



Photograph 61. Guilsfield Arm.



Photograph 62. Wern.



Photograph 63. Whitehouse.



Photograph 64. Welshpool in Channel.



Photograph 65. Brithdir Pond 1.



Photograph 66. Brithdir Pond 2.

Appendix 4a. Survey Data: England Canal

CSM DATA ENGLAND CANAL	Section 1	Section 2	Section 3
Date:	22/08/2022	22/08/2022	22/08/2022
Weather:	Dry, patchy cloud, wind = BF3 SW, 21°C	Dry, patchy cloud, wind = BF3 SW, 21°C	Light rain, patchy cloud, wind = BF3 SW, 21°C
Section Start:	SJ 37058 31824	SJ 36662 30906	SJ 36449 30050
Section End:	SJ 36662 30906	SJ 36449 30050	SJ 35717 29421
Emergent Cover:	A	D	A
Floating-leaved + Submerged Cover:	R	R	R
Water Availability:	Normal	Normal	Normal
Secchi Disk Depth:	30 cm over entire section	70 cm over entire section	70 cm over entire section
Filamentous Algae/Duckweed Cover:	None	None	None
Shading:	<5%	<5%	>5%
Invasive Non-Native Species:	None	None	None
Bank Type:	Brick/stone-work, earth	Brick/stone-work, concrete, earth	Gabion, brick/stone-work, earth
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Boats; walkers	Boats; walkers	Boats; walkers
Special Features:	Locks; side-branch; wharf	None	Wharf, aquaduct over stream, turning circle
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Shallow layer of fine sediment	Shallow layer of fine sediment	Shallow layer of fine sediment
Site Start:	SJ 36838 31319	SJ 36634 30496	SJ 35929 29683
Site End:	SJ 36868 31186	SJ 36614 30361	SJ 35845 29573
Quantity Aquatic Vegetation 1	Fragment: <i>Ranunculus sp.</i>	Absent	Absent
Quantity Aquatic Vegetation 2	Present: <i>P. natans</i>	Absent	Absent
Quantity Aquatic Vegetation 3	Present: <i>P. natans</i>	Absent	Absent
Quantity Aquatic Vegetation 4	Absent	Absent	Absent
Quantity Aquatic Vegetation 5	Absent	Absent	Absent
Quantity Aquatic Vegetation 6	Absent	Fragment: <i>N. lutea</i>	Absent
Quantity Aquatic Vegetation 7	Absent	Fragment: <i>N. lutea</i>	Absent
Quantity Aquatic Vegetation 8	Absent	Fragment: <i>N. lutea</i> , <i>P. amphibia</i>	Absent
Quantity Aquatic Vegetation 9	Absent	Absent	Absent
Quantity Aquatic Vegetation 10	Absent	Absent	Absent

CSM DATA ENGLAND CANAL	Section 4	Section 5	Section 6
Date:	22/08/2022	22/08/2022	22/08/2022
Weather:	Dry, patchy cloud, wind = BF3 SW, 21°C	Drizzle, overcast, wind = BF2 SW, 21°C	Drizzle, overcast, wind = BF2 SW, 21°C
Section Start:	SJ 35717 29421	SJ 35149 28717	SJ 35151 27678
Section End:	SJ 35106 28643	SJ 35151 27678	SJ 34309 27060
Emergent Cover:	F	A	A
Floating-leaved + Submerged Cover:	R	O	O
Water Availability:	Normal	Normal	Normal
Secchi Disk Depth:	80 cm over entire section	80 cm over entire section	85 cm over entire section
Filamentous Algae/Duckweed Cover:	None	None	None
Shading:	>5%	>5%	>5%
Invasive Non-Native Species:	None	None	None
Bank Type:	Gabion, concrete	Brick/stone-work, concrete, earth	Brick/stone-work, earth
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Boats; walkers	Boats; walkers	Boats; walkers
Special Features:	None	Narrow side-branch (reserve)	Two overbridges, two offside reserves
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Shallow layer of fine sediment	Shallow layer of fine sediment	Shallow layer of fine sediment
Site Start:	SJ 35532 29193	SJ 35128 28174	SJ 34541 27222
Site End:	SJ 35436 29076	SJ 35127 28018	SJ 34437 27151
Quantity Aquatic Vegetation 1	Present: <i>N. lutea</i> , <i>H. morsus-ranae</i>	Present: <i>N. lutea</i>	Present: <i>P. natans</i>
Quantity Aquatic Vegetation 2	Absent	Absent	Present: <i>P. natans</i>
Quantity Aquatic Vegetation 3	Present: <i>N. lutea</i> , <i>H. morsus-ranae</i>	Present: <i>N. lutea</i> , <i>H. morsus-ranae</i>	Present: <i>P. natans</i>
Quantity Aquatic Vegetation 4	Absent	Absent	Present: <i>P. natans</i>
Quantity Aquatic Vegetation 5	Absent	Present: <i>N. lutea</i>	Present: <i>P. natans</i>
Quantity Aquatic Vegetation 6	Absent	Absent	Present: <i>P. natans</i>
Quantity Aquatic Vegetation 7	Present: <i>N. lutea</i> , <i>H. morsus-ranae</i>	Absent	Present: <i>P. natans</i>
Quantity Aquatic Vegetation 8	Absent	Present: <i>N. lutea</i> , <i>H. morsus-ranae</i>	Absent
Quantity Aquatic Vegetation 9	Absent	Absent	Absent
Quantity Aquatic Vegetation 10	Absent	Absent	Absent

CSM DATA ENGLAND CANAL	Section 7	Section 8	Section 9
Date:	22/08/2022	23/08/2022	23/08/2022
Weather:	Drizzle, overcast, wind = BF2 SW, 21°C	Dry, overcast, wind = BF2 SSW, 18°C	Dry, overcast, wind = BF2 SSW, 18°C
Section Start:	SJ 34309 27060	SJ 33622 26460	SJ 32862 25696
Section End:	SJ 33622 26460	SJ 32862 25696	SJ 32327 24958
Emergent Cover:	A	A	A
Floating-leaved + Submerged Cover:	O	R	R
Water Availability:	Normal	Normal	Normal
Secchi Disk Depth:	85 cm over entire section	95 cm over entire section	95 cm over entire section
Filamentous Algae/Duckweed Cover:	Negligible	None	None
Shading:	<5%	>5%	>5%
Invasive Non-Native Species:	None	Present	Present
Bank Type:	Brick/stone-work, earth	Metal sheet, earth	Metal sheet, earth
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Boats; walkers	Boats; walkers	Boats; walkers
Special Features:	One overbridge, wharf	Aston lock No 2	Overbridge 77
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Shallow layer of fine sediment	Negligible	Shallow layer of fine sediment
Site Start:	SJ 33758 26679	SJ 33135 25980	SJ 32768 25417
Site End:	SJ 33695 26560	SJ 33042 25901	SJ 32716 25299
Quantity Aquatic Vegetation 1	Absent	Absent	Absent
Quantity Aquatic Vegetation 2	Absent	Absent	Absent
Quantity Aquatic Vegetation 3	Absent	Absent	Absent
Quantity Aquatic Vegetation 4	Present: <i>P. natans</i>	Present: <i>H. morsus-ranae</i> , <i>N. lutea</i> , <i>S. emersum</i>	Absent
Quantity Aquatic Vegetation 5	Absent	Present: <i>H. morsus-ranae</i> , <i>N. lutea</i> , <i>S. emersum</i>	Absent
Quantity Aquatic Vegetation 6	Absent	Absent	Absent
Quantity Aquatic Vegetation 7	Absent	Absent	Absent
Quantity Aquatic Vegetation 8	Absent	Present: <i>P. natans</i> , <i>S. emersum</i>	Absent
Quantity Aquatic Vegetation 9	Absent	Absent	Absent
Quantity Aquatic Vegetation 10	Absent	Absent	Absent

CSM DATA ENGLAND CANAL	Section 10	Section 11	Section 12
Date:	23/08/2022	23/08/2022	23/08/2022
Weather:	Dry, overcast, wind = BF2 SSW, 20°C	Dry, overcast, wind = BF3 SSW, 19°C	Dry, overcast, wind = BF2 SSW, 17°C
Section Start:	SJ 32327 24958	SJ 31373 25014	SJ 30427 24822
Section End:	SJ 31373 25014	SJ 30427 24822	SJ 30094 24110
Emergent Cover:	A	F	A
Floating-leaved + Submerged Cover:	R	R	O
Water Availability:	Normal	Normal	Normal
Secchi Disk Depth:	90 cm over entire section	75 cm over entire section	100 cm over entire section
Filamentous Algae/Duckweed Cover:	None	None	20%
Shading:	>5%	>5%	<5%
Invasive Non-Native Species:	Present	Present	Present
Bank Type:	Metal sheet, brick/stone-work	Metal sheet, brick/stone-work, concrete	Metal sheet, brick/stone-work, earth
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Boats; walkers	Boats; walkers	No boats; walkers
Special Features:	Overbridges 78 and 79	Overbridges 80 and 81, marina/wharf, turning circle	Overbridges 82, 82A, 83, wharf
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Shallow layer of fine sediment	Shallow layer of fine sediment	Shallow layer of fine sediment
Site Start:	SJ 31994 25038	SJ 30748 24947	SJ 30436 24532
Site End:	SJ 31862 25059	SJ 30619 24955	SJ 30338 24453
Quantity Aquatic Vegetation 1	Absent	Absent	Present: <i>H. morsus-ranae</i> , <i>L. minor</i>
Quantity Aquatic Vegetation 2	Absent	Absent	Present: <i>H. morsus-ranae</i> , <i>N. lutea</i> , <i>L. minor</i>
Quantity Aquatic Vegetation 3	Absent	Absent	Absent
Quantity Aquatic Vegetation 4	Absent	Absent	Present: <i>E. nuttallii</i> , <i>C. demersum</i>
Quantity Aquatic Vegetation 5	Fragment: bur-reed sp.	Absent	Present: <i>E. nuttallii</i> , <i>L. minor</i>
Quantity Aquatic Vegetation 6	Absent	Absent	Absent
Quantity Aquatic Vegetation 7	Absent	Absent	Present: <i>E. nuttallii</i>
Quantity Aquatic Vegetation 8	Absent	Absent	Present: <i>E. nuttallii</i>
Quantity Aquatic Vegetation 9	Absent	Absent	Present: <i>E. nuttallii</i> , <i>L. minor</i>
Quantity Aquatic Vegetation 10	Fragment: <i>P. natans</i>	Absent	Absent

CSM DATA ENGLAND CANAL	Section 13
Date:	23/08/2022
Weather:	Drizzle, overcast, wind = BF2 SSW, 17°C
Section Start:	SJ 30094 24110
Section End:	SJ 29771 23945
Emergent Cover:	0
Floating-leaved + Submerged Cover:	A
Water Availability:	Normal
Secchi Disk Depth:	>100 cm over entire section
Filamentous Algae/Duckweed Cover:	2%
Shading:	<5%
Invasive Non-Native Species:	Present
Bank Type:	Brick/stone-work, earth
Channel Profile:	No recent modifications
Recreational Use:	No boats; walkers
Special Features:	None
Fish Biomass:	Unknown
Sediment:	Very shallow layer of fine sediment
Site Start:	SJ 30021 24001
Site End:	SJ 29895 23969
Quantity Aquatic Vegetation 1	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i>
Quantity Aquatic Vegetation 2	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i>
Quantity Aquatic Vegetation 3	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i>
Quantity Aquatic Vegetation 4	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i>
Quantity Aquatic Vegetation 5	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. minuta</i> , <i>L. trisulca</i>
Quantity Aquatic Vegetation 6	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i>
Quantity Aquatic Vegetation 7	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i>
Quantity Aquatic Vegetation 8	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i>
Quantity Aquatic Vegetation 9	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i>
Quantity Aquatic Vegetation 10	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i>

