

High Speed Rail (Crewe – Manchester)

Background information and data

Ecology and biodiversity

BID EC-013-00001

Ecological baseline data - fish

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Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

High Speed Two (HS2) Limited
Two Snowhill
Snow Hill Queensway
Birmingham B4 6GA

Telephone: 08081 434 434

General email enquiries: HS2enquiries@hs2.org.uk

Website: www.hs2.org.uk

A report prepared for High Speed Two (HS2) Limited:

ARUP+ ERM | FOSTER + PARTNERS | JACOBS
RAMBOLL | TYPISA | COSTAIN

MWJV

Mott MacDonald | WSP

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1 Introduction

- 1.1.1 This report presents a summary of the baseline data relating to fish (rivers and streams).
- 1.1.2 Baseline data have been collected for the Proposed Scheme in relation to the following community areas (CA):
- Hough to Walley's Green (MA01);
 - Wimboldsley to Lostock Gralam (MA02);
 - Pickmere to Agden and Hulseheath (MA03);
 - Broomedge to Glazebrook (MA04);
 - Risley to Bamfurlong (MA05);
 - Hulseheath to Manchester Airport (MA06);
 - Davenport Green to Ardwick (MA07); and
 - Manchester Piccadilly Station (MA08).
- 1.1.3 This report should be read in conjunction with the Background Information and Data, Ecology Map Book: Map Series EC-11.
- 1.1.4 The Environmental Statement¹ should be referred to for details of the ecology impact assessment.

¹ High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

2 Fish

2.1 Methodology

- 2.1.1 Details of the standard methodology utilised for fish surveys are provided in Technical Note – Ecology and biodiversity – Ecological Field Survey Methods and Standards (FSMS) included in the Environmental Impact Assessment Scope and Methodology Report (SMR)² (see Environmental Statement, Volume 5, Appendix CT-001-00001).
- 2.1.2 Following the approach outlined in the FSMS, detailed fish surveys are required for watercourses with moderate or good fish habitat where insufficient desk study data exists and there is a likelihood of finding fish species of conservation concern. Such locations have been identified from:
- desk study records relating to fish obtained from the Environment Agency³;
 - rECOrd⁴ (the local biological records centre for Cheshire, Halton, Warrington and Wirral (the Cheshire region));
 - Greater Manchester Records Centre⁵, which identified protected species and species listed under Section 41 of the Natural Environment and Rural Communities Act (2006) based on Environment Agency fisheries monitoring data; and
 - initial habitat assessments performed during scoping surveys undertaken as part of Phase 1 habitat, macroinvertebrate, river habitat and Water Framework Directive (WFD) walkover surveys.
- 2.1.3 A summary of locations at which fish surveys were undertaken within MA01 to MA08 is provided in Table 1 and shown in accompanying Ecology Map Series EC-11.

² High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement, Environmental Impact Assessment Scope and Methodology Report, Volume 5, Appendix CT-001-00001*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

³ Environment Agency. Available online at: <https://www.gov.uk/government/organisations/environment-agency>.

⁴ rECOrd, *Local Biological Records Centre serving Cheshire*. Available online at: <http://www.record-lrc.co.uk/>.

⁵ Greater Manchester Local Record Centre. Available online at: <https://www.gmwildlife.org.uk/>.

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Table 1: Summary of fish surveys undertaken

Ecology survey code	Survey site name	Feature type	Survey date(s)	CA	Approximate distance from the land required for the construction of the Proposed Scheme (m) and orientation
AT03_FI1_031018	River Dane	River	3 October 2018	MA02	Within
BT11_FI1_011118	Smoker Brook	Brook	1 November 2018	MA02/MA03	Within
BT04_FI1_250919	Millington Clough	Stream	25 September 2019	MA03/MA06	Within
BT10_FI1_011118	Agden Brook	Brook	1 November 2018	MA03/MA06	Within
DT01_FI1_021018	River Bollin	River	2 October 2018	MA04	60m west
DT03_FI1_031018	Glaze Brook	Brook	3 October 2018	MA04	1m east
DT05_FI1_240919	Carr Brook	Brook	24 September 2019	MA05	Within
DT04_FI1_011118	Hey Brook	Brook	1 November 2018	MA05	Within
BT07_FI1_021018	River Bollin	River	2 October 2018	MA06	55m east

2.1.4 Incidental records have been identified at some locations during surveys for white-clawed crayfish (*Austropotamobius pallipes*) and other macroinvertebrates.

2.1.5 There were 15 sites requiring fish surveys within MA01 to MA08 for which no access was obtained, these are set out in Table 2.

Table 2: Summary of sites requiring fish surveys within MA01 to MA08, but no access obtained at the point of survey

Survey site name/location	OS grid reference	Description of proposed survey location	CA	Approximate distance from the land required for the construction of the Proposed Scheme (m) and orientation
River Wheelock	SJ6944166204	West of Middlewich. Watercourse intersected by the land required for the construction of the Proposed Scheme.	MA02	Within
Puddinglake Brook	SJ6836170132	South-east of Davenham and north-east of Moulton. Watercourse intersected by the route of the Proposed Scheme.	MA02	Within
River Dane	SJ6838868172	North-east of Winsford and north-west of Middlewich. Watercourse intersected by the route of the Proposed Scheme.	MA02	Within
Wade Brook	SJ6957274283	North of Lostock Green. Watercourse intersected by the route of the Proposed Scheme.	MA02	Within
Peover Eye	SJ7022775683	East of Higher Wincham. Watercourse intersected by the route	MA02	Within

