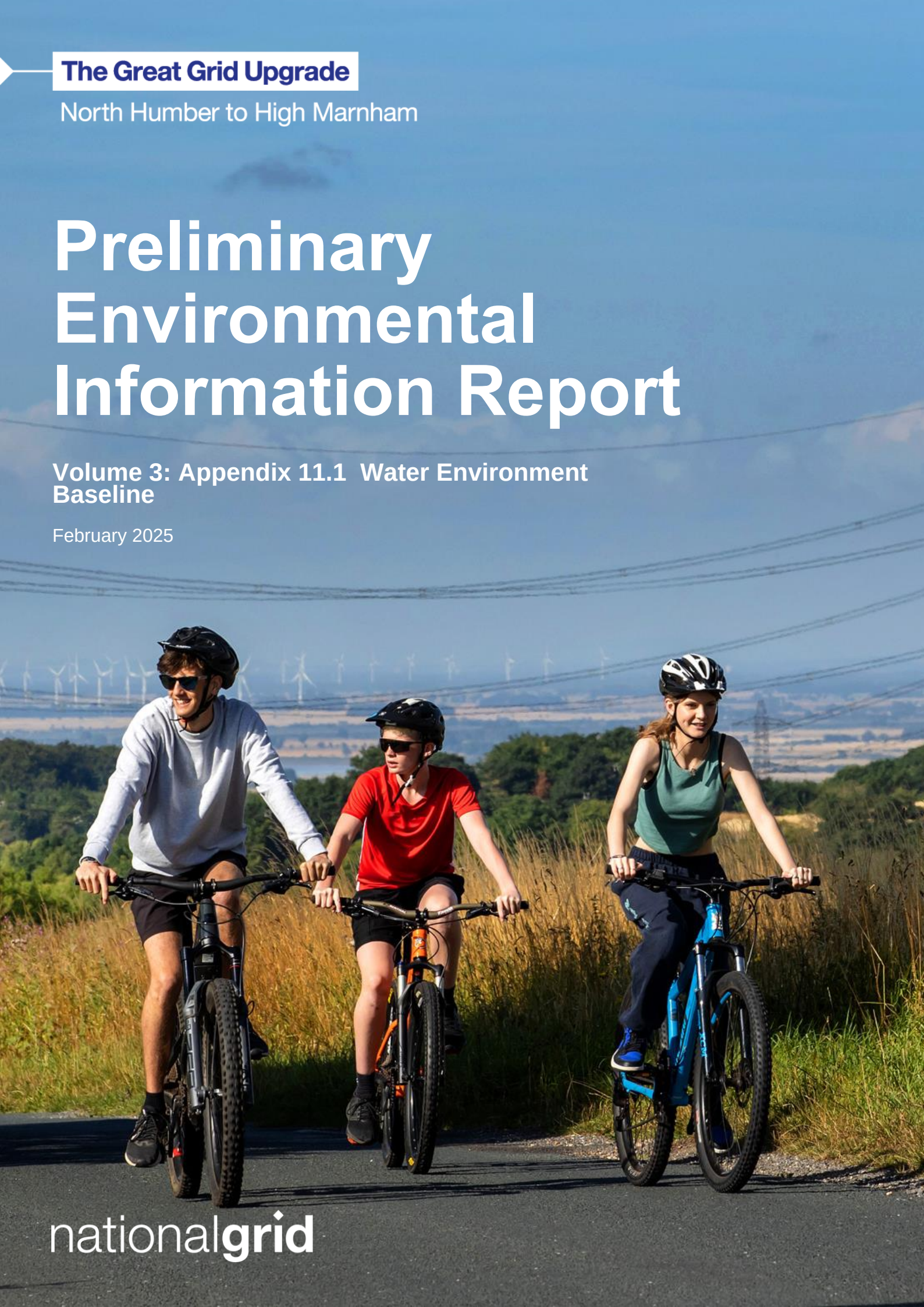
The Great Grid Upgrade

North Humber to High Marnham

Preliminary Environmental Information Report

Volume 3: Appendix 11.1 Water Environment Baseline

February 2025



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1. Introduction

1.1.1 This water environment baseline appendix has been produced to support the Preliminary Environment Information set out in **Chapter 11 Water Environment** in Volume 1 and provides supplementary information specific to surface water abstractions, discharges and baseline water quality data.