SPECIES LIST ENGLAND CANAL	Section 1	Site 1	Section 2	Site 2	Section 3	Site 3	Section 4	Site 4	Section 5	Site 5	Section 6	Site 6	Section 7	Site 7
Water plantain							✓		✓	✓	✓	✓	✓	✓
Fool's watercress							✓	✓						
Lesser water-parsnip													✓	
Water-starwort sp.	✓	✓												
Greater tussock sedge	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Greater pond sedge	✓		✓	✓	✓	✓	✓	✓	✓				✓	✓
Rigid hornwort														
Nuttall's waterweed														
Water horsetail													✓	
Japanese knotweed														
Floating sweet-grass	✓				✓	✓			✓					
Reed sweet-grass	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water violet														
Frogbit			✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Himalayan balsam														
Yellow flag iris			✓	✓	✓	✓			✓		✓		✓	
Soft rush	✓		✓	✓	✓	✓	✓	✓	✓					
Common duckweed													✓	✓
Least duckweed														
Ivy-leaved duckweed														
Water mint	✓	✓	✓		✓		✓	✓	✓		✓		✓	
Water forget-me-not			✓		✓				✓					
Spiked water-milfoil														
Yellow water-lily			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hemlock water-dropwort	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Amphibious bistort	✓	✓	✓	✓	✓		✓	✓			✓	✓	✓	
Reed canary-grass	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Common reed														
Grass-wrack pondweed														

Broad-leaved pondweed	✓	✓			✓				✓		✓	✓	✓	✓
Blunt-leaved pondweed														
Long-stalked pondweed														
Water-crowfoot sp.	✓	✓												
Water dock	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓
Arrowhead														
Bittersweet	✓		✓	✓	✓									
Unbranched bur-reed											✓	✓	✓	✓
Branched bur-reed														
Bur-reed sp.	✓		✓		✓						✓			
Bulrush	✓	✓	✓	✓	✓		✓	✓			✓		✓	✓
Brooklime														

SPECIES LIST ENGLAND CANAL	Section 8	Site 8	Section 9	Site 9	Section 10	Site 10	Section 11	Site 11	Section 12	Site 12	Section 13	Site 13
Water plantain	✓	✓			✓							
Fool's watercress												
Lesser water-parsnip					✓	✓						
Water-starwort sp.												
Greater tussock sedge	✓	✓	✓	✓	✓		✓		✓	✓		
Greater pond sedge			✓	✓								
Rigid hornwort									✓	✓		
Nuttall's waterweed									✓	✓	✓	✓
Water horsetail							✓					
Japanese knotweed						✓						
Floating sweet-grass											✓	
Reed sweet-grass	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Water violet												
Frogbit	✓	✓	✓	✓	✓	✓			✓	✓		
Himalayan balsam	✓		✓	✓	✓		✓		✓			
Yellow flag iris	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓
Soft rush									✓		✓	✓
Common duckweed									✓	✓	✓	✓
Least duckweed									✓		✓	✓
Ivy-leaved duckweed											✓	✓
Water mint	✓		✓		✓	✓				✓		
Water forget-me-not												
Spiked water-milfoil							✓		✓			
Yellow water-lily	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Hemlock water-dropwort	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Amphibious bistort	✓		✓						✓		✓	
Reed canary-grass	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓
Common reed	✓				✓							
Grass-wrack pondweed												

Broad-leaved pondweed					✓	✓	✓		✓			
Blunt-leaved pondweed												
Long-stalked pondweed	✓	✓										
Water-crowfoot sp.												
Water dock	✓		✓		✓		✓		✓	✓	✓	✓
Arrowhead					✓	✓						
Bittersweet									✓	✓		
Unbranched bur-reed	✓	✓	✓	✓								
Branched bur-reed									✓			
Bur-reed sp.					✓				✓			
Bulrush	✓	✓					✓		✓	✓		
Brooklime												

Appendix 4b. Survey Data: England Reserves

CSM DATA ENGLAND RESERVES	Weston Arm	Rednal Basin	Aston Locks (old) Pond 1
Date:	02/09/2022	02/09/2022	09/09/2022
Weather:	Dry, patchy cloud, wind = BF2, 17°C	Dry, patchy cloud, wind = BF2, 17°C	Dry, patchy cloud, wind = BF3 NW, 18°C
Central Grid Reference	SI 37005 31090	SI 35050 27826	SI 33625 26515
Emergent Cover:	F	F	F
Floating-leaved + Submerged Cover:	A	D	D
Water Availability:	Normal	Normal	Normal
Secchi Disk Depth:	>1m, to bottom	>1m, to bottom	>1m, to bottom
Filamentous Algae/Duckweed Cover:	100%	90%	<1%
Shading:	>5%	>5%	<5%
Invasive Non-Native Species:	Not present	Present	Present
Bank Type:	Earth, clay, metal sheeting	Earth, clay	Earth, clay
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Walkers	Walkers	Walkers
Special Features:	None	None	None
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Moderate layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Quantity Aquatic Vegetation 1	Present: <i>L. minor</i> , <i>P. natans</i>	Present: <i>C. demersum</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 2	Present: <i>L. minor</i>	Present: <i>C. demersum</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 3	Present: <i>L. minor</i>	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 4	Present: <i>L. minor</i>	Present: <i>C. demersum</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 5	Present: <i>L. minor</i>	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 6	Present: <i>L. minor</i>	Present: <i>C. demersum</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 7	Present: <i>L. minor</i>	Present: <i>C. demersum</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 8	Present: <i>L. minor</i> , <i>P. natans</i>	Present: <i>C. demersum</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 9	Present: <i>L. minor</i>	Present: <i>C. demersum</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 10	Present: <i>L. minor</i>	Present: <i>C. demersum</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>

CSM DATA ENGLAND RESERVES	Aston Locks (old) Pond 2	Aston Locks (old) Pond 3	Aston Locks (old) Pond 4
Date:	09/09/2022	09/09/2022	09/09/2022
Weather:	Dry, patchy cloud, wind = BF3 NW, 18°C	Dry, patchy cloud, wind = BF3 NW, 18°C	Dry, patchy cloud, wind = BF3 NW, 18°C
Central Grid Reference	SJ 33588 26511	SJ 33537 26470	SJ 33487 26430
Emergent Cover:	F	A	F
Floating-leaved + Submerged Cover:	D	A	F
Water Availability:	Normal	Normal	Normal
Secchi Disk Depth:	>1m, to bottom	>1m, to bottom	>1m, to bottom
Filamentous Algae/Duckweed Cover:	<5%	<5%	<1%
Shading:	<5%	<5%	<5%
Invasive Non-Native Species:	Present	Present	Present
Bank Type:	Earth, clay	Earth, clay	Earth, clay
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Walkers	Walkers	Walkers
Special Features:	None	None	None
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Moderate layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Quantity Aquatic Vegetation 1	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>	Present: <i>H. morsus-ranae</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>P. compressus</i>
Quantity Aquatic Vegetation 2	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i>	Present: <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 3	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>	Present: <i>H. morsus-ranae</i>	Present: <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 4	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>	Present: <i>H. morsus-ranae</i>	Absent
Quantity Aquatic Vegetation 5	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>	Present: <i>E. canadensis</i> , <i>H. morsus-ranae</i>	Absent
Quantity Aquatic Vegetation 6	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>	Present: <i>H. morsus-ranae</i> , <i>L. minor</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 7	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>	Present: <i>H. morsus-ranae</i>	Present: <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 8	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>	Present: <i>H. morsus-ranae</i>	Absent
Quantity Aquatic Vegetation 9	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>	Present: <i>H. morsus-ranae</i>	Present: <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 10	Present: <i>C. demersum</i> , <i>E. nuttallii</i> , <i>H. morsus-ranae</i>	Present: <i>H. morsus-ranae</i>	Present: <i>H. morsus-ranae</i>

CSM DATA ENGLAND RESERVES	Aston Locks (old) Pond 5	Aston Locks (new) Pond 1	Aston Locks (new) Pond 2	Aston Locks (new) Pond 3
Date:	09/09/2022	09/09/2022	09/09/2022	09/09/2022
Weather:	Dry, patchy cloud, wind = BF3 NW, 18°C	Dry, patchy cloud, wind = BF2, 17°C	Dry, patchy cloud, wind = BF1, 18°C	Dry, patchy cloud, wind = BF1, 18°C
Central Grid Reference	SJ 33444 26376	SJ 33302 26217	SJ 32864 25873	SJ 32806 25747
Emergent Cover:	F	O	F	F
Floating-leaved + Submerged Cover:	F	A	A	A
Water Availability:	Normal	Low	Normal	Normal
Secchi Disk Depth:	>1m, to bottom	>1m, to bottom	>1m, to bottom	>1m, to bottom
Filamentous Algae/Duckweed Cover:	20%	50%	<5%	80%
Shading:	<5%	<5%	<5%	<5%
Invasive Non-Native Species:	Present	Present	Present	Not present
Bank Type:	Earth, clay	Earth, clay	Earth, clay	Earth, clay
Channel Profile:	No recent modifications	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Walkers	Walkers	Walkers	Walkers
Special Features:	None	None	None	None
Fish Biomass:	Unknown	Unknown	Unknown	Unknown
Sediment:	Moderate layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Quantity Aquatic Vegetation 1	Present: <i>E. nuttallii</i> , <i>H. morsus.ranae</i>	Present: <i>E. nuttallii</i>	Present: <i>E. nuttallii</i> , <i>M. spicatum</i>	Present: <i>H. morsus-ranae</i> , <i>C. demersum</i>
Quantity Aquatic Vegetation 2	Present: <i>E. nuttallii</i> , <i>H. morsus.ranae</i>	Present: <i>E. nuttallii</i> , <i>M. spicatum</i>	Present: <i>E. nuttallii</i>	Present: <i>H. morsus-ranae</i> , <i>C. demersum</i>
Quantity Aquatic Vegetation 3	Present: <i>H. morsus.ranae</i>	Present: <i>E. nuttallii</i>	Present: <i>E. nuttallii</i> , <i>M. spicatum</i>	Present: <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 4	Present: <i>H. morsus.ranae</i>	Present: <i>E. nuttallii</i>	Present: <i>E. nuttallii</i> , <i>M. spicatum</i>	Present: <i>H. morsus-ranae</i> , <i>C. demersum</i>
Quantity Aquatic Vegetation 5	Present: <i>H. morsus.ranae</i>	Present: <i>E. nuttallii</i>	Present: <i>E. nuttallii</i>	Present: <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 6	Present: <i>H. morsus.ranae</i>	Present: <i>E. nuttallii</i>	Present: <i>E. nuttallii</i>	Present: <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 7	Present: <i>H. morsus.ranae</i>	Present: <i>E. nuttallii</i>	Present: <i>E. nuttallii</i>	Present: <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 8	Present: <i>H. morsus.ranae</i>	Present: <i>E. nuttallii</i> , <i>M. spicatum</i>	Present: <i>E. nuttallii</i>	Present: <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 9	Present: <i>E. nuttallii</i> , <i>H. morsus.ranae</i>	Present: <i>E. nuttallii</i>	Present: <i>E. nuttallii</i>	Present: <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 10	Present: <i>H. morsus.ranae</i>	Present: <i>E. nuttallii</i>	Present: <i>E. nuttallii</i> , <i>M. spicatum</i>	Present: <i>H. morsus-ranae</i>

