	7	1
Damselflies		
Coenagrionidae	6	1
Dragonflies		
Aeshnidae	8	1
True bugs		
Gerridae	5	1
Corixidae	5	1
Hydrometridae	n/a	1
Notonectidae	5	1
Beetles		
Halplidae	5	1
Dytiscidae / Noteridae	5	1
Hydrophilidae / Hydraenidae	5	1
Dryopidae	n/a	1
Alderflies		
Sialidae	4	1
Caddisflies		
Hydroptilidae	6	1
Limnephilidae	7	1
Leptoceridae	10	1
Trueflies		
Chironomidae	2	1
Total number of taxa (PSYM scoring families)		31
Total BMWP score		148
ASPT		4.8
Number of Odonata / Megaloptera taxa		3
Number of Coleoptera taxa		4

Appendix E Biological Monitoring Working Party System (BMWP)

There are about 4,000 species of macroinvertebrates in the British Isles. To simplify the analysis of the samples and the data we do not identify individual species but only the major types (taxa), mostly at the family taxonomic level. A key piece of information is the number of different taxa at a site. A fall in the number of taxa indicates ecological damage, including pollution (organic, toxic and physical pollution such as siltation, and damage to habitats or the river channel).

For consistency, we only report taxa used in the BMWP (Biological Monitoring Working Party) system (see below). Some animals are more susceptible to organic pollution than others and the presence of sensitive species indicates good water quality. This fact is taken into account by the BMWP System.

The BMWP system assigns a numerical value to about 80 different taxa (known as the BMWP-scoring families) according to their sensitivity to organic pollution. The average of the values for each taxon in a sample, known as ASPT (average score per taxon) is a stable and reliable index of organic pollution. Values lower than expected indicate organic pollution.

The most useful way of summarising the biological data was found to be one that combined the number of taxa and the ASPT. The best quality is indicated by a diverse variety of taxa, especially those that are sensitive to pollution. Poorer quality is indicated by a smaller than expected number of taxa, particularly those that are sensitive to pollution. Organic pollution sometimes encourages an increased abundance of the few taxa that can tolerate it.

The biotic scores can be interpreted by following the guidelines in the table below (taken from Armitage et al., 1983¹; Chapman, 1996²; Mason, 2002³). However, these categories are for guidance only, and it should be remembered that maximum achievable values will vary between geological regions.

For example, pristine lowland streams in East Anglia will always score lower than pristine Welsh mountain streams because they are unable to support many of the high-scoring taxa associated with fast flowing habitat. BMWP scores and ASPT for different types watercourse are dependent on the quality and diversity of habitat, natural water chemistry (associated with geology, distance from source etc.), altitude, gradient, time of year the sample was taken and other factors.

BMWP score	ASPT	Interpretation
0-10	<3.0	Very poor, heavily polluted
11-40	3.0-4.3	Poor, polluted or impacted
41-70	4.3-4.8	Moderate, moderately impacted
71-100	4.8-5.4	Good, clean but slightly impacted
>100	>5.4	Very good, unpolluted, unimpacted

¹ Armitage, P.D., Moss, D., Wright, J.F. and Furse, M.T. (1983) The performance of a New Biological Water Quality Score System based on Macroinvertebrates over a wide range of unpolluted running-water sites. *Water Research* 17(3), 333 – 347.

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³ Mason, C.F. (2002) *Biology of Freshwater Pollution*, Fourth Edition. Prentice Hall, London.

Appendix F Conservation Community Index (CCI)

The Community Conservation Index (Chadd & Extence, 2004) allows a classification of the nature conservation value associated with a macroinvertebrate community. The CCI score for one sample is derived from individual Conservation Scores (CS), assigned to some species of aquatic macroinvertebrates and relating closely to the available published Red Data Books (Bratton, 1991a, b; Shirt, 1987). Conservation Scores assigned to individual species vary from 1 to 10, as detailed on the Table E1 below. The derived CCI scores generally vary from 0 to > 20, as detailed in the Table E2 below. The Table E2 below provides a guide to interpreting CCI scores.

Table E1: Conservation Scores from the Community Conservation Index (from Chadd & Extence, 2004)

Conservation Score	Relation to Red Data Books
10	RDB1 (Endangered)
9	RDB2 (Vulnerable)
8	RDB3 (Rare)
7	Notable (but not RDB status)
6	Regionally notable
5	Local
4	Occasional (species not in categories 10-5, which occur in up to 10% of all samples from similar habitats)
3	Frequent (species not in categories 10-5, which occur in up to >10-25% of all samples from similar habitats)
2	Common (species not in categories 10-5, which occur in up to >25-50% of all samples from similar habitats)
1	Very common (species not in categories 10-5, which occur in up to >50-100 % of all samples from similar habitats)

Table E2: General guide to CCI scores (from Chadd & Extence, 2004)

CCI Score	Description	Interpretation
0 to 5.0	Sites supporting only common species and/or community of low taxon richness	Low conservation value
> 5.0 to 10.0	Sites supporting at least one species of restricted distribution and/or a community of moderate taxon richness	Moderate conservation value
> 10.0 to 15.0	Sites supporting at least one uncommon species, or several species of restricted distribution and/or a community of high taxon richness	Fairly high conservation value
> 15.0 to 20.0	Sites supporting several uncommon species, at least one of which may be nationally rare and/or a community of high taxon richness	High conservation value
> 20.0	Sites supporting several rarities, including species of national importance and/or a community of very high taxon richness	Very high conservation value