2. Surface Water Discharges and Abstractions

2.1.1 Existing consented discharges to surface water and licensed abstractions from surface water sources have been provided by the Environment Agency (received August 2023). The information received is presented in Table 2.1 and Table 2.2.

2.1.2 The locations of the consented discharges and licenced abstractions within the study area, defined as land within the draft Order Limits in addition to a 500 m buffer, are shown on **Figure 11.1 Study Area and Water Environment Features** in Volume 2.

Table 2.1 - Existing consented surface water discharges

Route Section	Permit No.	Discharge type	Receiving watercourse	Volume (m^3)
3	WRA7934	Sewage – water company	Ellerker Drain	Unspecified
3	WRA8017	Sewage – water company	River Humber Tributary	Unspecified
3	WRA7935	Sewage – water company	Old Outlet	Unspecified
3	2212	Sewage – not water company	Yokefleet Drain	Unspecified
4	1192	Sewage – not water company	Parish Drain to River Ouse	Unspecified
4	S/P/388	Sewage – not water company	River Ouse Tributary	Unspecified
4	272	Sewage – not water company	Bellasize Drain	Unspecified
7	MI/T/82/46038/S/001	Sewage – not water company	Southfield Drain	Unspecified
7	MI/T/82/46038/S/001	Sewage – not water company	Unspecified	Unspecified
7	MI/T/82/46205/T/001	Trade	Unspecified	Unspecified
7	MI/EPRHB3297VK/001	Sewage – not water company	Unspecified	Unspecified
9	MI/EPRSP3120GT/001	Sewage – domestic property	Unspecified	Unspecified
10	MI/T/69/45707/R/004	Sewage – water company	Wheatley Beck	Unspecified

Route Section	Permit No.	Discharge type	Receiving watercourse	Volume (m^3)
10	MI/T/69/01713/O/002	Storm Tank CSO	North Beck	Unspecified
10	MI/T/69/22732/S/002*	Sewage – not water company	North Beck	Unspecified
10	MI/3/28/69/1863/001	Sewage – domestic property	Unspecified	Unspecified

*consents discharge at 2 locations on the North Beck

Table 2.2 - Existing licensed surface water abstractions

Route Section	Licence No.	Purpose/use	Source	Max daily quantity (m^3)
3	2/26/34/044*	Agriculture/Spray Irrigation	Elleker Beck	454.6
3	2/26/34/044	Agriculture/Spray Irrigation	Ings Drain	454.6
3	2/26/34/044	Agriculture/Spray Irrigation	Sands Drain	454.6
3	2/26/34/117**	Agriculture/Spray Irrigation	Mill Beck -South Cave Brough	220
3	NE/027/0024/012	Agriculture/Spray Irrigation	Scalby Warping Drain	925

*permits abstraction from 2 locations on the Elleker Beck, illustrated in Figure 11.1
** permits abstraction from 2 locations on the Mill Beck, illustrated in Figure 11.1

3. Water Quality Data

3.1.1 The water quality of the main rivers within the study area are monitored by the Environment Agency. Data has been collected from the Environment Agency Water Quality Archive (Ref 1.1) and is summarised in Table 3.1 to Table 3.5. The monitoring locations are shown on **Figure 11.1 Study Area and Water Environment Features.**

Table 3.1 – Monitoring station details

Station ID	Station name	Location in relation to the draft Order Limits	Most recent data available
NE-49100285	Mill Beck at Bow Bridge	330 m upstream of the draft Order Limits.	August 2018 to March 2020
MD-36821020	Adlingfleet Drain – at Adlingfleet	1.5 km downstream of the draft Order Limits	January 2020 to December 2021
MD-36951020	Paupers Drain At Leam House Eastoft (Gqa)	135 m upstream of the draft Order Limits	January 2020 to December 2021
MD-37118020	North Soak Drain at Crowle Station	1.3 km upstream of the draft Order Limits	January 2021 to December 2021
MD-37181400	South Soak Drain at Crowle Station	1.3 km upstream of the draft Order Limits	August 2014 to May 2017
MD-RSN0148	Keadby	1.2 km downstream of draft Order Limits	December 2022 to December 2023
MD-38289020	Ferry Drain at Owston Ferry	370 m downstream of draft Order Limits	January 2021 to December 2021
MD-38315200	Snow Sewer Warping Drain - Owston Ferry	425 m downstream of draft Order Limits	July 2015 to April 2018
MD-RSN0916	Debdhill Rd	~500 m upstream of draft Order Limits	January 2023 to October 2023
MD-79392580	C'field Canal Brickyard lane Walkeringham	690 m downstream of draft Order Limits	September 2013 to July 2024
MD-RSN1612	Beckingham	70 m downstream of draft Order Limits	January 2022 to December 2022
MD-40307040	Wheatley Beck At West Burton Mill	1.5 km downstream of draft Order Limits	January 2021 to December 2021
MD-40415330	Catchwater Drain, Sturton-Le-Steeple	~1.1 km downstream of draft Order Limits	May 2024 to July 2024
MD-40924670	North Beck U/S Rampton Hospital Effluent	110 m upstream of draft Order Limits	May 2013 to February 2014