SPECIES LIST ENGLAND RESERVES	Weston Arm	Rednal Basin	Aston Locks (old) Pond 1	Aston Locks (old) Pond 2	Aston Locks (old) Pond 3	Aston Locks (old) Pond 4
Water plantain			✓		✓	✓
Fool's watercress			✓	✓		✓
Lesser water-parsnip			✓	✓		
Water-starwort sp.					✓	
Greater tussock sedge						
Greater pond sedge	✓					
Rigid hornwort		✓	✓	✓		
Nuttall's waterweed		✓	✓	✓	✓	✓
Water horsetail			✓			
Japanese knotweed						
Floating sweet-grass						
Reed sweet-grass	✓	✓	✓	✓	✓	✓
Water violet						
Frogbit		✓	✓	✓	✓	✓
Himalayan balsam						✓
Yellow flag iris						
Soft rush			✓			✓
Common duckweed	✓				✓	
Least duckweed		✓				
Ivy-leaved duckweed		✓				
Water mint			✓			✓
Water forget-me-not			✓	✓		
Spiked water-milfoil						
Yellow water-lily		✓	✓			
Hemlock water-dropwort				✓		
Amphibious bistort						
Reed canary-grass			✓			
Common reed						
Grass-wrack pondweed					✓	✓
Broad-leaved pondweed	✓	✓				

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Blunt-leaved pondweed		✓				
Long-stalked pondweed						
Water-crowfoot sp.						
Water dock			✓	✓	✓	
Arrowhead						
Bittersweet						✓
Unbranched bur-reed			✓			✓
Branched bur-reed						
Bur-reed sp.			✓		✓	
Bulrush	✓	✓	✓	✓		✓
Brooklime						

SPECIES LIST ENGLAND RESERVES	Aston Locks (old) Pond 5	Aston Locks (new) Pond 1	Aston Locks (new) Pond 2	Aston Locks (new) Pond 3
Water plantain				
Fool's watercress	✓			
Lesser water-parsnip	✓			
Water-starwort sp.				
Greater tussock sedge	✓			✓
Greater pond sedge				✓
Rigid hornwort				✓
Nuttall's waterweed	✓	✓	✓	
Water horsetail				
Japanese knotweed				
Floating sweet-grass				
Reed sweet-grass	✓	✓	✓	✓
Water violet				✓
Frogbit	✓			✓
Himalayan balsam	✓			
Yellow flag iris		✓	✓	✓
Soft rush		✓	✓	
Common duckweed				
Least duckweed	✓			
Ivy-leaved duckweed				
Water mint	✓			
Water forget-me-not	✓			
Spiked water-milfoil		✓	✓	
Yellow water-lily	✓			
Hemlock water-dropwort				✓
Amphibious bistort				
Reed canary-grass				
Common reed	✓			
Grass-wrack pondweed			✓	
Broad-leaved pondweed				✓

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Blunt-leaved pondweed				
Long-stalked pondweed				
Water-crowfoot sp.				
Water dock				
Arrowhead				
Bittersweet				
Unbranched bur-reed	✓			
Branched bur-reed				✓
Bur-reed sp.				
Bulrush	✓	✓	✓	✓
Brooklime			✓	

Appendix 4c. Survey Data: Wales Canal

CSM DATA WALES CANAL	Section 14	Section 15	Section 16
Date:	23/08/2022	23/08/2022	24/08/2022
Weather:	Dry, overcast, wind = BF3 WSW, 20°C	Dry, overcast, wind = BF3 WSW, 20°C	Dry, overcast, wind = BF2 WSW, 19°C
Section Start:	SJ 27061 21264	SJ 26253 20807	SJ 25394 20248
Section End:	SJ 26269 20822	SJ 25394 20248	SJ 25598 19476
Emergent Cover:	D	D	A
Floating-leaved + Submerged Cover:	O	R	D
Water Availability:	Low	Very low, much exposed sediment	Very low, much exposed sediment
Secchi Disk Depth:	> 100 cm	Not practical; very shallow, clear to bottom	Not practical; very shallow, clear to bottom
Filamentous Algae/Duckweed Cover:	15%	50% in few areas of open water	4%
Shading:	<5%	<5%	<5%
Invasive Non-Native Species:	Present	Present	Present
Bank Type:	Brick/stone-work, earth	Brick/stone-work, earth	Brick/stone-work, concrete, earth
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	No boats; walkers	No boats; walkers	No boats; walkers
Special Features:	Overbridge 92	Overbridge 94, lock, Wern aquaduct	Lock, two section divided by road, Vyrnwy aquaduct (drained)
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Deep layer fine sediment	Deep layer fine sediment	Moderate layer fine sediment
Site Start:	SJ 26572 20995	SJ 25704 20522	SJ 25474 19553
Site End:	SJ 26452 20937	SJ 25656 20407	SJ 25578 19514
Quantity Aquatic Vegetation 1	Present: <i>H. morsus-ranae</i> , <i>L. minor</i>	Not practical; too little open water	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i>
Quantity Aquatic Vegetation 2	Present: <i>H. morsus-ranae</i>	Not practical; too little open water	Present: <i>H. morsus-ranae</i> , <i>L. minor</i>
Quantity Aquatic Vegetation 3	Present: <i>C. demersum</i>	Not practical; too little open water	Present: <i>E. nuttallii</i> , <i>L. minor</i>
Quantity Aquatic Vegetation 4	Present: <i>C. demersum</i>	Not practical; too little open water	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>N. lutea</i>
Quantity Aquatic Vegetation 5	Absent	Not practical; too little open water	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>N. lutea</i>
Quantity Aquatic Vegetation 6	Absent	Not practical; too little open water	Present: <i>E. nuttallii</i> , <i>L. minor</i>
Quantity Aquatic Vegetation 7	Present: <i>H. morsus-ranae</i> , <i>L. minor</i>	Not practical; too little open water	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i>
Quantity Aquatic Vegetation 8	Absent	Not practical; too little open water	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i>
Quantity Aquatic Vegetation 9	Absent	Not practical; too little open water	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i>
Quantity Aquatic Vegetation 10	Present: <i>C. demersum</i> , <i>H. morsus-ranae</i>	Not practical; too little open water	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i>

CSM DATA WALES CANAL	Section 17	Section 18
Date:	24/08/2022	24/08/2022
Weather:	Dry, overcast, wind = BF2 WSW, 19°C	Dry, overcast, wind = BF2 WSW, 19°C
Section Start:	SJ 25600 19478	SJ 26462 18967
Section End:	SJ 26462 18967	SJ 26250 18100
Emergent Cover:	A	A
Floating-leaved + Submerged Cover:	D	D
Water Availability:	Very low, much exposed sediment	Very low
Secchi Disk Depth:	Not practical; very shallow, clear to bottom	Not practical; very shallow, clear to bottom
Filamentous Algae/Duckweed Cover:	50%	75%
Shading:	>5%	>5%
Invasive Non-Native Species:	Present	Present
Bank Type:	Metal sheet, brick/stone-work, earth	Metal sheet, brick/stone-work, earth
Channel Profile:	No recent modifications	No recent modifications
Recreational Use:	No boats; walkers	No boats; walkers
Special Features:	Overbridge 98	Overbridge 100
Fish Biomass:	Unknown	Unknown
Sediment:	Moderate layer fine sediment	Moderate layer fine sediment
Site Start:	SJ 25976 19164	SJ 26375 18229
Site End:	SJ 26113 19160	SJ 26283 18135
Quantity Aquatic Vegetation 1	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>N. lutea</i> , <i>P. natans</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>N. lutea</i>
Quantity Aquatic Vegetation 2	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>N. lutea</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>N. lutea</i>
Quantity Aquatic Vegetation 3	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>N. lutea</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>N. lutea</i>
Quantity Aquatic Vegetation 4	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>N. lutea</i> , <i>P. natans</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>N. lutea</i>
Quantity Aquatic Vegetation 5	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>N. lutea</i> , <i>P. natans</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>N. lutea</i>
Quantity Aquatic Vegetation 6	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>N. lutea</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>N. lutea</i>
Quantity Aquatic Vegetation 7	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>N. lutea</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>N. lutea</i>
Quantity Aquatic Vegetation 8	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>N. lutea</i> , <i>P. natans</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>N. lutea</i>
Quantity Aquatic Vegetation 9	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>N. lutea</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>N. lutea</i>
Quantity Aquatic Vegetation 10	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>N. lutea</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>N. lutea</i>

CSM DATA WALES CANAL	Section 19	Section 20	Section 21
Date:	24/08/2022	24/08/2022	25/08/2022
Weather:	Dry, overcast, wind = BF2 WSW, 19°C	Dry, overcast, wind = BF2 WSW, 17°C	Dry, patchy cloud, wind = BF1 NW, 15°C
Section Start:	SJ 26250 18100	SJ 26404 17092	SJ 26346 16291
Section End:	SJ 26394 17200	SJ 26348 16287	SJ 25783 15525
Emergent Cover:	F	A	D
Floating-leaved + Submerged Cover:	D	D	F
Water Availability:	Very low	Very low	Very low
Secchi Disk Depth:	Not practical; very shallow, clear to bottom	Not practical; very shallow, clear to bottom	Not practical; very shallow and dry in places; clear to bottom
Filamentous Algae/Duckweed Cover:	80%	<2%	<1%
Shading:	>5%	<5%	>5%
Invasive Non-Native Species:	Present	Present	Present
Bank Type:	Metal sheet, brick/stone-work, earth	Metal sheet, brick/stone-work, earth	Brick/stone-work, earth
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	No boats; walkers	No boats; walkers	No boats; walkers
Special Features:	Overbridge 101	None	Tunnel under road
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Moderate layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Site Start:	SJ 26423 17665	SJ 26486 16785	SJ 25951 15726
Site End:	SJ 26456 17527	SJ 26524 16658	SJ 25864 15617
Quantity Aquatic Vegetation 1	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>P. natans</i>	Present: <i>E. nuttallii</i> , <i>L. trisulca</i>	Absent
Quantity Aquatic Vegetation 2	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>P. natans</i>	Present: <i>E. nuttallii</i> , <i>L. trisulca</i>	Absent
Quantity Aquatic Vegetation 3	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>P. natans</i>	Present: <i>E. nuttallii</i> , <i>L. trisulca</i>	Present: <i>E. nuttallii</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 4	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>P. natans</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. trisulca</i>	Present: <i>E. nuttallii</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 5	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>P. natans</i>	Present: <i>E. nuttallii</i> , <i>L. trisulca</i>	Present: <i>E. nuttallii</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 6	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>P. natans</i>	Present: <i>E. nuttallii</i> , <i>L. trisulca</i>	Present: <i>E. nuttallii</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 7	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>P. natans</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. trisulca</i>	Absent
Quantity Aquatic Vegetation 8	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. trisulca</i> , <i>P. natans</i>	Present: <i>E. nuttallii</i> , <i>L. trisulca</i>	Absent
Quantity Aquatic Vegetation 9	Present: <i>L. minor</i> , <i>L. natans</i> , <i>P. natans</i>	Present: <i>E. nuttallii</i> , <i>L. trisulca</i>	Absent
Quantity Aquatic Vegetation 10	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>N. lutea</i>	Present: <i>E. nuttallii</i> , <i>L. trisulca</i>	Present: <i>E. nuttallii</i> , <i>S. aloides</i>

CSM DATA WALES CANAL	Section 22	Section 23	Section 24
Date:	25/08/2022	25/08/2022	25/08/2022
Weather:	Dry, patchy cloud, wind = BF1 NW, 15°C	Dry, patchy cloud, wind = BF1 NW, 17°C	Dry, patchy cloud, wind = BF1 NW, 20°C
Section Start:	SJ 25783 15525	SJ 25282 14741	SJ 25221 13788
Section End:	SJ 25282 14741	SJ 25221 13788	SJ 25813 13146
Emergent Cover:	O	F	F
Floating-leaved + Submerged Cover:	D	D	D
Water Availability:	Very low	Low	Normal
Secchi Disk Depth:	Not practical; very shallow; clear to bottom	About 50 cm, to bottom	>100 cm, to bottom
Filamentous Algae/Duckweed Cover:	<1%	3%	2%
Shading:	>5%	>5%	>5%
Invasive Non-Native Species:	Present	Present	Present
Bank Type:	Metal sheet, brick/stone-work, earth	Metal sheet, brick/stone-work, earth	Metal sheet, brick/stone-work, earth
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	No boats; walkers	No boats; walkers	No boats; walkers
Special Features:	Overbridges 104/105, lock	Lock, overbridge 106	Overbridges 107/108
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Moderate layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Site Start:	SJ 25714 15310	SJ 25170 14055	SJ 25489 13272
Site End:	SJ 25674 15188	SJ 25198 13924	SJ 25558 13164
Quantity Aquatic Vegetation 1	Present: <i>E. nuttallii</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 2	Present: <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 3	Present: <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 4	Present: <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 5	Present: <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 6	Present: <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 7	Present: <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 8	Present: <i>E. nuttallii</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 9	Present: <i>E. nuttallii</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 10	Present: <i>E. nuttallii</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>