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Survey site name/location	OS grid reference	Description of proposed survey location	CA	Approximate distance from the land required for the construction of the Proposed Scheme (m) and orientation
		of the Proposed Scheme.		
Tributary of Smoker Brook 1	SJ7029575996	East of Higher Wincham. Watercourse intersected by the route of the Proposed Scheme.	MA02 / MA03	Within
Waterless Brook/Arley Brook	SJ7071078670	West of Knutsford. Watercourse intersected by the route of the Proposed Scheme.	MA03	Within
Red Brook	SJ7013690846	South-west of Partington. Watercourse intersected by the route of the Proposed Scheme.	MA04	Within
Blackburn's Brook and Birkin Brook	SJ7553284551	North-east of Rostherne Mere. Watercourse intersected by the route of the Proposed Scheme.	MA06	Within
Birkin Brook	SJ7578084452	East of Rostherne Mere. Watercourse intersected by the route of the Proposed Scheme.	MA06	Within
Mobberley Brook	SJ7714182766	South-east of Rostherne Mere. Watercourse intersected by the land required for the construction of the Proposed Scheme.	MA06	Within
Sugar Brook	SJ7751782790	South-east of Rostherne Mere. Watercourse intersected by the land required for the construction of the Proposed Scheme.	MA06	Within
Timperley Brook	SJ8056686023	North-east of Hale Barns, south of Davenport Green. Watercourse intersected by the route of the Proposed Scheme.	MA06	Within
River Mersey	SJ8321390417	South of West Didsbury. Watercourse intersected by the route of the Proposed Scheme.	MA07	1.6km north-east
River Medlock	SJ8542197728	Manchester City Centre. Watercourse intersected by the route of the Proposed Scheme.	MA08	Within

Watercourses scoped out of detailed fish survey

2.1.6 Watercourses which were not included in the scope of further survey following initial habitat assessment are listed in Table 3 with reasons for the exclusions in each case.

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Table 3: Watercourses scoped out of fish survey due to poor habitat

Watercourse	Location	OS grid reference	Rationale for scoping watercourse/ water body out of requirement for further survey	CA	Approximate distance from the land required for the construction of the Proposed Scheme (m) and orientation
Tributary of Swill Brook 1	South of Crewe	SJ7172752576	Small watercourse, culverted at intersection of the route of the Proposed Scheme. Fish habitat assessed as poor. At this location the route is tunnelled.	MA01	Within
Gresty Brook	South of Crewe	SJ7147253619	Small watercourse, culverted at intersection of the route of the Proposed Scheme. Fish habitat assessed as poor. At this location the route is tunnelled.	MA01	Within
Valley Brook	Crewe city centre	SJ7105455147	Small watercourse, culverted at intersection of the route of the Proposed Scheme. Fish habitat assessed as poor. At this location the route is tunnelled.	MA01	Within
Leighton Brook	Crewe city centre	SJ6978356629	Small watercourse, culverted at intersection of the route of the Proposed Scheme. Fish habitat assessed as poor. At this location the route is tunnelled.	MA01	Within
Broughton Road Drains	North of Crewe	SJ7008057947	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA01	Within
Parkers Road Drain	North of Crewe	SJ6991558427	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA01	Within
Tributary of Fowle Brook 1	North of Crewe	SJ6980758734	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA01	Within
Hoggins Brook	West of	SJ6975360076	Drainage ditch, heavily	MA01	Within

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Watercourse	Location	OS grid reference	Rationale for scoping watercourse/ water body out of requirement for further survey	CA	Approximate distance from the land required for the construction of the Proposed Scheme (m) and orientation
	Warmingham		modified and realigned. Fish habitat assessed as poor.		
Tributary of River Weaver 1	West of Warmingham	SJ6872861836	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA01	Within
Tributary of River Weaver 2	West of Warmingham	SJ6873061838	Small watercourse, heavily modified and realigned. Fish habitat assessed as poor. Likely to originate as drainage for existing railway.	MA02	Within
The Dingle	South of Winsford	SJ6827863067	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Tributary of River Weaver 4	West of Middlewich	SJ6919165109	Small watercourse, heavily modified and realigned. Fish habitat assessed as poor. Likely to originate as drainage for existing railway.	MA02	Within
Shropshire Union Canal	West of Middlewich	SJ6851065546	Canal, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Tributary of River Wheelock 5	West of Middlewich	SJ6871066071	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Birch Lane Drain	West of Middlewich	SJ6890266689	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
The Willowbeds	West of Middlewich	SJ6783467067	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Tributary of River Dane 3	North-west of Middlewich	SJ6850167399	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Hill Wood Drain	North-west of	SJ6815368540	Drainage ditch, heavily	MA02	Within

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Watercourse	Location	OS grid reference	Rationale for scoping watercourse/ water body out of requirement for further survey	CA	Approximate distance from the land required for the construction of the Proposed Scheme (m) and orientation
	Middlewich		modified and realigned. Fish habitat assessed as poor.		
Trent and Mersey Canal - 1st Crossing	North-west of Middlewich	SJ6835868824	Canal, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Tributary of Trent and Mersey Canal	North-west of Middlewich	SJ6833969358	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Trent and Mersey Canal - 2nd Crossing	East of Moulton	SJ6836770214	Canal, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Trent and Mersey Canal - 3rd Crossing	East of Moulton	SJ6842370770	Canal, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Gad Brook	South-east of Northwich	SJ6863371883	Small watercourse, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Tributary of Gad Brook 3	South-east of Northwich	SJ6864171911	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Tributary of Gad Brook 4	South-east of Northwich	SJ6846772662	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Broken Cross Drains	East of Northwich	SJ6902873283	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Moss Lane Drains	East of Northwich	SJ7036174405	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Tributary of Peover Eye	Lostock Gralam	SJ7017375545	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA02	Within
Tributary of Smoker Brook 2	Lostock Gralam	SJ7114276389	Drainage ditch, heavily modified and realigned. Fish habitat	MA03	Within