Station ID	Station name	Location in relation to the draft Order Limits	Most recent data available
MD-40924600	North Beck D/S Rampton Hospital Effluent	Located on draft Order Limits Boundary (Downstream)	May 2013 to February 2014
MD-40972020	Headon Brook Off Darlton Road	212 m upstream of draft Order Limits	April 2013 to May 2014
MD-RSN1644	Fledborough Beck	1.1 km upstream of draft Order Limits	January 2022 to December 2022

Note: data for South Soak Drain, Snow Sewer Warping Drain, North Beck, and Headon Brook is less recent than at other stations and it is acknowledged that this data may be less representative of present-day conditions, but still has some value in characterising the rivers water quality. This is also the case for some determinands as noted in subsequent tables.

Table 3.2 - Water quality data summary - Mill Beck at Bow Bridge NE-49100285

Determinand	Mean Value [a]	Published Quality Standard
pH	8.22	Typical range 6–9
Conductivity	697 µs/cm	Typical range for freshwater 100–1,500µs/cm
Biological Oxygen Demand	11.02 mg/l [c]	Water Framework Directive (WFD) high status [b] – 4 mg/l
Nitrate	12.3 mg/l	50 mg/l for drinking water
Nitrite	0.03 mg/l	1 mg/l for drinking water
Ammoniacal nitrogen	0.04 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	0.04 mg/l	WFD high status – 0.05 mg/l
Magnesium	4.5 mg/l [d]	50 mg/l
Calcium	116 mg/l [d]	250 mg/l
Iron dissolved	<30 mg/l [d]	1 mg/l
Dissolved Oxygen	99.7 %	WFD high status – 70 %

a – from the most recent 12 samples
b – applicable to rivers at an altitude of less than 80m and having an alkalinity ($CaCO_3$) of > 200 mg/l
c – most recent available data is from 2020
d – only four samples available and these are from 2018, 2019 and 2020.

3.1.2 The data in Table 3.2 shows that the majority of the determinands fall within the typical range for freshwaters and are recorded at concentrations that meet with published quality standards linked to WFD high status for the applicable river typology. Biological Oxygen Demand, Iron dissolved, and Dissolved Oxygen exceed the concentration set for high status.

Table 3.3 - Water quality data summary – Adlingfleet Drain at Adlingfleet MD-36821020

Determinand	Mean Value [a]	Published Quality Standard
pH	7.65	Typical range 6–9
Biological Oxygen Demand	11.21 mg/l [c]	Water Framework Directive (WFD) high status [b] – 4 mg/l
Nitrate	4.2 mg/l	50 mg/l for drinking water
Nitrite	0.03 mg/l	1 mg/l for drinking water
Ammoniacal nitrogen	0.002 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	<0.01 mg/l [d]	WFD high status – 0.05 mg/l
Dissolved Oxygen	102.4 %	WFD high status – 70 %

a – from the most recent 12 samples
b – applicable to rivers at an altitude of less than 80m and having an alkalinity ($CaCO_3$) of > 200 mg/l
c – most recent available data is from 2021
d – only ten samples available from 2021

3.1.3 The data in Table 3.3 shows that the majority of determinands are recorded at concentration that meet with published quality standards. However, Biological Oxygen Demand and Dissolved Oxygen percentages exceed the concentration set for high status.