CSM DATA WALES CANAL	Section 25	Section 26
Date:	25/08/2022	25/08/2022
Weather:	Dry, patchy cloud, wind = BF1 NW, 17°C	Dry, patchy cloud, wind = BF2 WNW, 22°C
Section Start:	SJ 25813 13146	SJ 25790 12453
Section End:	SJ 25790 12453	SJ 25601 11592
Emergent Cover:	O	F
Floating-leaved + Submerged Cover:	O	F
Water Availability:	Normal	Normal
Secchi Disk Depth:	>100 cm, to bottom	>100 cm, to bottom
Filamentous Algae/Duckweed Cover:	5%	15%
Shading:	>5%	>5%
Invasive Non-Native Species:	Present	Present
Bank Type:	Metal sheet, brick/stone-work, earth	Metal sheet, brick/stone-work, earth
Channel Profile:	No recent modifications	No recent modifications
Recreational Use:	No boats; walkers	No boats; walkers
Special Features:	Lock, overbridge 109	Overbridge 110, lock
Fish Biomass:	Unknown	Unknown
Sediment:	Shallow layer fine sediment	Moderate layer fine sediment
Site Start:	SJ 25964 12804	SJ 25708 11825
Site End:	SJ 25889 12702	SJ 25665 11706
Quantity Aquatic Vegetation 1	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i>
Quantity Aquatic Vegetation 2	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i>
Quantity Aquatic Vegetation 3	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>Sparganium sp.</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 4	Present: <i>E. nuttallii</i> , <i>L. minor</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i>
Quantity Aquatic Vegetation 5	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i> , <i>P. compressus</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i>
Quantity Aquatic Vegetation 6	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i>
Quantity Aquatic Vegetation 7	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i>
Quantity Aquatic Vegetation 8	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i>
Quantity Aquatic Vegetation 9	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i>
Quantity Aquatic Vegetation 10	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i>	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i>

CSM DATA WALES CANAL	Section 27	Section 28	Section 29
Date:	25/08/2022	25/08/2022	25/08/2022
Weather:	Dry, patchy cloud, wind = BF2 WNW, 22°C	Dry, patchy cloud, wind = BF2 WNW, 22°C	Dry, patchy cloud, wind = BF2 WNW, 22°C
Section Start:	SJ 25601 11592	SJ 25051 10520	SJ 24508 09884
Section End:	SJ 25051 10520	SJ 24508 09884	SJ 24101 08903
Emergent Cover:	F	O	O
Floating-leaved + Submerged Cover:	A	O	O
Water Availability:	Normal	Normal	Normal
Secchi Disk Depth:	>100 cm, to bottom	>100 cm, to bottom	>100 cm, to bottom
Filamentous Algae/Duckweed Cover:	70%	40%	<1%
Shading:	>5%	>5%	>5%
Invasive Non-Native Species:	Present	Present	Present
Bank Type:	Metal sheet, brick/stone-work, earth	Metal sheet, brick/stone-work, earth	Metal sheet, brick/stone-work, earth
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	No boats; walkers	No boats; walkers	Boats?; walkers
Special Features:	Overbridge 112	Overbridge 113	Overbridge 113/114/115
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Moderate layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Site Start:	SJ 25409 11240	SJ 24542 09933	SJ 24499 09866
Site End:	SJ 25323 11147	SJ 24595 10054	SJ 24449 09756
Quantity Aquatic Vegetation 1	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>L. Natans</i>	Absent
Quantity Aquatic Vegetation 2	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i>	Absent
Quantity Aquatic Vegetation 3	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>L. Natans</i>	Present: <i>E. nuttallii</i> , <i>L. natans</i>
Quantity Aquatic Vegetation 4	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>	Absent	Absent
Quantity Aquatic Vegetation 5	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i>
Quantity Aquatic Vegetation 6	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i> , <i>S. aloides</i>	Absent	Absent
Quantity Aquatic Vegetation 7	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>L. natans</i> , <i>S. aloides</i>	Absent	Present: <i>L. natans</i>
Quantity Aquatic Vegetation 8	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minor</i> , <i>S. aloides</i>	Absent	Absent
Quantity Aquatic Vegetation 9	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>L. Natans</i>	Absent
Quantity Aquatic Vegetation 10	Present: <i>E. nuttallii</i> , <i>L. minor</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i>	Present: <i>L. natans</i>

CSM DATA WALES CANAL	Section 30	Section 31	Section 32
Date:	25/08/2022	06/09/2022	06/09/2022
Weather:	Dry, patchy cloud, wind = BF3 WNW, 22°C	Showers, overcast	Showers, overcast
Section Start:	SJ 24101 08903	SJ 23364 07954	SJ 22656 07390
Section End:	SJ 23402 08029	SJ 22656 07390	SJ 22414 06439
Emergent Cover:	F	A	A
Floating-leaved + Submerged Cover:	O	R	F
Water Availability:	Normal	Normal	Normal
Secchi Disk Depth:	>100 cm, to bottom	>1m to bottom	>1m to bottom
Filamentous Algae/Duckweed Cover:	Negligible	<5%	20%
Shading:	>5%	>5%	<5%
Invasive Non-Native Species:	Present	Present	Present
Bank Type:	Metal sheet, brick/stone-work, earth	Brick/stone-work, earth	Brick/stone-work, earth
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Boats; walkers	Boats, walkers, anglers	Boats, walkers, anglers
Special Features:	Overbridge 116	None	Basin, locks, bridges
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Shallow layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Site Start:	SJ 23749 08652	SJ 23254 07827	SJ 22584 07047
Site End:	SJ 23710 08524	SJ 23131 07740	SJ 22561 06900
Quantity Aquatic Vegetation 1	Present: <i>H. morsus-ranae</i> , <i>L. natans</i>	Present: <i>E. nuttallii</i> , <i>P. natans</i> , <i>P. obtusifolius</i>	Absent
Quantity Aquatic Vegetation 2	Present: <i>H. morsus-ranae</i> , <i>L. natans</i>	Present: <i>E. nuttallii</i> , <i>N. lutea</i>	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 3	Absent	Absent	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 4	Absent	Present: <i>E. nuttallii</i> , <i>M. spicatum</i>	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 5	Present: <i>H. morsus-ranae</i> , <i>L. natans</i> , <i>N. lutea</i>	Present: <i>L. natans</i> (no grapnel throw)	Absent
Quantity Aquatic Vegetation 6	Present: <i>H. morsus-ranae</i> , <i>L. natans</i> , <i>N. lutea</i>	Absent	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 7	Present: <i>H. morsus-ranae</i>	Present: <i>H. morsus-ranae</i>	Present: <i>N. lutea</i>
Quantity Aquatic Vegetation 8	Present: <i>E. acicularis</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i>	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 9	Present: <i>H. morsus-ranae</i>	Absent	Present: <i>H. Morsus-ranae</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 10	Present: <i>H. morsus-ranae</i> , <i>L. natans</i>	Absent	Present: <i>H. Morsus-ranae</i> , <i>L. minuta</i>

CSM DATA WALES CANAL	Section 33	Section 34	Section 35
Date:	06/09/2022	06/09/2022	06/09/2022
Weather:	Showers, overcast	Showers, overcast	Dry, overcast
Section Start:	SJ 22414 06439	SJ 21940 05602	SJ 21236 04890
Section End:	SJ 21940 05602	SJ 21236 04890	SJ 20776 03985
Emergent Cover:	A	A	A
Floating-leaved + Submerged Cover:	F	F	F
Water Availability:	Normal	Normal	Normal
Secchi Disk Depth:	>1m to bottom	>1m to bottom	>1m to bottom
Filamentous Algae/Duckweed Cover:	20%	10%	10%
Shading:	>5%	>5%	<5%
Invasive Non-Native Species:	Present	Present	Present
Bank Type:	Clay, stone, metal sheeting	Clay, stone, metal sheeting	Clay, metal sheeting
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Walkers	Walkers	Walkers
Special Features:	Long sections of narrow channel	None	Winding holes
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Moderate layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Site Start:	SJ 22049 05854	SJ 21395 05054	SJ 20923 04384
Site End:	SJ 21964 05737	SJ 21289 04951	SJ 20884 04239
Quantity Aquatic Vegetation 1	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Absent	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 2	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Absent	Absent
Quantity Aquatic Vegetation 3	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i> , <i>N. lutea</i>	Absent	Absent
Quantity Aquatic Vegetation 4	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Absent	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 5	Absent	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Absent
Quantity Aquatic Vegetation 6	Present: <i>E. nuttallii</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 7	Present: <i>E. nuttallii</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 8	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 9	Absent	Absent	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 10	Present: <i>H. morsus-ranae</i> , <i>L. trisulca</i>	Absent	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , <i>S. aloides</i>

CSM DATA WALES CANAL	Section 36	Section 37	Section 38
Date:	06/09/2022	06/09/2022	06/09/2022
Weather:	Dry, overcast	Dry, overcast	Dry, overcast
Section Start:	SJ 20776 03985	SJ 20310 02959	SJ 19930 02313
Section End:	SJ 20310 02959	SJ 19930 02313	SJ 19405 01440
Emergent Cover:	A	A	A
Floating-leaved + Submerged Cover:	A	A	F
Water Availability:	Normal	Normal	Normal
Secchi Disk Depth:	>1m to bottom	>1m to bottom	>1m to bottom
Filamentous Algae/Duckweed Cover:	10%	40%	60%
Shading:	<5%	<5%	<5%
Invasive Non-Native Species:	Present	Present	Present
Bank Type:	Clay, metal sheeting	Clay, metal sheeting, stone	Clay, metal sheeting, stone
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Walkers	Walkers	Walkers
Special Features:	Winding holes	None	Winding hole
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Moderate layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Site Start:	SJ 20652 03648	SJ 20240 02836	SJ 19676 02052
Site End:	SJ 20639 03500	SJ 20180 02701	SJ 19641 01906
Quantity Aquatic Vegetation 1	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 2	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i>	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , <i>S. aloides</i>	Present: <i>L. natans</i> (no grapnel throw)
Quantity Aquatic Vegetation 3	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i> , <i>S. aloides</i>	Present: <i>H. morsus-ranae</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 4	Present: <i>H. morsus-ranae</i> , <i>S. aloides</i>	Present: <i>H. morsus-ranae</i> , <i>L. minuta</i> , <i>S. aloides</i>	Present: <i>H. morsus-ranae</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 5	Present: <i>H. morsus-ranae</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , <i>S. aloides</i>	Present: <i>H. morsus-ranae</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 6	Absent	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , <i>S. aloides</i>	Present: <i>H. morsus-ranae</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 7	Present: <i>H. morsus-ranae</i> , <i>L. minuta</i> , <i>S. aloides</i>	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 8	Present: <i>H. morsus-ranae</i> , <i>L. minuta</i> , <i>S. aloides</i>	Present: <i>H. morsus-ranae</i> , <i>L. minuta</i> , <i>S. aloides</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i>
Quantity Aquatic Vegetation 9	Absent	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>S. aloides</i>	Present: <i>H. morsus-ranae</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 10	Absent	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , <i>S. aloides</i>	Present: <i>H. morsus-ranae</i>