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			assessed as poor.		
Tributary of Waterless Brook/Arley Brook 2	Flittogate Lane	SJ7090877988	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Tributary of Waterless Brook/Arley Brook 4	Common Farm	SJ6996878964	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Tributary of Waterless Brook/Arley Brook 5	Common Farm	SJ7029579163	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Tributary of Tabley Brook 1	East of Pickmere	SJ7083379299	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Tributary of Tabley Brook 2	East of Pickmere	SJ7083579709	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Tributary of Tabley Brook 3	West of Knutsford	SJ7098279990	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Tributary of Tabley Brook 4	West of Knutsford	SJ7101580532	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Tributary of Tabley Brook 5	West of Knutsford	SJ7127480464	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Tributary of Tabley Brook 6	West of Knutsford	SJ7112780770	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Tributary of Tabley Brook 7	West of Knutsford	SJ7121582940	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Tributary of Tabley Brook 8	West of Knutsford	SJ7114881102	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within

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Tributary of Tabley Brook 9	West of Knutsford	SJ7127181640	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Hulsheath Lane Drain	West of Knutsford	SJ7219883192	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Winterbottom Lane Drains	West of Knutsford	SJ7128281923	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Hoogreen Lane Drain	West of Knutsford	SJ7118182169	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Chapel Lane Drain	West of Knutsford	SJ7253383662	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Tributary of Millington Clough 1	Hulseheath	SJ7168383696	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Tributary of Millington Clough 2	Hulseheath	SJ7170283885	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Tributary of Millington Clough 3	North-east of High Legh	SJ7171884132	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Tributary of Millington Clough 4	North-east of High Legh	SJ7172784631	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA03	Within
Agden Lane Road Drain 1	East of Lymm	SJ7147386548	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA04	Within
Tributary of Agden Brook 1	East of Lymm	SJ7147086559	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA04	Within
Bridgewater	East of Lymm	SJ7140086826	Canal, heavily	MA04	Within

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Canal			modified and realigned. Fish habitat assessed as poor.		
Helsdale Brook	East of Lymm	SJ7100287618	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA04	Within
Old Bollin	North-east of Lymm	SJ7099088402	Small watercourse, heavily modified, culverted and realigned. Fish habitat assessed as poor.	MA04	Within
Tributary of Old Bollin	North-east of Lymm	SJ7091488690	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA04	Within
Carrgreen Lane Drain	North-east of Lymm	SJ7107688719	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA04	Within
Tributary of the Manchester Ship Canal 2	North of Warburton	SJ7048090133	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA04	Within
Field Drains A6144	East of Warburton	SJ7092089659	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA04	Within
Manchester Ship Canal	Hollins Green	SJ7007390954	Canal, heavily modified and realigned. Fish habitat assessed as poor.	MA04	Within
Tributary of Glaze Brook 1	Glazebrook	SJ6978391395	Small watercourse, heavily modified, culverted and realigned. Fish habitat assessed as poor.	MA04	Within
Moss Lane Drains	Glazebrook	SJ6846292138	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA04	Within
Dam Head Lane Drains	Glazebrook	SJ6896692447	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA04	Within

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Tributary of Glaze Brook 2	Glazebrook	SJ6839792947	Small watercourse, heavily modified and realigned. Fish habitat assessed as poor.	MA04/ MA05	Within
M62 Drainage	South of Culcheth	SJ6786793419	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of Holcroft Lane Brook 1	South of Culcheth	SJ6706993920	Small watercourse, heavily modified, culverted and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of Holcroft Lane Brook 2	South of Culcheth	SJ6686394046	Small watercourse, heavily modified, culverted and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of Holcroft Lane Brook 3	South of Culcheth	SJ6684994052	Small watercourse, heavily modified, culverted and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of Holcroft Lane Brook 4	South of Culcheth	SJ6651894160	Small watercourse, heavily modified, culverted and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of Holcroft Lane Brook 5	South of Culcheth	SJ6603394240	Small watercourse, heavily modified, culverted and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of Holcroft Lane Brook 6	South of Culcheth	SJ6675294300	Small watercourse, heavily modified, culverted and realigned. Fish habitat assessed as poor.	MA05	Within
Holcroft Lane Brook	South of Culcheth	SJ6607294270	Small watercourse, heavily modified, culverted and realigned. Fish habitat assessed as poor.	MA05	Within
Silver Lane Lakes Drains	South of Culcheth	SJ6596794250	Drainage ditch, heavily modified and realigned. Fish habitat	MA05	Within