Table 3.4 - Water quality data summary - Paupers Drain at Leam House Eastoft (Gqa) MD-36951020

Determinand	Mean Value [a]	Published Quality Standard
pH	7.35	Typical range 6–9
Biological Oxygen Demand	8.55 mg/l [c]	Water Framework Directive (WFD) high status [b] – 4 mg/l
Nitrate	6.1 mg/l	50 mg/l for drinking water
Nitrite	0.11 mg/l	1 mg/l for drinking water
Ammoniacal nitrogen	1.19 mg/l	WFD high status – 0.3 mg/
Orthophosphate	0.48 mg/l [d]	WFD high status – 0.05 mg/l
Dissolved Oxygen	74.4 %	WFD high status – 70 %

a – from the most recent 12 samples
b – applicable to rivers at an altitude of less than 80m and having an alkalinity ($CaCO_3$) of > 200 mg/l
c – most recent available data is from 2021
d – only ten samples available from 2021

3.1.4 Table 3.4 shows that some of the determinands are recorded at concentration that meet with published quality standards. However, Biological Oxygen Demand, Ammoniacal nitrogen, and Dissolved Oxygen percentages exceed the concentration set for high status. Orthophosphate also exceeds the concentration set for high status. The mean value for this determinand also exceeds the concentration for moderate status (0.25 mg/l).

Table 3.5 - Water quality data summary - North Soak Drain at Crowle Station MD-37118020

Determinand	Mean Value [a]	Published Quality Standard
pH	7.31	Typical range 6–9
Biological Oxygen Demand	7.07 mg/l [c]	Water Framework Directive (WFD) high status [b] – 4 mg/l
Nitrate	3.7 mg/l	50 mg/l for drinking water
Nitrite	0.06 mg/l	1 mg/l for drinking water
Ammoniacal nitrogen	0.70 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	0.08 mg/l	WFD high status – 0.05 mg/l
Dissolved Oxygen	63.7 %	WFD high status – 70 %

a – from the most recent 12 samples
b – applicable to rivers at an altitude of less than 80m and having an alkalinity ($CaCO_3$) of > 200 mg/l
c – most recent available data is from 2021

3.1.5 The data in Table 3.5 shows that some of the determinands are recorded at concentration that meet with published quality standards. Biological Oxygen Demand and Ammoniacal nitrogen both exceed the concentration set for high status. Orthophosphate also exceeds the concentration set for high status. However, the mean value for this determinand does not exceed the concentration for moderate status (0.25 mg/l).

Table 3.6 - Water quality data summary - South Soak Drain at Crowle Station MD-37181400

Determinand	Mean Value [a]	Published Quality Standard
pH	7.71	Typical range 6–9
Conductivity	3120 µs/cm	Typical range for freshwater 100–1,500µs/cm
Biological Oxygen Demand	8.97 mg/l [c]	Water Framework Directive (WFD) high status [b] – 4 mg/l
Nitrate	2.8 mg/l	50 mg/l for drinking water
Nitrite	0.03 mg/l	1 mg/l for drinking water
Ammoniacal nitrogen	0.17 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	0.08 mg/l	WFD high status – 0.05 mg/l
Dissolved Oxygen	79.4 %	WFD high status – 70 %

a – from the most recent 12 samples
b – applicable to rivers at an altitude of less than 80m and having an alkalinity ($CaCO_3$) of > 200 mg/l
c – most recent available data is from 2017

3.1.6 The data in Table 3.6 shows that multiple determinands exceed the concentrations set for high status. These include both Biological Oxygen Demand and Dissolved Oxygen, as well as Conductivity and Orthophosphate. The mean value for the latter determinand does not exceed the concentration for moderate status (0.25 mg/l).

Table 3.7 - Water quality data summary – Keadby MD-RSN0148

Determinand	Mean Value [a]	Published Quality Standard
pH	7.85	Typical range 6–9
Conductivity	982 µs/cm	Typical range for freshwater 100–1,500µs/cm
Biological Oxygen Demand	9.52 mg/l [c]	Water Framework Directive (WFD) high status [b] – 4 mg/l
Nitrate	3.93 mg/l	50 mg/l for drinking water
Nitrite	0.06 mg/l	1 mg/l for drinking water
Ammoniacal nitrogen	0.1 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	0.3 mg/l	WFD high status – 0.05 mg/l
Dissolved Oxygen	85 %	WFD high status – 70 %

a – from the most recent 12 samples
b – applicable to rivers at an altitude of less than 80m and having an alkalinity ($CaCO_3$) of > 200 mg/l
c – most recent available data is from 2023

3.1.7 Table 3.7 shows that the majority of the determinands fall within the typical range for freshwaters and are recorded at concentrations that meet with published quality standards linked to WFD high status for the applicable river typology. Biological Oxygen Demand and Dissolved Oxygen percentages exceed the concentrations set for high status. Orthophosphate exceeds the concentration set for high status. The mean value for this determinand slightly exceeds the concentration for moderate status (0.25 mg/l).