CSM DATA WALES CANAL	Section 39	Section 40	Section 41
Date:	06/09/2022	01/09/2022	01/09/2022
Weather:	Dry, overcast	Dry, overcast	Dry, overcast
Section Start:	SJ 19405 01440	SJ 18864 00616	SO 19182 99813
Section End:	SJ 18864 00616	SO 19182 99813	SO 19408 98979
Emergent Cover:	A	D	A
Floating-leaved + Submerged Cover:	F	F	F
Water Availability:	Low	Low	Normal
Secchi Disk Depth:	to bottom	to bottom	>1m to bottom
Filamentous Algae/Duckweed Cover:	75%	60%	80%
Shading:	<5%	>5%	>5%
Invasive Non-Native Species:	Present	Present	Present
Bank Type:	Clay, metal sheeting, stone	Clay, metal sheeting, stone	Clay, metal sheeting, stone
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Walkers	Walkers	Walkers
Special Features:	Winding hole, locks	Basin	None
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Moderate layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Site Start:	SJ 19177 00967	SJ 19019 00284	SO 19199 99512
Site End:	SJ 19049 00892	SJ 19137 00192	SO 19278 99390
Quantity Aquatic Vegetation 1	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 2	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 3	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Absent	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 4	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Absent
Quantity Aquatic Vegetation 5	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 6	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Absent	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 7	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i> , <i>N. lutea</i>	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Absent
Quantity Aquatic Vegetation 8	Absent	Not possible to sample because of emergents	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 9	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Not possible to sample because of emergents	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 10	Present: <i>E. nuttallii</i> , <i>H. morsus-ranae</i> , <i>L. minuta</i>	Not possible to sample because of emergents	Present: <i>E. nuttallii</i> , <i>L. minuta</i>

CSM DATA WALES CANAL	Section 42	Section 43	Section 44
Date:	01/09/2022	01/09/2022	01/09/2022
Weather:	Dry, overcast	Dry, overcast	Dry, overcast
Section Start:	SO 19392 98934	SO 18746 98228	SO 18113 97746
Section End:	SO 18746 98228	SO 18136 97738	SO 17422 97220
Emergent Cover:	A	D	A
Floating-leaved + Submerged Cover:	A	R	F
Water Availability:	Low	Low	Normal
Secchi Disk Depth:	>1m to bottom	>1m to bottom	>1m to bottom
Filamentous Algae/Duckweed Cover:	80%	10%	80%
Shading:	<5%	<5%	>5%
Invasive Non-Native Species:	Present	Present	Present
Bank Type:	Clay, stone	Clay	Clay, stone, metal sheeting
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Walkers, cyclists	Walkers	Walkers
Special Features:	Bridges	None	Swing bridge
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Moderate layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Site Start:	SO 18899 98423	SO 18431 97843	SO 17858 97546
Site End:	SO 18813 98305	SO 18322 97740	SO 17761 97437
Quantity Aquatic Vegetation 1	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Not possible to sample because emergents dominant	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , Stonewort sp.
Quantity Aquatic Vegetation 2	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Not possible to sample because emergents dominant	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , Stonewort sp.
Quantity Aquatic Vegetation 3	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Not possible to sample because emergents dominant	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , Stonewort sp.
Quantity Aquatic Vegetation 4	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Not possible to sample because emergents dominant	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , Stonewort sp.
Quantity Aquatic Vegetation 5	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Not possible to sample because emergents dominant	Absent
Quantity Aquatic Vegetation 6	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Not possible to sample because emergents dominant	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 7	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Not possible to sample because emergents dominant	Absent
Quantity Aquatic Vegetation 8	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Not possible to sample because emergents dominant	Absent
Quantity Aquatic Vegetation 9	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Not possible to sample because emergents dominant	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 10	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Not possible to sample because emergents dominant	Present: <i>E. nuttallii</i> , <i>L. minuta</i>

CSM DATA WALES CANAL	Section 45	Section 46	Section 47
Date:	01/09/2022	01/09/2022	02/09/2022
Weather:	Dry, overcast	Dry, overcast	Dry, overcast
Section Start:	SO 17398 97177	SO 16793 96552	SO 16342 95567
Section End:	SO 16793 96552	SO 16342 95567	SO 15855 94782
Emergent Cover:	O	D	F
Floating-leaved + Submerged Cover:	A	F	F
Water Availability:	Normal	Normal	Normal
Secchi Disk Depth:	>1m to bottom	>1m to bottom	>1m to bottom
Filamentous Algae/Duckweed Cover:	80%	80%	80%
Shading:	>5%	>5%	>5%
Invasive Non-Native Species:	Present	Present	Present
Bank Type:	Metal sheeting	Metal sheeting	Clay, coir
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Walkers	Walkers	Walkers
Special Features:	None	None	Bridges, coir
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Moderate layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Site Start:	SO 17164 96992	SO 16669 96309	SO 16116 95084
Site End:	SO 17026 96930	SO 16614 96169	SO 16011 94975
Quantity Aquatic Vegetation 1	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>Callitriche</i> sp.	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 2	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Present: <i>L. natans</i> (no grapnel throw)
Quantity Aquatic Vegetation 3	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Present: <i>L. natans</i> (no grapnel throw)
Quantity Aquatic Vegetation 4	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Absent
Quantity Aquatic Vegetation 5	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>L. natans</i> (no grapnel throw)
Quantity Aquatic Vegetation 6	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 7	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>L. natans</i> (no grapnel throw)	Absent
Quantity Aquatic Vegetation 8	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , <i>N. lutea</i>	Present: <i>L. minuta</i> , <i>N. lutea</i>	Absent
Quantity Aquatic Vegetation 9	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , <i>N. lutea</i>	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Present: <i>E. nuttallii</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 10	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Present: <i>E. nuttallii</i> , <i>L. minuta</i>

CSM DATA WALES CANAL	Section 48	Section 49	Section 50
Date:	02/09/2022	02/09/2022	02/09/2022
Weather:	Dry, overcast	Dry, overcast	Dry, overcast
Section Start:	SO 15810 94740	SO 14999 94267	SO 14246 93528
Section End:	SO 14999 94267	SO 14246 93528	SO 13872 92968
Emergent Cover:	F	F	F
Floating-leaved + Submerged Cover:	F	O	O
Water Availability:	Normal	Normal	Low
Secchi Disk Depth:	>1m to bottom	>1m to bottom	>1m to bottom
Filamentous Algae/Duckweed Cover:	80%	80%	80%
Shading:	>5%	<5%	<5%
Invasive Non-Native Species:	Present	Present	Present
Bank Type:	Clay, stone	Clay, stone, metal sheeting	Clay, stone
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Walkers	Walkers	Walkers
Special Features:	None	Winding holes	None
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Moderate layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Site Start:	SO 15344 94533	SO 14922 94204	SO 14261 93345
Site End:	SO 15212 94471	SO 14864 94065	SO 14191 93223
Quantity Aquatic Vegetation 1	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Present: <i>L. minuta</i>
Quantity Aquatic Vegetation 2	Present: <i>L. natans</i> (no grapnel throw)	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Present: <i>L. minuta</i>
Quantity Aquatic Vegetation 3	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Present: <i>Callitriche sp.</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 4	Present: <i>L. natans</i> (no grapnel throw)	Absent	Present: <i>L. minuta</i>
Quantity Aquatic Vegetation 5	Present: <i>L. natans</i> (no grapnel throw)	Absent	Absent
Quantity Aquatic Vegetation 6	Absent	Present: <i>L. minuta</i>	Present: <i>L. minuta</i>
Quantity Aquatic Vegetation 7	Absent	Absent	Present: <i>L. minuta</i>
Quantity Aquatic Vegetation 8	Present: <i>E. nuttallii</i> , <i>L. minuta</i> , <i>N. lutea</i>	Absent	Present: <i>L. minuta</i>
Quantity Aquatic Vegetation 9	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Absent	Present: <i>L. minuta</i>
Quantity Aquatic Vegetation 10	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Present: <i>E. nuttallii</i> , <i>L. minuta</i>	Present: <i>L. minuta</i>

SPECIES LIST WALES CANAL	Section 14	Site 14	Section 15	Site 15	Section 16	Site 16	Section 17	Site 17	Section 18	Site 18	Section 19	Site 19	Section 20	Site 20
Sweet flag													✓	
Water plantain			✓						✓					
Fool's watercress					✓									
Lesser water-parsnip			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water-starwort sp.														
Greater tussock sedge	✓	✓	✓	✓			✓	✓	✓		✓		✓	✓
Rigid hornwort	✓	✓	✓											
Needle spike-rush														
Common spike-rush													✓	
Canadian waterweed									✓		✓			
Nuttall's waterweed	✓		✓		✓	✓	✓	✓	✓	✓	✓		✓	✓
Water horsetail					✓				✓	✓	✓		✓	✓
Floating sweet-grass							✓							
Reed sweet-grass	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Giant hogweed														
Frogbit	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Himalayan balsam	✓													
Yellow flag iris	✓	✓			✓	✓							✓	✓
Soft rush					✓						✓			
Common duckweed	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
Least duckweed			✓	✓			✓	✓	✓	✓				
Ivy-leaved duckweed			✓				✓	✓	✓	✓	✓	✓	✓	✓
Floating water-plantain					✓		✓				✓	✓		
Water mint	✓	✓	✓		✓	✓	✓	✓	✓	✓				
Water forget-me-not			✓	✓	✓	✓								
Spiked water-milfoil	✓													
Yellow water-lily					✓	✓	✓	✓	✓	✓	✓			
Fringed water-lily														
Hemlock water-dropwort	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	

Amphibious bistort			✓				✓							
Reed canary-grass	✓	✓	✓	✓							✓			
Common reed														
Grass-wrack pondweed					✓				✓				✓	
Flat-stalked pondweed	✓		✓											
Broad-leaved pondweed	✓				✓		✓	✓	✓		✓	✓	✓	
Blunt-leaved pondweed														
Long-stalked pondweed					✓									
Watercress														
Water dock			✓	✓	✓	✓	✓	✓	✓	✓			✓	
Arrowhead														
Bittersweet			✓						✓				✓	
Unbranched bur-reed														
Branched bur-reed	✓				✓									
Bur-reed sp.														
Greater duckweed					✓									
Water soldier	✓		✓	✓	✓								✓	✓
Bulrush	✓	✓	✓	✓			✓	✓			✓		✓	✓
Charophyte sp.														

SPECIES LIST WALES CANAL	Section 21	Site 21	Section 22	Site 22	Section 23	Site 23	Section 24	Site 24	Section 25	Site 25	Section 26	Site 26	Section 27	Site 27
Sweet flag	✓		✓	✓										
Water plantain														
Fool's watercress													✓	
Lesser water-parsnip	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Water-starwort sp.											✓			
Greater tussock sedge	✓	✓	✓	✓	✓	✓								
Rigid hornwort					✓									
Needle spike-rush														
Common spike-rush														
Canadian waterweed														
Nuttall's waterweed	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water horsetail	✓	✓			✓		✓							
Floating sweet-grass													✓	
Reed sweet-grass	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Giant hogweed														
Frogbit	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Himalayan balsam					✓		✓							
Yellow flag iris							✓							
Soft rush									✓		✓			
Common duckweed	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Least duckweed													✓	✓
Ivy-leaved duckweed	✓	✓			✓	✓	✓	✓	✓	✓				
Floating water-plantain							✓	✓			✓	✓	✓	✓
Water mint	✓	✓			✓		✓		✓				✓	
Water forget-me-not							✓							
Spiked water-milfoil														
Yellow water-lily	✓	✓	✓	✓							✓	✓	✓	
Fringed water-lily					✓									
Hemlock water-dropwort	✓		✓	✓			✓	✓	✓		✓		✓	✓
Amphibious bistort							✓	✓						

Reed canary-grass											✓	✓		
Common reed														
Grass-wrack pondweed														
Flat-stalked pondweed														
Broad-leaved pondweed											✓		✓	
Blunt-leaved pondweed					✓	✓	✓		✓	✓			✓	✓
Long-stalked pondweed														
Watercress														
Water dock	✓	✓	✓	✓			✓				✓			
Arrowhead														
Bittersweet							✓		✓					
Unbranched bur-reed														
Branched bur-reed							✓		✓				✓	
Bur-reed sp.									✓	✓	✓			
Greater duckweed														
Water soldier	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bulrush	✓		✓				✓	✓						
Charophyte sp.														

