HWSFAC BROADWATER LAKE

Site Boundary

- ◯ Target Notes

Habitats

- r1 - Standing open water and canals
- u1b - Developed land; sealed surface
- u1b5 - Buildings
- u1c - Artificial unvegetated; unsealed surface
- w1d - Wet woodland
- w1f - Lowland mixed deciduous woodland

Secondary Codes:
11 - Scattered trees
17 - Ruderal/ephemeral
164 - Wet moss lawns

Target Notes:
9 - Cormorant island
10 - Japanese knotweed
14 - Custer of trees, substrate not visible underneath; Cormorant island
15 - Tern raft
16 - Tern raft
17 - Tern raft
18 - Tern raft

Title: Baseline Habitat Map, Map 5

Drawn by: AH
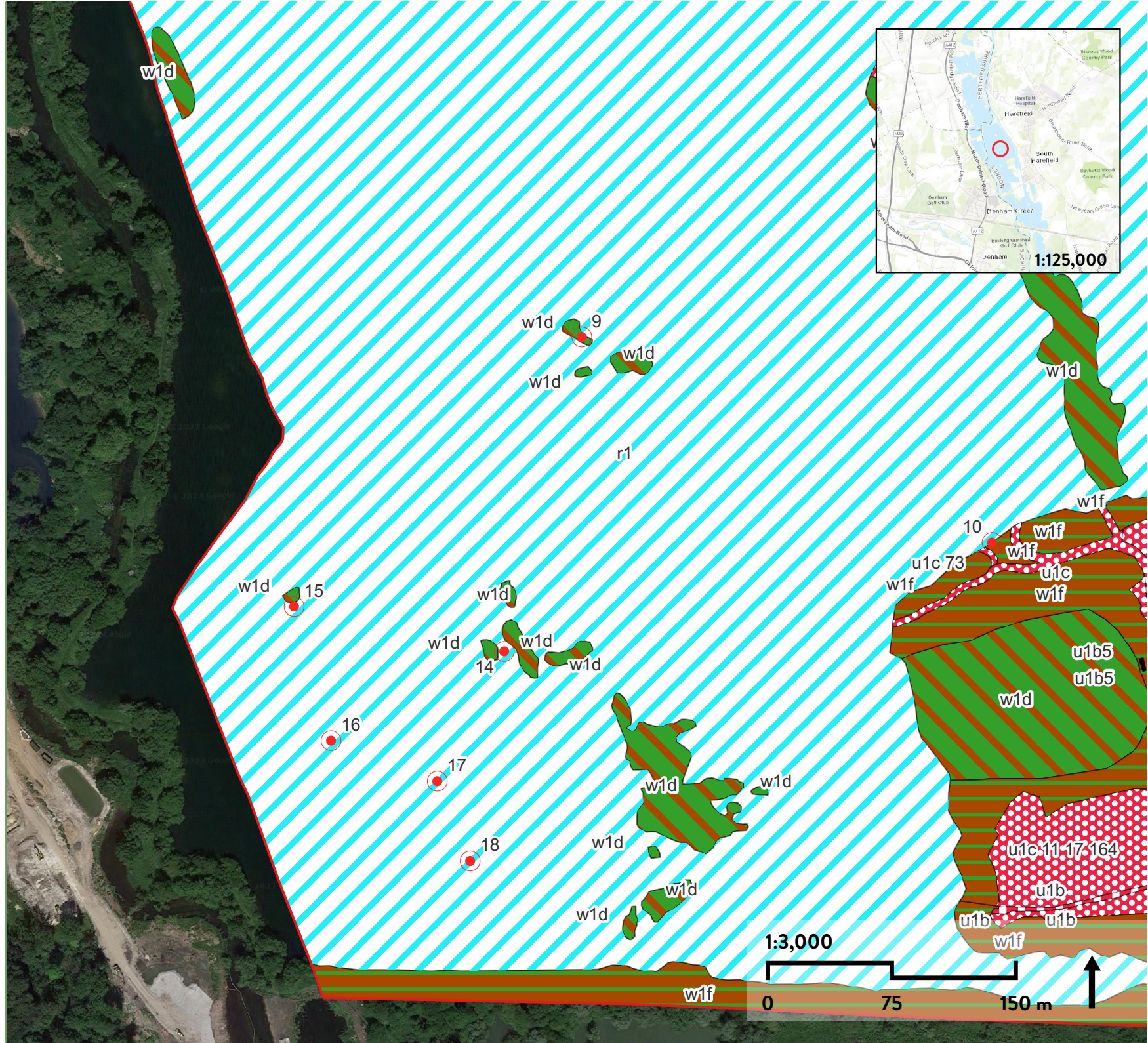Date: 02/10/2023

Reviewed by: SH
Date: 02/10/2023

Project number: 552023
Sources: ESRI World Topo, Google Satellite Imagery

Greengage

1:125,000

1:3,000

0   75   150 m

w1d

w1d
9

w1d

w1d

r1

w1d

w1f

w1d

10
u1c 73
w1f

w1f
w1f
u1c
w1f

u1b5
u1b5

w1d

w1d
15

w1d

w1d

14   w1d

w1d

16

w1d   w1d

17

u1c 11 17 164

u1b

18

w1d

u1b   u1b

w1d   w1f

w1f

APPENDIX C LAKE CONDITION ASSESSMENT

The Freshwater Biological Association 'Habitat Naturalness Assessment' is used to assess the condition of lakes. Scores for four attributes (physical, hydrological, chemical, and biological naturalness) are averaged to generate an overall 'habitat naturalness assessment score' which can then be translated into a condition score for use in the DEFRA Biodiversity Metric (see below). There are other elements considered in the lake naturalness assessment, but these are not included when calculating the condition assessment score.

Details of the methodology for assessing naturalness of lakes are available at:

http://priorityhab.wpengine.com/contribute/

The key documents are:

http://priorityhabitats.org/wp-content/uploads/Lake-Naturalness-Assessment-Guidance-3.pdf

http://priorityhabitats.org/wp-content/uploads/Lakes-print-out-naturalness-form-2.pdf

http://priorityhab.wpengine.com/wp-content/uploads/Annex-II-Physical-Naturalness-Photographs.pdf

http://priorityhab.wpengine.com/wp-content/uploads/Annex-II-Physical-Naturalness-Photographs.pdf

http://priorityhab.wpengine.com/wp-content/uploads/Annex-IV-Chemical-Naturalness.pdf

http://priorityhab.wpengine.com/wp-content/uploads/Annex-V-Plant-Functional-Group-pictures.pdf

Table C.1 Condition assessment result and associated scores.

Condition Assessment Result	Condition Assessment Score
1 Natural	Good (3)
2	Fairly good (2.5)
3	Moderate (2)
4	Fairly poor (1.5)
5 Least natural	Poor (1)

Table C.2 Broadwater Lake condition assessment

Criterion	Score 1=best 5=worst	Comment	Improvement Target