Table 3.8 - Water quality data summary – Ferry Drain at Owston Ferry MD-38289020

Determinand	Mean Value [a]	Published Quality Standard
pH	7.49	Typical range 6–9
Biological Oxygen Demand	7.8 mg/l [c]	Water Framework Directive (WFD) high status [b] – 4 mg/l
Nitrate	6.52 mg/l	50 mg/l for drinking water
Nitrite	0.15 mg/l	1 mg/l for drinking water
Ammoniacal nitrogen	0.61 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	0.59 mg/l	WFD high status – 0.05 mg/l
Dissolved Oxygen	70.5 %	WFD high status – 70 %

a – from the most recent 12 samples
b – applicable to rivers at an altitude of less than 80m and having an alkalinity ($CaCO_3$) of > 200 mg/l
c – most recent available data is from 2021

3.1.8 The data shown in Table 3.8 shows that several of the determinands exceed the concentrations set for high status. These include Biological Oxygen Demand, Ammoniacal nitrogen, and Dissolved Oxygen only slightly exceeds the WFD high status. Orthophosphate exceeds the concentration set for high status. The mean value for this determinand also exceeds the concentration for moderate status (0.25 mg/l).

Table 3.9 - Water quality data summary – Snow Sewer Warping Drain Owston Ferry MD-38315200

Determinand	Mean Value [a]	Published Quality Standard
pH	7.89	Typical range 6–9
Conductivity	1172 µs/cm	Typical range for freshwater 100–1,500µs/cm
Biological Oxygen Demand	10.2 mg/l [c]	Water Framework Directive (WFD) high status [b] – 4 mg/l
Nitrate	5.25 mg/l	50 mg/l for drinking water
Nitrite	0.06 mg/l	1 mg/l for drinking water
Ammoniacal nitrogen	0.18 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	0.02 mg/l	WFD high status – 0.05 mg/l
Dissolved Oxygen	92.1%	WFD high status – 70 %

a – from the most recent 12 samples
b – applicable to rivers at an altitude of less than 80m and having an alkalinity ($CaCO_3$) of > 200 mg/l
c – most recent available data is from 2018

3.1.9 The data in Table 3.9 shows that the majority of the determinands fall within the typical range for freshwaters and are recorded at concentrations that meet with published quality standards linked to WFD high status for the applicable river typology. Biological Oxygen Demand and Dissolved Oxygen percentages exceed the concentrations set for high status.

Table 3.10 - Water quality data summary – Debdhill Road - MD-RSN0916

Determinand	Mean Value [a]	Published Quality Standard
pH	8.02	Typical range 6–9
Conductivity	1025 µs/cm	Typical range for freshwater 100–1,500µs/cm
Biological Oxygen Demand	9.1 mg/l [c]	Water Framework Directive (WFD) high status [b] – 4 mg/l
Nitrate	11.46 mg/l	50 mg/l for drinking water
Nitrite	0.05 mg/l	1 mg/l for drinking water
Ammoniacal nitrogen	0.06 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	0.28 mg/l [d]	WFD high status – 0.05 mg/l
Dissolved Oxygen	83.4 %	WFD high status – 70 %

a – from the most recent 8 samples
b – applicable to rivers at an altitude of less than 80m and having an alkalinity ($CaCO_3$) of > 200 mg/l
c – most recent available data is from 2023
d – only eight samples available from 2023

3.1.10 Table 3.10 shows that the majority of the determinands fall within the typical range for freshwaters and are recorded at concentrations that meet with published quality standards linked to WFD high status for the applicable river typology. Both Biological Oxygen Demand and Dissolved Oxygen percentages exceed the concentrations set for high status. Orthophosphate also exceeds the concentration set for high status. The mean value for this determinand slightly exceeds the concentration for moderate status (0.25 mg/l).