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Watercourse	Location	OS grid reference	Rationale for scoping watercourse/ water body out of requirement for further survey	CA	Approximate distance from the land required for the construction of the Proposed Scheme (m) and orientation
			assessed as poor.		
Culcheth Linear Park Drain 1	South-east of Culcheth	SJ6509094859	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Wigshaw Lane Drains	South-east of Culcheth	SJ6446594916	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of Cross Brook 1	North-east of Croft	SJ6460694804	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Jibcroft Brook	North-west of Culcheth	SJ6395295748	Small watercourse, heavily modified and realigned in upper reaches, runs through golf course. Fish habitat assessed as poor.	MA05	Within
Tributary of Carr Brook 1	North-west of Culcheth	SJ6374196086	Small watercourse, noted as very low flow or dry and culverted in sections. Fish habitat assessed as poor.	MA05	Within
Small Brook	Golborne	SJ6289698104	Small watercourse, heavily modified, culverted and realigned through Golborne and field drains further downstream. Fish habitat assessed as poor.	MA05	Within
Slag Lane Drains	North-east of Golborne	SJ6284398182	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Sandy Lane Drain 1	North-east of Golborne	SJ6288894916	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of Hey Brook 1	North of Golborne	SJ6235798668	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within

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Watercourse	Location	OS grid reference	Rationale for scoping watercourse/ water body out of requirement for further survey	CA	Approximate distance from the land required for the construction of the Proposed Scheme (m) and orientation
Tributary of Hey Brook 2	North of Golborne	SJ6226398732	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of Hey Brook 3	North of Golborne	SJ6189098976	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of Hey Brook 5	North-east of Ashton-In-Makerfield	SD6032500469	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of Hey Brook 6	West of Abram	SD5987702116	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Locker Lane Drain	North-east of Ashton-In-Makerfield	SD6027200610	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Haydock Branch Junction Drains	North-east of Ashton-In-Makerfield	SJ6028199555	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Windy Bank Brook	North-east of Ashton-In-Makerfield	SJ6082199727	Small watercourse, heavily modified, culverted and realigned. Fish habitat assessed as poor.	MA05	Within
Wigan Road Drain	North-east of Ashton-In-Makerfield	SJ6063599948	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Nan Holes Brook	North-east of Ashton-In-Makerfield	SD6051100052	Small watercourse, heavily modified, culverted and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of Nan Holes Brook 1	North-east of Ashton-In-Makerfield	SJ6067899894	Small watercourse, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of Nan Holes Brook 2	North-east of Ashton-In-Makerfield	SD6056900037	Small watercourse, heavily modified, culverted and realigned. Fish habitat	MA05	Within

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Watercourse	Location	OS grid reference	Rationale for scoping watercourse/ water body out of requirement for further survey	CA	Approximate distance from the land required for the construction of the Proposed Scheme (m) and orientation
			assessed as poor.		
Coffin Lane Brook	North-east of Ashton-In-Makerfield	SD6015301001	Small watercourse, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of Coffin Lane Brook 1	North-east of Ashton-In-Makerfield	SD6005801421	Small watercourse, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Bamfurlong Drains	North-east of Ashton-In-Makerfield	SD6018301676	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Leeds and Liverpool Canal	North-east of Ashton-In-Makerfield	SD6034301662	Canal, heavily modified and realigned. Fish habitat assessed as poor.	MA05	Within
Tributary of River Bollin 6	Spodegreen Farm	SJ7380385163	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Yarwood Heath Drain	South of Hale	SJ7450085218	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Tributary of Birkin Brook 9	South of Hale	SJ7562384646	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Tributary of Birkin Brook 7	South of Hale	SJ7630783870	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Tributary of River Bollin 6	South of Hale	SJ7379985161	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Tributary of Birkin Brook 5	South of Hale	SJ7637783870	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	350m north
Tributary of Birkin Brook 4	Rostherne	SJ7672584066	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within

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Watercourse	Location	OS grid reference	Rationale for scoping watercourse/ water body out of requirement for further survey	CA	Approximate distance from the land required for the construction of the Proposed Scheme (m) and orientation
Tributary of Birkin Brook 3	South of Ashley	SJ7752983794	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Tributary of Birkin Brook 2	South of Ashley	SJ7806683735	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Tributary of Birkin Brook 1	South of Ashley	SJ7739583356	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Tributary of Sugar Brook	South of Ashley	SJ7756182784	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Brickhill Wood Drains	South of Warburton Green	SJ7926283954	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Tributary of River Bollin 2	South of Warburton Green	SJ8006284631	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Tributary of River Bollin 3	North-west of Manchester Airport	SJ7939884404	Small watercourse, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Drain to M56 1	North-west of Manchester Airport	SJ7983684584	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Drain to M56 2	North-west of Manchester Airport	SJ7992684734	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Tributary of Timperley Brook 1	North-west of Manchester Airport	SJ8029385462	Small watercourse, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Drain to M56 3	North-west of Manchester Airport	SJ8047485679	Drainage ditch, heavily modified and realigned. Fish habitat assessed as poor.	MA06	Within
Mill Brook	North-west of	SJ8129487585	Drainage ditch, heavily	MA06	950m north-east