SPECIES LIST WALES CANAL	Section 28	Site 28	Section 29	Site 29	Section 30	Site 30	Section 31	Site 31	Section 32	Site 32	Section 33	Site 33	Section 34	Site 34
Sweet flag					✓		✓				✓			
Water plantain					✓									
Fool's watercress							✓							
Lesser water-parsnip	✓		✓		✓	✓					✓		✓	
Water-starwort sp.													✓	
Greater tussock sedge														
Rigid hornwort	✓				✓									
Needle spike-rush			✓		✓	✓								
Common spike-rush							✓							
Canadian waterweed														
Nuttall's waterweed	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water horsetail														
Floating sweet-grass														
Reed sweet-grass	✓	✓	✓		✓	✓	✓		✓		✓		✓	
Giant hogweed														
Frogbit	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Himalayan balsam			✓											
Yellow flag iris														
Soft rush														
Common duckweed	✓		✓											
Least duckweed	✓								✓	✓	✓	✓	✓	✓
Ivy-leaved duckweed											✓	✓		
Floating water-plantain	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓
Water mint	✓				✓		✓				✓		✓	
Water forget-me-not							✓				✓		✓	
Spiked water-milfoil							✓	✓	✓		✓			
Yellow water-lily	✓		✓		✓	✓	✓	✓	✓	✓	✓			
Fringed water-lily														
Hemlock water-dropwort	✓		✓		✓	✓	✓		✓		✓		✓	
Amphibious bistort	✓													

Reed canary-grass														
Common reed														
Grass-wrack pondweed								✓						
Flat-stalked pondweed														
Broad-leaved pondweed	✓		✓				✓	✓	✓		✓		✓	
Blunt-leaved pondweed	✓						✓	✓	✓		✓		✓	
Long-stalked pondweed														
Watercress					✓									
Water dock									✓		✓		✓	
Arrowhead														
Bittersweet														
Unbranched bur-reed							✓		✓				✓	
Branched bur-reed					✓				✓				✓	
Bur-reed sp.	✓		✓											
Greater duckweed														
Water soldier					✓						✓	✓	✓	
Bulrush	✓						✓						✓	
Charophyte sp.														

SPECIES LIST WALES CANAL	Section 35	Site 35	Section 36	Site 36	Section 37	Site 37	Section 38	Site 38	Section 39	Site 39	Section 40	Site 40	Section 41	Site 41
Sweet flag											✓			
Water plantain														
Fool's watercress														
Lesser water-parsnip	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	
Water-starwort sp.							✓		✓	✓	✓		✓	
Greater tussock sedge														
Rigid hornwort														
Needle spike-rush														
Common spike-rush														
Canadian waterweed														
Nuttall's waterweed	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water horsetail	✓				✓	✓	✓	✓			✓		✓	
Floating sweet-grass			✓								✓			
Reed sweet-grass	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Giant hogweed														
Frogbit			✓	✓	✓	✓	✓	✓	✓	✓				
Himalayan balsam														
Yellow flag iris			✓						✓	✓	✓			
Soft rush	✓								✓				✓	✓
Common duckweed														
Least duckweed	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Ivy-leaved duckweed														
Floating water-plantain	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Water mint	✓										✓			
Water forget-me-not			✓						✓		✓	✓		
Spiked water-milfoil														
Yellow water-lily	✓		✓	✓	✓		✓		✓	✓	✓	✓		
Fringed water-lily									✓		✓		✓	
Hemlock water-dropwort	✓		✓	✓			✓		✓		✓		✓	
Amphibious bistort														

Reed canary-grass	✓													
Common reed														
Grass-wrack pondweed														
Flat-stalked pondweed														
Broad-leaved pondweed			✓	✓	✓		✓	✓	✓					
Blunt-leaved pondweed														
Long-stalked pondweed														
Watercress														
Water dock					✓	✓			✓		✓		✓	
Arrowhead														
Bittersweet														
Unbranched bur-reed			✓		✓	✓	✓							
Branched bur-reed							✓	✓						
Bur-reed sp.														
Greater duckweed														
Water soldier	✓	✓	✓	✓	✓	✓								
Bulrush													✓	✓
Charophyte sp.											✓	✓		

SPECIES LIST WALES CANAL	Section 42	Site 42	Section 43	Site 43	Section 44	Site 44	Section 45	Site 45	Section 46	Site 46	Section 47	Site 47	Section 48	Site 48
Sweet flag														
Water plantain														
Fool's watercress					✓						✓			
Lesser water-parsnip	✓		✓		✓		✓		✓		✓			
Water-starwort sp.			✓	✓	✓		✓		✓	✓	✓		✓	✓
Greater tussock sedge														
Rigid hornwort														
Needle spike-rush														
Common spike-rush														
Canadian waterweed														
Nuttall's waterweed	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water horsetail	✓								✓	✓				
Floating sweet-grass					✓									
Reed sweet-grass	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Giant hogweed											✓		✓	
Frogbit														
Himalayan balsam							✓		✓		✓		✓	
Yellow flag iris	✓		✓								✓	✓		
Soft rush					✓	✓					✓			
Common duckweed														
Least duckweed	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ivy-leaved duckweed							✓							
Floating water-plantain					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water mint														
Water forget-me-not	✓		✓		✓		✓		✓					
Spiked water-milfoil														
Yellow water-lily	✓		✓		✓		✓	✓	✓				✓	✓
Fringed water-lily														
Hemlock water-dropwort	✓	✓	✓	✓					✓				✓	
Amphibious bistort														

Reed canary-grass														
Common reed													✓	✓
Grass-wrack pondweed														
Flat-stalked pondweed														
Broad-leaved pondweed				✓										
Blunt-leaved pondweed			✓											
Long-stalked pondweed														
Watercress												✓		
Water dock	✓		✓		✓					✓				
Arrowhead														
Bittersweet														
Unbranched bur-reed					✓		✓			✓				
Branched bur-reed													✓	
Bur-reed sp.														
Greater duckweed														
Water soldier														
Bulrush														
Charophyte sp.					✓	✓								

SPECIES LIST WALES CANAL	Section 49	Site 49	Section 50	Site 50
Sweet flag				
Water plantain				
Fool's watercress				
Lesser water-parsnip				
Water-starwort sp.	✓		✓	✓
Greater tussock sedge				
Rigid hornwort				
Needle spike-rush				
Common spike-rush				
Canadian waterweed				
Nuttall's waterweed	✓	✓	✓	
Water horsetail	✓			
Floating sweet-grass				
Reed sweet-grass	✓		✓	✓
Giant hogweed				
Frogbit				
Himalayan balsam	✓		✓	✓
Yellow flag iris				
Soft rush	✓			
Common duckweed				
Least duckweed	✓	✓	✓	✓
Ivy-leaved duckweed				
Floating water-plantain				
Water mint	✓			
Water forget-me-not	✓		✓	
Spiked water-milfoil				
Yellow water-lily	✓			
Fringed water-lily				
Hemlock water-dropwort	✓		✓	✓
Amphibious bistort				

DRAFT FINAL

Reed canary-grass				
Common reed				
Grass-wrack pondweed				
Flat-stalked pondweed				
Broad-leaved pondweed				
Blunt-leaved pondweed				
Long-stalked pondweed				
Watercress				
Water dock				
Arrowhead				
Bittersweet				
Unbranched bur-reed			✓	
Branched bur-reed				
Bur-reed sp.				
Greater duckweed				
Water soldier				
Bulrush	✓		✓	
Charophyte sp.				

Appendix 4d. Survey Data: Wales Reserves

CSM DATA WALES RESERVES	Guilfield Arm	Wern	Whitehouse
Date:	09/09/2022	09/09/2022	09/09/2022
Weather:	Showers, patchy cloud, wind = BF3 N, 18°C	Showers, overcast, wind = BF1 NNW, 16°C	Dry, overcast, wind = BF1 NNW, 16°C
Central Grid Reference	SJ 24707 14445	SJ 25234 14060	SJ 22284 06087
Emergent Cover:	D	F	O
Floating-leaved + Submerged Cover:	R	A	D
Water Availability:	Extremely low	Normal	Normal
Secchi Disk Depth:	To bottom, but very shallow (<10 cm)	>1m, to bottom	>1m, to bottom
Filamentous Algae/Duckweed Cover:	2%	50%	60%
Shading:	>5%	>5%	>5%
Invasive Non-Native Species:	Absent	Present	Absent
Bank Type:	Clay, earth, metal sheet	Clay, earth	Metal sheeting, earth
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	Walkers	Walkers	Walkers and cyclists
Special Features:	None	None	None
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Relatively deep layer of fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Quantity Aquatic Vegetation 1	N/A Emergent cover dominant throughout	Present: <i>E. nuattallii</i> , <i>L. minuta</i>	Present: <i>C. demersum</i>
Quantity Aquatic Vegetation 2	N/A Emergent cover dominant throughout	Present: <i>E. nuattallii</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>N. lutea</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 3	N/A Emergent cover dominant throughout	Present: <i>E. nuattallii</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>N. lutea</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 4	N/A Emergent cover dominant throughout	Present: <i>E. nuattallii</i> , <i>L. minuta</i> , <i>H. morsus-ranae</i>	Present: <i>C. demersum</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 5	N/A Emergent cover dominant throughout	Present: <i>E. nuattallii</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>N. lutea</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 6	N/A Emergent cover dominant throughout	Present: <i>E. nuattallii</i> , <i>L. minuta</i> , <i>H. morsus-ranae</i>	Present: <i>C. demersum</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 7	N/A Emergent cover dominant throughout	Present: <i>E. nuattallii</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 8	N/A Emergent cover dominant throughout	Present: <i>E. nuattallii</i> , <i>L. minuta</i>	Present: <i>C. demersum</i>
Quantity Aquatic Vegetation 9	N/A Emergent cover dominant throughout	Present: <i>E. nuattallii</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>N. lutea</i> , <i>L. minuta</i>
Quantity Aquatic Vegetation 10	N/A Emergent cover dominant throughout	Present: <i>E. nuattallii</i> , <i>L. minuta</i>	Present: <i>C. demersum</i> , <i>N. lutea</i>