Physical naturalness	5	Least natural – steep sides, no real natural-type bank habitats just willow trees, only riparian vegetation is at the bottom of the bank in limited locations.	Target for 4 – added islands, changed topography to increase shallowness and depth, greater areas of macrophytes.
Hydrological naturalness	1	The lake is fed from springs arising from the underlying chalk aquifer and is in continuity with groundwater. During flow events, the waters of the River Colne seep through natural gravels into the lake. No other inputs are known or suspected.	No improvement possible.
Chemical naturalness	3	In summer the water is green, with sparse submerged plants in shallow areas only. Plants below 3m depth are dead in summer. Visibility was reduced in August 2023 to the top 50cm.	Target for 2 – aim to reduce nutrient concentrations within the lake and thereby reduce algal content of water to increase clarity. Achieved through higher percentage of macrophytes on floating islands, emergent beds and aquatic planting on coir mattresses. Long term water quality monitoring (temperature, DO, turbidity) to set targets for improvement and monitor progress. Studies of zoo / phytoplankton, manipulation of biofauna over 10+ years. Other measures that may generate improvements are pumps for water circulation of isolated areas, and solar pumps / bubblers for increased dissolved oxygen (DO) during hot summers.
Biological naturalness	2	Scores 1 for plants as only non-native is Elodea. Plants found were Lemna minor, a Potemageton sp, and filamentous	No target set. Eradication of non-natives would be unlikely to be achieved, and an improvement relative to the current score may be

Criterion	Score 1=best 5=worst	Comment	Improvement Target
		algae. These are typical of lower status sites and associated with elevated nutrient concentrations. Scores 2 for non-native fauna, as there are signal crayfish and carp, but they don't appear to cause obvious detrimental signs of impacts to water quality.	impossible. Further surveys and monitoring would be required to reassess the potential for improvements to be made.
Total	12		10
Average	3	3 = Moderate Condition	2.25 = Fairly Good

Criterion	Score 1=best 5=worst	Comment	Improvement Target

REFERENCES

1 HM Government, (1981); Part I and Part II of Wildlife and Countryside Act (as amended). HMSO

2 HM Government, (2000); The Countryside and Rights of Way Act. HMSO

3 Fuller, R.J., (1980), A method for assessing the ornithological interest of sites for conservation. Biological Conservation 17: 229-239

4 Fuller, R.J., (1980), A method for assessing the ornithological interest of sites for conservation. Biological Conservation 17: 229-239