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Watercourse	Location	OS grid reference	Rationale for scoping watercourse/ water body out of requirement for further survey	CA	Approximate distance from the land required for the construction of the Proposed Scheme (m) and orientation
	Manchester Airport		modified and realigned. Fish habitat assessed as poor. At this location the route is tunnelled.		
Baguley Brook	South of Newhall Green	SJ8217188864	Small watercourse, heavily modified and realigned. Fish habitat assessed as poor. At this location the route is tunnelled.	MA06/ MA07	Within
Tributary of Baguley Brook	Newhall Green	SJ8228289031	Small watercourse, urban, largely culverted, heavily modified and realigned. Fish habitat assessed as poor. At this location the route is tunnelled.	MA07	Within
Round Wood Drain	Wythenshawe	SJ8244989288	Small watercourse, urban, largely culverted, heavily modified and realigned. Fish habitat assessed as poor. At this location the route is tunnelled.	MA07	200m north
Tributary of River Mersey 2	North of Northenden	SJ8356590886	Drainage ditch, urban, largely culverted, heavily modified and realigned. Fish habitat assessed as poor. At this location the route is tunnelled.	MA07	Within
Cringle Brook	East of Fallowfield	SJ8589093439	Small watercourse, urban, largely culverted, heavily modified and realigned. Fish habitat assessed as poor. At this location the route is tunnelled.	MA07	805m south-west
Fallowfield Brook	East of Fallowfield	SJ8627793918	Drainage ditch, urban, largely culverted, heavily modified and realigned. Fish habitat assessed as poor. At	MA07	180m south-west

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Watercourse	Location	OS grid reference	Rationale for scoping watercourse/ water body out of requirement for further survey	CA	Approximate distance from the land required for the construction of the Proposed Scheme (m) and orientation
			this location the route is tunnelled.		
Tributary of Platt Brook 1	North-west of Levenshulme	SJ8680494761	Small watercourse, urban, largely culverted, heavily modified and realigned. Fish habitat assessed as poor. At this location the route is tunnelled.	MA07	650m north-east
Gore Brook	North-west of Levenshulme	SJ8697795461	Small watercourse, urban, largely culverted, heavily modified and realigned. Fish habitat assessed as poor. At this location the route is tunnelled.	MA07	1.3km north-east
Corn Brook	West Gorton	SJ8656697081	Small watercourse, urban, largely culverted, heavily modified and realigned. Fish habitat assessed as poor. At this location the route is tunnelled.	MA07	40m south
Shooters Brook Downstream	Manchester Piccadilly	SJ8479797978	Small watercourse, inferred underground urban river from assumed hydrological connectivity. Largely culverted, heavily modified and realigned. Fish habitat assessed as poor. At this location the route is tunnelled.	MA08	Within
Ashton Canal	Manchester Piccadilly	SJ8481198152	Canal, urban, heavily modified and realigned. Fish habitat assessed as poor.	MA08	0m north-west and to the north-east

2.2 Deviations, constraints and limitations

2.2.1 Limited access during the required survey window means that no habitat assessments were conducted at a number of watercourses within the land required for the construction of the

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Proposed Scheme. In addition, some watercourses where a habitat assessment was possible were not accessible for subsequent fish survey within the required survey window. All of these sites are outlined in the sections below.

Wimboldsley to Lostock Gralam (MA02)

- 2.2.2 The River Wheelock, Puddinglake Brook, the River Dane, Wade Brook, Peover Eye and Tributary of Smoker Brook 1 could not be visited for habitat assessment or subsequent fish survey due to land access constraints. Assessment of similar watercourses in the area suggested that suitable fish habitat would be present in these watercourses.

Pickmere to Agden and Hulseheath (MA03)

- 2.2.3 Waterless Brook/Arley Brook could not be visited for habitat assessment or subsequent fish survey due to land access constraints. Assessment of similar watercourses in the area suggested that suitable fish habitat would be present in this watercourse.

Broomedge to Glazebrook (MA04)

- 2.2.4 Red Brook could not be visited for habitat assessment or subsequent fish survey due to land access constraints.

Hulseheath to Manchester Airport (MA06)

- 2.2.5 Birkin Brook, Blackburn's Brook, Mobberley Brook, Sugar Brook and Timperley Brook could not be visited for habitat assessment or subsequent fish surveys due to land access constraints. Assessment of similar watercourses in the area suggested that suitable fish habitat would be present in these watercourses.

Davenport Green to Ardwick (MA07)

- 2.2.6 The River Mersey could not be visited for habitat assessment or subsequent fish survey due to land access constraints.

Manchester Piccadilly Station (MA08)

- 2.2.7 The River Medlock could not be visited for habitat assessment or subsequent fish survey due to health and safety concerns at the site.

2.3 Baseline

- 2.3.1 Baseline data relating to fish surveys for MA01 to MA08 are detailed in Table 4 below.

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 Ecological baseline data – fish

Table 4: A summary of the fish baseline data

Ecology survey code	Watercourse and description of location	Centroid OS grid reference	Survey type	Average site width (m)	Species caught	Total Catch	CA
AT03_FI1_03 1018	River Dane, east of Bostock Hall and within the land required for the construction of the Proposed Scheme	SJ6834468760	Electrofishing 100m single run	10.1	Common roach (<i>Rutilus rutilus</i>)	6	MA02
					Dace (<i>Leuciscus leuciscus</i>)	2	
					Gudgeon (<i>Gobio gobio</i>)	9	
					Chub (<i>Leuciscus cephalus</i>)	4	
					Barbel (<i>Barbus barbus</i>)	1	
					Minnow (<i>Phoxinus phoxinus</i>)	7	
					Bullhead (<i>Cottus gobio</i>)	1	
					Stone loach (<i>Barbatula barbatula</i>)	5	
BT11_FI1_01 1118	Smoker Brook, east of Higher Wincham and within the land required for the construction of the Proposed Scheme	SJ7048876003	Electrofishing 100m single run	10	Minnow	10-99	MA02/ MA03
					Bullhead	10-99	
					Three-spined stickleback (<i>Gasterosteus aculeatus</i>)	1-9	
BT10_FI1_01 1118	Agden Brook, east of Broomedge and within the land required for the construction of the Proposed Scheme	SJ7244684952	Electrofishing 100m single run	0.7	Three-spined stickleback	10-99	MA03/ MA06
DT01_FI1_02 1018	River Bollin, west of Altrincham and within the land required for the construction of the Proposed Scheme	SJ7091388221	Electrofishing 100m single run	8.8	European eel (<i>Anguilla anguilla</i>)	2	MA04
					Brown trout (<i>Salmo trutta</i>)	1	
					Gudgeon	4	
					Chub	3	
					Minnow	29	
					Stone Loach	3	