CSM DATA WALES RESERVES	Welshpool In Channel	Brithdir Pond 1	Brithdir Pond 2
Date:	09/09/2022	09/09/2022	09/09/2022
Weather:	Dry, overcast, wind = BF1 NNW, 16°C	Dry, overcast, wind = BF2 NNW, 18°C	Dry, overcast, wind = BF2 NNW, 18°C
Central Grid Reference	SJ 22496 06644	SJ 20019 02373	SJ 20059 02401
Emergent Cover:	D	F	O
Floating-leaved + Submerged Cover:	R	D	D
Water Availability:	Normal	Normal	Normal
Secchi Disk Depth:	to bottom	>1m, to bottom	>1m, to bottom
Filamentous Algae/Duckweed Cover:	5%	70%	70%
Shading:	<5%	<5%	<5%
Invasive Non-Native Species:	Absent	Present	Present
Bank Type:	Earth, clay	Earth, clay	Earth, clay
Channel Profile:	No recent modifications	No recent modifications	No recent modifications
Recreational Use:	None	Occasional walkers	Occasional walkers
Special Features:	None	None	None
Fish Biomass:	Unknown	Unknown	Unknown
Sediment:	Moderate layer fine sediment	Moderate layer fine sediment	Moderate layer fine sediment
Quantity Aquatic Vegetation 1	N/A not accesible and emergent cover D throughout	Present: <i>E. nuttallii</i>	Present: <i>S. aloides</i>
Quantity Aquatic Vegetation 2	N/A not accesible and emergent cover D throughout	Present: <i>E. nuttallii</i>	Present: <i>S. aloides</i>
Quantity Aquatic Vegetation 3	N/A not accesible and emergent cover D throughout	Present: <i>E. nuttallii</i>	Present: <i>S. aloides</i>
Quantity Aquatic Vegetation 4	N/A not accesible and emergent cover D throughout	Present: <i>E. nuttallii</i> , <i>S. aloides</i>	Present: <i>S. aloides</i>
Quantity Aquatic Vegetation 5	N/A not accesible and emergent cover D throughout	Present: <i>E. nuttallii</i> , <i>S. aloides</i>	Present: <i>S. aloides</i>
Quantity Aquatic Vegetation 6	N/A not accesible and emergent cover D throughout	Present: <i>E. nuttallii</i>	Present: <i>S. aloides</i>
Quantity Aquatic Vegetation 7	N/A not accesible and emergent cover D throughout	Present: <i>E. nuttallii</i>	Present: <i>S. aloides</i>
Quantity Aquatic Vegetation 8	N/A not accesible and emergent cover D throughout	Present: <i>E. nuttallii</i>	Present: <i>E. nuttallii</i> , <i>S. aloides</i>
Quantity Aquatic Vegetation 9	N/A not accesible and emergent cover D throughout	Present: <i>E. nuttallii</i>	Present: <i>S. aloides</i>
Quantity Aquatic Vegetation 10	N/A not accesible and emergent cover D throughout	Present: <i>E. nuttallii</i>	Present: <i>S. aloides</i>

SPECIES LIST WALES RESERVES	Guilsfield Arm	Wern	Whitehouse	Welshpool In Channel	Brithdir Pond 1	Brithdir Pond 2
Sweet flag			✓			
Water plantain						
Fool's watercress						
Lesser water-parsnip	✓			✓	✓	
Water-starwort sp.						
Greater tussock sedge		✓	✓	✓		
Rigid hornwort			✓			
Needle spike-rush						
Common spike-rush						
Canadian waterweed						
Nuttall's waterweed		✓			✓	✓
Water horsetail						
Floating sweet-grass						
Reed sweet-grass	✓	✓	✓	✓	✓	✓
Giant hogweed						
Frogbit	✓	✓	✓		✓	✓
Himalayan balsam						
Yellow flag iris	✓	✓	✓			
Soft rush						
Common duckweed	✓					✓
Least duckweed	✓	✓	✓	✓		
Ivy-leaved duckweed						
Floating water-plantain						
Water mint						
Water forget-me-not	✓		✓			
Spiked water-milfoil						
Yellow water-lily			✓		✓	
Fringed water-lily						
Hemlock water-dropwort	✓		✓	✓	✓	✓
Amphibious bistort						

Reed canary-grass		✓				
Common reed						
Grass-wrack pondweed						
Flat-stalked pondweed						
Broad-leaved pondweed						
Blunt-leaved pondweed		✓				
Long-stalked pondweed						
Watercress						
Water dock				✓		
Arrowhead						
Bittersweet					✓	
Unbranched bur-reed						
Branched bur-reed		✓	✓			
Bur-reed sp.						
Greater duckweed						
Water soldier			✓		✓	✓
Bulrush	✓	✓		✓		
Charophyte sp.						

Appendix 5. Locations of Notable Species

Species	Section	Grid Reference	DAFOR
Water violet	Aston Locks (New) Pond 3	SJ 32806 25747	A
Floating water-plantain	16	SJ 25440 19572	R
Floating water-plantain	17	SJ 25607 19388	R
Floating water-plantain	17	SJ 25739 19255	R
Floating water-plantain	19	SJ 26443 17490	R
Floating water-plantain	19	SJ26419 17432	O
Floating water-plantain	19	SJ 26402 17249	F
Floating water-plantain	19	J 26454 17535	R
Floating water-plantain	24	SJ 25522 13220	R
Floating water-plantain	25	SJ 25964 12804	O
Floating water-plantain	25	SJ 25889 12702	O
Floating water-plantain	25	SJ 26040 13002	O
Floating water-plantain	26	SJ 25708 11825	F
Floating water-plantain	26	SJ 25665 11706	F
Floating water-plantain	26	SJ 25754 12121	F
Floating water-plantain	26	SJ 25727 12073	F
Floating water-plantain	27	SJ 25409 11240	O
Floating water-plantain	27	SJ 25323 11147	O
Floating water-plantain	27	SJ 25552 11494	O
Floating water-plantain	27	SJ 25528 11425	O
Floating water-plantain	27	SJ 25203 10990	O
Floating water-plantain	27	SJ 25095 10653	O
Floating water-plantain	28	SJ 24542 09933	O
Floating water-plantain	28	SJ 24595 10054	O
Floating water-plantain	28	SJ 25022 10463	A
Floating water-plantain	28	SJ 24711 10191	O
Floating water-plantain	28	SJ 24608 10067	F
Floating water-plantain	28	SJ 24530 09909	O
Floating water-plantain	29	SJ 24390 09622	O
Floating water-plantain	29	SJ 24346 09454	O
Floating water-plantain	29	SJ 24258 09239	F
Floating water-plantain	29	SJ 24222 09069	O
Floating water-plantain	30	SJ 23753 08646	F
Floating water-plantain	30	SJ 23714 08522	F
Floating water-plantain	30	SJ 24031 08816	O
Floating water-plantain	30	SJ 23801 08697	O
Floating water-plantain	30	SJ 23705 08454	O
Floating water-plantain	30	SJ 23606 08193	O
Floating water-plantain	30	SJ 23671 08288	O
Floating water-plantain	31	SJ 23250 07826	R
Floating water-plantain	32	SJ 22583 07025	F

Floating water-plantain	33	SJ 22097 05913	F
Floating water-plantain	34	SJ 21882 05524	F
Floating water-plantain	34	SJ 21364 05028	F
Floating water-plantain	35	SJ 20862 04179	O
Floating water-plantain	36	SJ 20742 03873	O
Floating water-plantain	36	SJ 20650 03630	A
Floating water-plantain	36	SJ 20645 03568	O
Floating water-plantain	37	SJ 20292 02929	O
Floating water-plantain	37	SJ 20220 02805	A
Floating water-plantain	37	SJ 20163 02506	O
Floating water-plantain	38	SJ 19822 02267	O
Floating water-plantain	38	SJ 19667 02025	A
Floating water-plantain	39	SJ 19329 01227	O
Floating water-plantain	39	SJ 19148 00945	A
Floating water-plantain	40	SJ 19054 00251	A
Floating water-plantain	40	SO 19245 99966	A
Floating water-plantain	41	SO 19380 99290	R
Floating water-plantain	44	SO 18020 97670	F
Floating water-plantain	44	SO 17782 97462	F
Floating water-plantain	45	SO 17114 96976	A
Floating water-plantain	45	SO 16942 96851	F
Floating water-plantain	45	SO 16802 96567	A
Floating water-plantain	46	SO 16751 96499	F
Floating water-plantain	46	SO 16638 96229	A
Floating water-plantain	47	SO 16228 95334	F
Floating water-plantain	47	SO 16072 95042	F
Floating water-plantain	48	SO 15263 94503	A
Floating water-plantain	48	SO 15147 94411	F
Floating water-plantain	48	SO 15033 94313	F
Grass-wrack pondweed	Aston Locks (Old) Pond 3	SJ 33537 26470	R
Grass-wrack pondweed	Aston Locks (Old) Pond 4	SJ 33487 26430	F
Grass-wrack pondweed	Aston Locks (New) Pond 2	SJ 32983 25907	A
Grass-wrack pondweed	16	SJ 25321 20149	VR
Grass-wrack pondweed	16	SJ 25458 19557	VR
Grass-wrack pondweed	18	SJ 26488 18706	R
Grass-wrack pondweed	20	SJ 26528 16590	R
Grass-wrack pondweed	32	SJ 22640 07371	F
Flat-stalked pondweed	14	SJ 26939 21131	VR
Flat-stalked pondweed	15	SJ 25497 20283	VR
Long-stalked pondweed	8	SJ 33077 25933	VR
Long-stalked pondweed	16	SJ 25380 20233	VR

Appendix 6. Common Standards Monitoring Attributes and Targets

Aston Locks – Keeper’s Bridge SSSI			
Attribute	Targets	Method of Assessment	Comments
Extent	No reduction in the extent of vegetation types for which the canal was designated.	Observations on the balance between cover of emergent and submerged/floating-leaved vegetation and on the aquatic species present, during section surveys.	Fail. We have not seen the original survey data on which the designation was based. However, the description and reason for notification of the SSSI says ‘considerable areas of floating aquatic plant communities occur’ and this is now not the case. The sub-merged/floating-leaved community in the canal part of the SSSI was rare to occasional in each section. In Rednal Basin reserve it was dominant, but this does not make up for the general lack of cover in the main canal.
Habitat functioning: water availability	A drop in overall depth of less than 10 % throughout the canal.	Observation during section survey.	Pass. Water availability appeared normal in all sections of the canal and in Rednal Basin reserve.
Habitat functioning: water quality - transparency	In at least 90% of observations, the canal bed is clearly visible in water 1 m deep in summer.	Secchi disk measurement or visual observation during section and site surveys.	Fail. Secchi depth was <1 m in sections 5-8 of the canal, although it was >1 m in Rednal Basin reserve.
Habitat functioning: water quality cover of algae/Lemna/Azolla	Filamentous algae and combined Lemna/Azolla cover, each less than 10% cover on average (no more than Occasional on the DAFOR scale).	Assessment of cover in section surveys.	Pass. Although cover was high (approximately 90%) in Rednal Basin reserve, in sections 5-8 of the canal it was negligible.
Habitat structure: sediment depth and texture	Extent of fine and unconsolidated sediments limited: passage of grapnel should not result in excessive re-suspension of sediments or leaf litter in at least 90 % of throws.	Record any resuspension caused by the use of the grapnel during site surveys.	Pass. Sediment depth was shallow in the canal and moderate in the reserves. It was nowhere considered to be excessive.
Habitat structure: channel shading	On average no more than 5 % of the channel surface should be shaded by overhanging vegetation in each section length.	Visual assessment during section surveys (estimate of vertical projection).	Fail. Shading of the channel exceeded 5% in sections 5-8 of the canal and at Rednal Basin reserve.