Table 3.11 - Water quality data summary - C'field Canal Brickyardlane Walkeringham MD-79392580

Determinand	Mean Value [a]	Published Quality Standard
pH	7.80 [b]	Typical range 6–9
Conductivity	971 µs/cm	Typical range for freshwater 100–1,500µs/cm
Biological Oxygen Demand	8.5 mg/l [d]	Water Framework Directive (WFD) high status [c] – 4 mg/l
Nitrate	2.97 mg/l	50 mg/l for drinking water
Nitrite	0.03 mg/l	1 mg/l for drinking water
Ammoniacal nitrogen	0.09 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	0.21 mg/l [e]	WFD high status – 0.05 mg/l
Dissolved Oxygen	78.6 %	WFD high status – 70 %

a – from the most recent 12 samples
b – only six samples available from 2024
c – applicable to rivers at an altitude of less than 80m and having an alkalinity ($CaCO_3$) of > 200 mg/l
d – most recent available data is from 2024
e – only nine samples available from 2013 - 2024

3.1.11 The data in Table 3.11 shows that the majority of the determinands fall within the typical range for freshwaters and are recorded at concentrations that meet with published quality standards linked to WFD high status for the applicable river typology. Both Biological Oxygen Demand and Dissolved Oxygen percentages exceed the concentrations set for high status. Orthophosphate also exceeds the concentration set for high status. The mean value for this determinand does not exceed the concentration for moderate status (0.25 mg/l).

Table 3.12 - Water quality data summary - Beckingham MD-RSN1612

Determinand	Mean Value [a]	Published Quality Standard
pH	8.06	Typical range 6–9
Conductivity	2316 µs/cm	Typical range for freshwater 100–1,500µs/cm
Biological Oxygen Demand	10.7 mg/l [c]	Water Framework Directive (WFD) high status [b] – 4 mg/l
Nitrate	6.10 mg/l	50 mg/l for drinking water
Nitrite	0.01 mg/l	1 mg/l for drinking water
Ammoniacal nitrogen	0.04 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	0.03 mg/l	WFD high status – 0.05 mg/l
Dissolved Oxygen	96.6 %	WFD high status – 70 %

a – from the most recent 12 samples
b – applicable to rivers at an altitude of less than 80m and having an alkalinity ($CaCO_3$) of > 200 mg/l
c – most recent available data is from 2022

3.1.12 The data shown in Table 3.12 shows that the majority of the determinands fall within the typical range for freshwaters and are recorded at concentrations that meet with published quality standards linked to WFD high status for the applicable river typology. Conductivity, Biological Oxygen Demand and Dissolved Oxygen exceed the concentrations set for high status.

Table 3.13 Water quality data summary - Wheatley Beck At West Burton Mill MD-40307040

Determinand	Mean Value [a]	Published Quality Standard
pH	8.05	Typical range 6–9
Biological Oxygen Demand	10.7 mg/l [c]	Water Framework Directive (WFD) high status [b] – 4 mg/l
Nitrate	10.5 mg/l	50 mg/l for drinking water
Nitrite	0.02 mg/l	1 mg/l for drinking water
Ammoniacal nitrogen	0.05 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	0.32 mg/l	WFD high status – 0.05 mg/l
Dissolved Oxygen	94.7 %	WFD high status – 70 %

a – from the most recent 12 samples
b – applicable to rivers at an altitude of less than 80m and having an alkalinity ($CaCO_3$) of > 200 mg/l
c – most recent available data is from 2022

3.1.13 The data shown in Table 3.13 shows that the majority of the determinands fall within the typical range for freshwaters and are recorded at concentrations that meet with published quality standards linked to WFD high status for the applicable river typology. Biological Oxygen Demand and Dissolved Oxygen exceed the concentrations set for high status. Orthophosphate also exceeds the concentration set for high status. The mean value for this determinand also exceeds the concentration for moderate status (0.25 mg/l).

Table 3.14 Water quality data summary - Catchwater Drain, Sturton-Le-Steeple MD-40415330

Determinand	Mean Value [a]	Published Quality Standard
pH	8.205 [b]	Typical range 6–9
Biological Oxygen Demand	11.14 mg/l [b]	Water Framework Directive (WFD) high status [c] – 4 mg/l
Nitrate	8.2 mg/l	50 mg/l for drinking water
Nitrite	0.06 mg/l	1 mg/l for drinking water
Ammoniacal nitrogen	0.05 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	0.13 mg/l	WFD high status – 0.05 mg/l
Dissolved Oxygen	111.2 % [b]	WFD high status – 70 %

a – from the most recent 12 samples
b – only two samples available from 2024
c – applicable to rivers at an altitude of less than 80m and having an alkalinity ($CaCO_3$) of > 200 mg/l

3.1.14 The data shown in Table 3.14 shows that some of the determinands exceed the typical range for freshwaters and are recorded at concentrations that exceed the published quality standards linked to WFD high status for the applicable river typology. Biological Oxygen Demand and Dissolved Oxygen exceed the concentrations set for high status. Orthophosphate also exceeds the concentration set for high status. The mean value for this determinand does not exceed the concentration for moderate status (0.25 mg/l).