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Ecology survey code	Watercourse and description of location	Centroid OS grid reference	Survey type	Average site width (m)	Species caught	Total Catch	CA
					Bullhead	5	
					Three-spined stickleback	6	
DT03_FI1_03 1018	Glaze Brook, north-west of Partington and within the land required for the construction of the Proposed Scheme	SJ7019291553	Electrofishing 100m single run	10	Common roach	174	MA04
					Perch (<i>Perca fluviatilis</i>)	3	
					European eel	2	
					Dace	4	
					Gudgeon	2	
					Chub	4	
					Common bream (<i>Abramis brama</i>)	15	
					Stone loach	10-99	
					Three-spined stickleback	1-9	
DT05_FI1_24 0919	Carr Brook, south-east of Golborne and within the land required for the construction of the Proposed Scheme	SJ6380997381	Electrofishing 50m single run	1	Stone loach	1	MA05
					Three-spined stickleback	13	
DT04_FI1_01 1118	Hey Brook, west of Leigh and within the land required for the construction of the Proposed Scheme	SD611740013 3	Electrofishing 100m single run	2.7	Chub	1	MA05
					Perch	1	
					European eel	1	
					Three-spined stickleback	1-9	
BT04_FI1_25 0919	Millington Clough, south-west of Altrincham and within the land required for the construction of the Proposed Scheme	SJ7225184145	Electrofishing 75m single run	0.6	Three-spined stickleback	16	MA06
BT07_FI1_02 1018	River Bollin, north-east of Thorns Green and within the land required	SJ7959684131	Electrofishing 100m single run	12.3	Brown trout	1	MA06
					Chub	3	
					Stone loach	16	
					Bullhead	5	

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Ecological baseline data – fish

Ecology survey code	Watercourse and description of location	Centroid OS grid reference	Survey type	Average site width (m)	Species caught	Total Catch	CA
	for the construction of the Proposed Scheme				Three-spined stickleback	2	

Desk study

Hough to Walley's Green (MA01)

2.3.2 A single-run Environment Agency survey was conducted on Gresty Brook in 2014, approximately 1.2km downstream of the land required for the construction of the Proposed Scheme. Two three-spined sticklebacks were caught. Gresty Brook, called Basford Brook in the Environment Agency data set, is within the land required for the construction of the Proposed Scheme. The watercourse is subject to urban pressures and is culverted at the intersection of the route of the Proposed Scheme with the channel. Three-spined stickleback are relatively tolerant of poor biological water quality. The absence of other species suggests a poor habitat value.

2.3.3 Single-run Environment Agency surveys were conducted on Valley Brook in 2004 and 2012, approximately 2km downstream of the land required for the construction of the Proposed Scheme. Brown/sea trout and stone loach were caught. Valley Brook, within the land required for the construction of the Proposed Scheme, is subject to urban pressures and is culverted at the intersection of the route of the Proposed Scheme with the channel. As such, the watercourse contains poor fish habitat. Brown/sea trout is included in Section 41 (S41) of the Natural Environment and Rural Communities Act 2006⁶ (Natural Environment and Rural Communities (NERC) Act 2006).

Wimboldsley to Lostock Gralam (MA02)

2.3.4 Environment Agency data exists for the River Wheelock, approximately 60m and 220m downstream of the land required for the construction of the Proposed Scheme. The most recent survey, a triple run catch depletion conducted in 2006, recorded chub, roach, gudgeon, perch, pike, European eel, bullhead, three-spined stickleback and minnow. Dace, stoneloach, common bream and barbel were also recorded between 2001 and 2005. Bullhead is listed under Annex II of the European Habitats Directive⁷ but is considered

⁶ Natural Environment and Rural Communities Act (2006). Available online at: <http://www.legislation.gov.uk/ukpga/2006/16/section/41>.

⁷ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. Available online at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31992L0043&from=EN>.

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common and widespread in England, whilst barbel is listed under Annex V. European eel is listed under Appendix II of the Bonn Convention (The Convention on Migratory Species)⁸, under S41 of the NERC Act 2006 and are considered Critically Endangered by the International Union for Conservation of Nature⁹.

- 2.3.5 Environment Agency data exists for the River Dane approximately 2.6km upstream of the land required for the construction of the Proposed Scheme. The most recent survey, a triple-run catch depletion conducted in 2008, recorded barbel, chub, gudgeon, roach, perch, three-spined stickleback, minnow, stone loach, dace and pike. Bullhead and European eel were also recorded between 2003 and 2006.
- 2.3.6 Single-run electrofishing surveys were conducted by the Environment Agency on Wade Brook in 2005, 2011 and 2013, approximately 160m downstream of the land required for the construction of the Proposed Scheme. No fish were recorded.
- 2.3.7 Environment Agency data exists at three sites on Peover Eye: one approximately 240m upstream; one within; and one approximately 10m downstream, of the land required for the construction of the Proposed Scheme. Surveys conducted in 2013 within the land required for the construction of the Proposed Scheme caught grayling, chub, roach, perch, bullhead and minnow. Surveys conducted at all sites between 1999 and 2015 caught brown/sea trout, dace, gudgeon, European eel, three-spined stickleback, stone loach, lamprey, perch, pike, rainbow trout and common bream.
- 2.3.8 Single-run Environment Agency monitoring exists on Smoker Brook adjacent to the land required for the construction of the Proposed Scheme. The most recent survey, conducted in 2015, caught perch, brown/sea trout, European eel and stone loach. Surveys conducted between 2001 and 2011 recorded chub, dace, crucian carp, roach, abundant bullhead, three-spined stickleback, minnow, gudgeon, rudd and grayling.