<p>Aquatic plant community: quantity of vegetation</p>	<p>In at least 90% of sample sites, at least 8 out of 10 grapnel throws retrieve aquatic vegetation.</p>	<p>During section surveys record the mean number of random grapnel throws bringing up vegetation.</p>	<p>Fail. In canal section 5 only 4 grapnel throws retrieved aquatic vegetation. In canal section 6 only 7 grapnel throws retrieved aquatic vegetation. In canal section 7 only 3 grapnel throws retrieved aquatic vegetation. In canal section 8 no grapnel throws retrieved aquatic vegetation. At Rednal Basin reserve all throws retrieved vegetation.</p>
<p>Aquatic plant community: species richness</p>	<p>Mean number of 7 native submerged and floating species in 150 m sampling sites AND/OR mean number of 7 native emergent species in 150 m sampling sites.</p>	<p>Record species numbers in 150 m sampling sites, using a grapnel and through observation.</p>	<p>Fail. There was a mean of 3 submerged/floating-leaved species in the canal sections. At Rednal Basin reserve 8 species were recorded. There was a mean of 12 emergent species in the canal sections. At Rednal Basin reserve 2 species were recorded.</p>
<p>Indicators of negative change: introduced plant species</p>	<p>The four most invasive species (<i>Azolla</i> spp., <i>Crassula helmsii</i>, <i>Hydrocotyle ranunculoides</i>, <i>Myriophyllum aquaticum</i>) should be absent from the canal, or at the most occupy less than 50 m of the whole designated site AND none of these invasive species should be present at DAFOR cover more than Rare in any 150 m survey site.</p>	<p>Presence of all alien and introduced aquatic plants should be noted during section surveys. They should be recorded on the DAFOR scale for every site survey.</p>	<p>Pass. These species were not present.</p>
<p>Indicators of local distinctiveness: rare species and quality indicators</p>	<p>Populations of rare species and other species characteristic of high-quality canal systems should persist.</p>	<p>The continued presence of populations should be checked during section surveys.</p>	<p>Fail. Frogbit was present in all sections of the canal where it was occasional to rare. It was also present in Rednal Basin reserve. Rigid hornwort was present in Rednal Basin reserve. Long-stalked pondweed was very rare in section 8 of the canal. No other rare or otherwise notable species were present.</p>

Montgomery SSSI			
Attribute	Targets	Method Assessment	Comments
Extent	No reduction in the extent of vegetation types for which the canal was designated.	Observations on the balance between cover of emergent and submerged / floating-leaved vegetation and on the aquatic species present, during section surveys.	Fail. We have not seen the original data on which the designation of the SSSI was based but assume that there was more diverse and much more extensive submerged/floating-leaved aquatic vegetation. Significant lengths of the canal sections are now choked with emergent vegetation. Of the reserves, Guilsfield Arm in particular, is also extensively choked with emergent vegetation.
Habitat functioning: water availability	A drop in overall depth of less than 10 % throughout the canal.	Observation during section survey.	Fail. The water level was extremely low in 8 sections of the canal and low in a further 7 sections. Along Guilsfield Arm reserve it was extremely low to non-existent.
Habitat functioning: water quality - transparency	In at least 90% of observations, the canal bed is clearly visible in water 1 m deep in summer.	Secchi disk measurement or visual observation during section and site surveys.	Pass. In those sections of the canal that held normal water levels, clarity was good and >1m/to the bottom. This was also the case in the reserves (N/A to Guilsfield Arm, which was mainly dry).
Habitat functioning: water quality cover of algae/ <i>Lemna</i> / <i>Azolla</i>	Filamentous algae and combined <i>Lemna</i> / <i>Azolla</i> cover, each less than 10% cover on average (no more than Occasional on the DAFOR scale).	Assessment of cover in section surveys.	Fail. Cover of filamentous algae and duckweed was between 10 and 80% in 23 of the canal sections. In both Brithdir ponds, at Wern and at Whitehouse cover was between 50 and 70%. Where there was water in the Guilsfield Arm cover was approaching 100%.
Habitat structure: sediment depth and texture	Extent of fine and unconsolidated sediments limited: passage of grapnel should not result in excessive re-suspension of sediments or leaf litter in at least 90 % of throws.	Record any resuspension caused by the use of the grapnel during site surveys.	Fail. There was at least a moderately deep layer of fine sediment across all sections of the canal and in the reserves. In many places it was difficult to judge whether the passage of the grapnel resulted in excessive resuspension because the channel was choked with emergent and/or floating (e.g. water soldier) vegetation and/or duckweed. However, it is considered that build-up of sediment was excessive in >10% of all areas.
Habitat structure: channel shading	On average no more than 5 % of the channel surface should be shaded by overhanging	Visual assessment during section surveys (estimate of vertical projection).	Fail. Shading to the water surface area was >5% in 23 sections and in the Guilsfield, Wern and Whitehouse reserves.

	vegetation in each section length.		
Aquatic plant community: quantity of vegetation	In at least 90% of sample sites, at least 8 out of 10 grapnel throws retrieve aquatic vegetation.	During section surveys record the mean number of random grapnel throws bringing up vegetation.	Fail. Only 24 of 37 canal sections (i.e. 65%) passed this criterium. At Wern, Whitehouse and in the two Brithdir ponds, all grapnel throws retrieved aquatic vegetation. However, along the Guilsfield Arm submerged/floating-leaved vegetation was so rare grapnel sampling was not practical and the Welshpool in-channel reserves were not accessible for grapnel sampling and were, anyhow, choked with emergent vegetation.
Aquatic plant community: species richness	Mean number of 7 native submerged and floating species in 150 m sampling sites AND/OR mean number of 7 native emergent species in 150 m sampling sites.	Record species numbers in 150 m sampling sites, using a grapnel and through observation.	Fail. There was a mean number of 6 native submerged/floating-leaved species across the canal sections and only 3 for the reserves. There was a mean number of 7 emergent species across the canal sections but only 5 for the reserves.
Indicators of negative change: introduced plant species	The four most invasive species (<i>Azolla</i> spp., <i>Crassula helmsii</i> , <i>Hydrocotyle ranunculoides</i> , <i>Myriophyllum aquaticum</i>) should be absent from the canal, or at the most occupy less than 50 m of the whole designated site AND none of these invasive species should be present at DAFOR cover more than Rare in any 150 m survey site.	Presence of all alien and introduced aquatic plants should be noted during section surveys. They should be recorded on the DAFOR scale for every site survey.	Pass. These species were not present.
Indicators of local distinctiveness: rare species and quality indicators	Populations of rare species and other species characteristic of high-quality canal systems should persist.	The continued presence of populations should be checked during section surveys.	Pass. This was a difficult criterium to judge overall. The population of floating-water-plantain is being maintained across many sections of the canal which is a positive. Frogbit is widespread and rigid hornwort, needle spike-rush, flat-stalked pondweed, long-stalked pondweed, grass-wrack pondweed and a charophyte species are all variously present. The canal itself would therefore pass. However, with the exception of the ubiquitous presence of frogbit, the reserves were depauperate of

			notable species and fail the criterium.
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Appendix 7. Distribution of Floating Water-Plantain and Grass-Wrack Pondweed

Distribution of floating water-plantain in kilometre sections of the Montgomery Canal (X = present, other symbols are DAFOR -- our estimate from the available data).

Kilometre Section ¹¹	before 1985	1985-1987	1997	2001	2014	2022
1						
2						
3						
4						
5	X					
6	X					
7						
8	X					
9	X					
10	X					
11	X					
12	X					
13						
14						
15						
16						
17						
18	X	X				
19		X	X	X		
20	X	X	X	X	A	R
21		X	X	X	O	
22		X	X	X	O	
23		X	X	X	F	O
24		X	X			
25	X	X				
26	X	X	X		R	
27	X	X	X			
28	X	X			O	R
29	X	X	X	X	O	O
30	X	X	X	X	A	F
31	X	X	X	X	A	O
32	X	X	X	X		O
33	X	X	X	X	F	O
34	X	X	X	X	O	O
35	X	X		X	R	O
36	X	X		X	O	R
37		X		X	F	F

¹¹ As laid out by Briggs (1988). Sections 1 – 18 are in England and sections 18 – 56 are in Wales (the border splits section 18 and is marked by the A483 road).

38		X	X	X	O	F
39		X	X	X	R	F
40	X	X	X	X	F	F
41	X	X	X	X	F	F
42	X	X		X	F	O
43	X	X	X	X	O	F
44	X	X	X			A
45	X	X				A
46		X	X	X		O
47		X		X	R	O
48		X			R	O
49	X	X	X	X	A	F
50		X	X	X	O	F
51	X	X		X	R	F
52	X	X	X	X	A	F
53		X	X	X	R	
54		X				
55		X				
56	X					

Distribution of grass-wrack pondweed in kilometre sections of the Montgomery Canal (X = present, other symbols are DAFOR -- our estimate from the available data). The species was not systematically recorded in 2014.

Kilometre Section ¹²	before 1985	1985-1987	1997	2001	2014	2022
1						
2						
3						
4						
5						
6						
7				X		
8	X					
9	X					
10						
11	X	X				
12	X					
13	X					
14						
15						
16						
17						
18	X					
19		X	X			R

¹² As laid out by Briggs (1988). Sections 1 – 18 are in England and sections 18 – 56 are in Wales (the border splits section 18 and is marked by the A483 road).

20	X	X	X	X		R
21		X	X			
22	X	X	X			R
23		X				
24		X				R
25	X	X				
26	X	X				
27	X	X	X			
28	X	X	X			
29	X	X				
30	X	X	X			
31	X	X				
32	X	X				
33	X	X	X			
34	X	X		X		
35		X	X	X		
36		X		X		F
37		X	X	X		
38		X				
39		X		X		
40		X	X			
41			X			
42	X	X				
43						
44	X					
45	X					
46	X					
47	X					
48	X	X				
49		X				
50		X				
51	X	X				
52	X	X				
53	X	X				
54	X	X	X			
55	X					
56	X					

Appendix 8. Actions to Address Threats to Aquatic SSSIs

Actions to address threats to aquatic SSSIs (CRT/NE, 2018)

These actions will be prioritised in Trust's Local Plans (it is assumed that similar principles apply in Wales and in relation to Natural Resources Wales):

1. The Trust will undertake vegetation management to ensure biodiversity potential is maximised.
2. The Trust will liaise with Natural England to encourage adjacent landowners to manage trees within their land ownership for the benefit of the SSSI.
3. The Trust will work with partners to identify measures required to meet Water Framework Directive objectives.
4. The Trust will work together with Natural England and partners to identify sources of water pollution and to encourage land managers to implement resource protection measures such as fencing and riparian buffer zones.
5. The Trust will implement the fish population management protocol outlined in Appendix 2.

Management actions to address threats to canal SSSIs (CRT/NE, 2018)

These actions will be highlighted as waterway environmental priorities and incorporated into our local strategic plans (it is assumed that similar principles apply in Wales and in relation to Natural Resources Wales):

1. Dredging: the Trust will implement the dredging protocol outlined in Appendix 3.
2. Management of aquatic and marginal plants with respect to boat traffic: where evidence indicates that navigation poses a threat to the canal habitat or the species it supports the Trust and NE will undertake an options appraisal to investigate all options to conserve the habitat while maintaining recreational use of the waterway. A plan will then be produced based on the conclusions of the options appraisal. Once money has been committed and work started on the ground the boat traffic remedy will be considered underway. Indicative options to be considered include opportunities to protect macrophytes *in situ* through spatial exclusion or promoting voluntary speed limits on navigation, trialling novel management techniques to improve habitat and population condition or *ex situ* and compensatory measures where operational impacts cannot be avoided.
3. Bank Protection: areas of degraded and eroded bank will be identified and prioritised for remedial action to prevent sediment input to the canal and improve marginal habitat. Where practicable, priority will be afforded to 'soft bank' techniques that maximise biodiversity benefit. Where harder bank reinforcement is required, this will be kept to a minimum and employed only once alternative 'softer' measures such as managing temporary moorings have been considered. The Trust and NE will encourage local landowners to implement measures on their land to stop cattle poaching banks. Where possible, defined cattle drinking points will be provided where fencing is installed.
4. Boating practices: the Trust will support the development of new "off line" marinas to reduce the pressures from linear moorings through the implementation of the new marina protocol outlined in Appendix 4. No new commercial linear moorings will be approved within navigable SSSIs. The Trust will encourage new commercial hire operators to use boat designs with low impact designed boats. Through its website the Trust will raise awareness of all its navigable SSSIs with boaters and encourage them to "go slow" to avoid creating a breaking wash.
5. Raising awareness and appropriate behaviours amongst all users: subject to funding and any

heritage/ planning constraints the Trust will also erect signage identifying the entrances to each SSSI. Both parties will explore opportunities to raise awareness of the SSSI series through their own and 3rd party future publications (e.g. waterway maps and boater's guides).

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