Pickmere to Agden and Hulseheath (MA03)

- 2.3.9 Environment Agency monitoring exists on Waterless Brook/Arley Brook approximately 2km downstream of the land required for the construction of the Proposed Scheme. Single-run surveys conducted in 2001 and 2004 recorded chub, dace, abundant three-spined stickleback, abundant bullhead, stone loach, roach and perch.

Broomedge to Glazebrook (MA04)

- 2.3.10 Environment Agency data exists for the River Bollin at Warburton Bridge, approximately 400m downstream of the land required for construction of the Proposed Scheme. The most

⁸ Convention on the Conservation of Migratory Species of Wild Animals (2014). Available online at: <https://www.cms.int/en/species/anguilla-anguilla>.

⁹ International Union for Conservation of Nature (2016). Available online at: <http://www.iucnredlist.org/details/60344/0>.

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recent survey of this site was a three-run electrofishing survey conducted in 2013. Four fish species were caught: chub, gudgeon, roach and bullhead. Flounder, stone loach, minnow, bullhead, three-spined stickleback, European eel, gudgeon, chub and barbel were caught at this site during a single-run electrofishing survey in 2011. Catch depletion methods at the same site between 2003 and 2011 recorded brown/sea trout, dace, perch, European eel, three-spined stickleback, minnow, stone loach, barbel, common bream, pike, bullhead, roach x common bream hybrid, roach, chub and gudgeon. Environment Agency data approximately 1km upstream of the land required for construction of the Proposed Scheme recorded gudgeon, perch, three-spined stickleback, European eel, chub, roach, bullhead, pike, minnow and stone loach between 1993 and 2008.

- 2.3.11 Environment Agency data exists for the Manchester Ship Canal within 100m of the land required for the Proposed Scheme. These surveys were conducted at seven sites between 2010 and 2011 using either fyke nets or traps. The fish assemblage, comprising gudgeon, perch, dace, bream, European eel, three-spined stickleback, roach and rudd, is typical of canals that are connected to rivers. Both Red Brook and Glaze Brook discharge into the Manchester Ship Canal in the vicinity of the Environment Agency survey locations. The River Mersey confluences with the Manchester Ship Canal approximately 3.5km to the east of the land required for the Proposed Scheme.
- 2.3.12 Environment Agency surveys on Red Brook conducted in 2006, approximately 1.2km upstream of the land required for the construction of the Proposed Scheme, recorded no fish. Single-run electrofishing surveys conducted approximately 3km upstream of the land required for the construction of the Proposed Scheme in 2003 and 2011 caught three-spined stickleback, European eel, gudgeon, chub, minnow, and stone loach.
- 2.3.13 Environment Agency monitoring exists on Glaze Brook. The most recent survey conducted in 2010, approximately 130m upstream of the land required for the construction of the Proposed Scheme, recorded perch and European eel during a single-run electrofishing survey. Chub, gudgeon, roach, perch, minnow, stone loach and three-spined stickleback were also recorded for Glaze Brook between 2008 and 2010.

Risley to Bamfurlong (MA05)

- 2.3.14 Hey Brook runs parallel to the route of the Proposed Scheme and a number of its inflowing tributaries will be intersected by the route of the Proposed Scheme. Environment Agency monitoring data exists for four sites on Hey Brook, approximately 1.3km and 1.5km upstream, and 20m and 800m downstream of the land required for construction of the Proposed Scheme. The most recent survey conducted in 2011 caught roach, European eel, three-spined stickleback and stone loach. Gudgeon, pike, chub, perch and tench have also been recorded in Hey Brook between 1999 and 2005.

Hulseheath to Manchester Airport (MA06)

- 2.3.15 Environment Agency data exists for Blackburn's Brook approximately 260m upstream of the land required for the construction of the Proposed Scheme. The most recent survey in 2013

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recorded pike, perch, roach and minnow. Abundant three-spined stickleback, stone loach and bullhead were caught during single-run electrofishing surveys in 1996.

- 2.3.16 Environment Agency monitoring exists for three sites on Birkin Brook; two approximately 1.8km upstream and one approximately 1km downstream of the land required for the construction of the Proposed Scheme. Single-run surveys conducted upstream between 1996 and 2012 recorded brown/sea trout, rainbow trout, stone loach, gudgeon, perch, European eel, three-spined stickleback, bullhead, lamprey and minnow. Triple-run catch depletion surveys conducted at the downstream site in 2001 and 2002 recorded gudgeon, roach, stone loach and three-spined stickleback.
- 2.3.17 Environment Agency data exists for Tributary of Birkin Brook 2 adjacent to the land required for the construction of the Proposed Scheme. Single run electrofishing survey conducted in 1997 caught abundant three-spined stickleback and stone loach.
- 2.3.18 Environment Agency monitoring exists at five locations on the River Bollin in MA06; one approximately 2.1km downstream, one approximately 4.2km downstream, one approximately 640m upstream and two approximately 1.6km upstream of the land required for the construction of the Proposed Scheme. Surveys were conducted between 1993 and 2013. The most recent survey conducted on this watercourse, a triple-run catch depletion survey, recorded bullhead, stone loach and minnow. Three-spined stickleback, chub, gudgeon, roach, European eel and brown/sea trout were also recorded on this watercourse.

Davenport Green to Ardwick (MA07)

- 2.3.19 Environment Agency data exists for the River Mersey approximately 46m upstream of route of the Proposed Scheme. A single-run electrofishing survey conducted in 2002 caught chub, gudgeon, roach, three-spined stickleback, bullhead and minnow.

Manchester Piccadilly Station (MA08)

- 2.3.20 Environment Agency data exists for the River Medlock approximately 500m upstream of the land required for the construction of the Proposed Scheme. A single-run electrofishing survey conducted in 2013 caught three-spined stickleback and minnow. Further Environment Agency monitoring exists upstream of a large culvert, approximately 500m in length. However, this culvert is considered a migration barrier and thus species data from surveys upstream of the culvert are not considered relevant to this scheme.

Incidental observations

- 2.3.21 Table 5 summarises those locations where incidental observations of fish species were identified and the species recorded.

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Table 5: Summary of incidental fish records undertaken during white-clawed crayfish and macroinvertebrate surveys

Ecology survey code	Watercourse/ water body	Location	OS grid reference	Species recorded	Date	CA	Approximate distance from the land required for the construction of the Proposed Scheme (m) and orientation
CH561720_L 5935_IA1_1 60518	Peover Eye	East of Higher Wincham	SJ7072275 595	Bullhead	16 May 2018	MA02	Within
CH561720- CH634300_L 5278_IA1_1 60518 BT09_WC2_ 180919	Smoker Brook	East of Higher Wincham	SJ7031276 001	Bullhead Shoal of unidentified fish	16 May 2018 18 September 2019	MA02	Within
CH171520_L 5891_IA1_1 60518	Waterless Brook	West of Knutsford	SJ7043978 861	Bullhead Shoal of unidentified fish	16 May 2018	MA03	Within

Wimboldsley to Lostock Gralam (MA02)

2.3.22 Bullhead were observed during a macroinvertebrate survey on Smoker Brook and Peover Eye in May 2018 and on Smoker Brook during white-clawed crayfish surveys in September 2019. Incidental records of bullhead on Smoker Brook and Peover Eye support Environment Agency data for these watercourses and suggest the continued presence of this species. An unidentified shoal of fish was also recorded on Smoker Brook.

Pickmere to Agden and Hulseheath (MA03)

2.3.23 Bullhead and a shoal of unidentified fish were recorded during macroinvertebrate surveys on Waterless Brook/Arley Brook in May 2018. Incidental records of bullhead on Waterless Brook/Arley Brook support Environment Agency data for this watercourse and suggests the continued presence of bullhead.

Summary of status

2.3.24 Cyprinids were the most commonly recorded species within MA01 to MA08, which is typical for lowland UK rivers. Four of the species recorded are of conservation value, these were European eel, brown/sea trout, bullhead and barbel.

2.3.25 The River Bollin in MA04 and MA06 supports an abundant and diverse fish community and was the only watercourse to support all four species of conservation value mentioned

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above. Other main rivers within MA01 to MA08, such as the River Wheelock, River Dane, Peover Eye and Smoker Brook in MA02, Glaze Brook in MA04 and Birkin Brook in MA06, contain diverse fish assemblages, including small populations of notable species or those of conservation concern, namely European eel and bullhead. European eel were identified in MA02 in the River Dane, Peover Eye and Smoker Brook; in MA04 in the Manchester Ship Canal, River Bollin, Red Brook and Glaze Brook; in MA05 in Hey Brook; and in MA06 in Birkin Brook and the River Bollin. Brown/sea trout were identified in MA01 in Valley Brook; in MA02 in Peover Eye; in MA04 in the River Bollin; and in MA06 in the River Bollin and Birkin Brook.

- 2.3.26 In general, the smaller watercourses within MA01 to MA08 do not provide suitable habitat for fish species of conservation concern. Most are shallow or ephemeral with gravel and/or silt substrate which provides little habitat for fish. The majority of minor tributaries are associated with arable land and have channels that are over-deepened and straightened. These watercourses typically receive agriculture-derived, sediment-laden run-off. Consequently, habitat diversity is poor and ecological value is low. Surveyed watercourses that were found to support poor fish diversity are Smoker Brook in MA02; Agden Brook and Millington Clough in MA03 and MA06; and Carr Brook in MA05, whilst Environment Agency records suggested similar conditions on Gresty/Basford Brook and Valley Brook in MA01; Wade Brook in MA02; and Tributary of Birkin Brook 2 in MA06. No species of conservation value were caught on Gresty/Basford Brook, Wade Brook (where no fish were identified in Environment Agency surveys), Carr Brook, Millington Clough, Agden Brook and Tributary of Birkin Brook 2. The apparent absence of species of conservation concern from these watercourses is an indication that the habitat is either unsuitable or unavailable, that water quality precludes them or that barriers to their migration exist.

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3 References

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High Speed Two (HS2) Limited

Two Snowhill

Snow Hill Queensway

Birmingham B4 6GA

Freephone: 08081 434 434

Minicom: 08081 456 472

Email: HS2enquiries@hs2.org.uk