Table 3.15 - Water quality data summary - North Beck D/S Rampton Hospital Effluent MD-40924600

Determinand	Mean Value [a]	Published Quality Standard
pH	7.96	Typical range 6–9
Ammoniacal nitrogen	0.15 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	2.77 mg/l	WFD high status – 0.05 mg/l
Dissolved Oxygen	94.2 %	WFD high status – 70 %

a – from the most recent 12 samples

3.1.15 The data shown in Table 3.15 shows that limited determinands within the Water Quality Data were available and therefore, the determinands that could be accessed are presented within the table above. The determinands presented partially exceed the published quality standards linked to WFD high status for the applicable river typology. Dissolved Oxygen exceeds the concentrations set for high status, as well as Orthosphosphate. The mean value for this determinand also exceeds the concentration for moderate status (0.25 mg/l).

Table 3.16 Water quality data summary - North Beck D/S Rampton Hospital Effluent MD-40924600

Determinand	Mean Value [a]	Published Quality Standard
pH	7.96	Typical range 6–9
Ammoniacal nitrogen	0.15 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	2.77 mg/l	WFD high status – 0.05 mg/l
Dissolved Oxygen	94.2 %	WFD high status – 70 %

a – from the most recent 12 samples

3.1.16 As above, the data shown in Table 3.16 shows that limited determinands within the Water Quality Data were available and therefore, the determinands that could be accessed are presented within the table above. The determinands presented partially exceed the published quality standards linked to WFD high status for the applicable river typology. Dissolved Oxygen exceeds the concentrations set for high status, as well as Orthosphosphate. The mean value for this determinand also exceeds the concentration for moderate status (0.25 mg/l).

Table 3.17 - Water quality data summary - Headon Road Off Darlton Road MD-40972020

Determinand	Mean Value [a]	Published Quality Standard
pH	8.11	Typical range 6–9
Ammoniacal nitrogen	0.05 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	0.18 mg/l	WFD high status – 0.05 mg/l
Dissolved Oxygen	108 %	WFD high status – 70 %

a – from the most recent 12 samples

3.1.17 As with the previous two tables, Table 3.17 shows that limited determinands within the Water Quality Data were available and therefore, the determinands that could be accessed are presented within the table above. The determinands presented partially exceed the published quality standards linked to WFD high status for the applicable river typology. Dissolved Oxygen exceeds the concentrations set for high status, as well as Orthosphosphate. The mean value for this determinand does not exceed the concentration for moderate status (0.25 mg/l).

Table 3.18 - Water quality data summary - Fledborough Beck MD-RSN1644

Determinand	Mean Value [a]	Published Quality Standard
pH	7.94	Typical range 6–9
Conductivity	2401 µs/cm	Typical range for freshwater 100–1,500µs/cm
Biological Oxygen Demand	10.5 mg/l [c]	Water Framework Directive (WFD) high status [b] – 4 mg/l
Nitrate	12.8 mg/l	50 mg/l for drinking water
Nitrite	0.03 mg/l	1 mg/l for drinking water
Ammoniacal nitrogen	0.01 mg/l	WFD high status – 0.3 mg/l
Orthophosphate	0.03 mg/l	WFD high status – 0.05 mg/l
Dissolved Oxygen	95.4 %	WFD high status – 70 %

a – from the most recent 12 samples
b – applicable to rivers at an altitude of less than 80m and having an alkalinity ($CaCO_3$) of > 200 mg/l
c – most recent available data is from 2022

3.1.18 Table 3.18 shows that several of the determinands exceed the typical range for freshwaters and are recorded at concentrations that exceed the published quality standards linked to WFD high status for the applicable river typology. Conductivity, Biological Oxygen Demand and Dissolved Oxygen exceed the concentrations set for high status.

References

Ref 1.1 Environment Agency (2024). Environment Agency Water quality data archive. [Online]. Available at: https://environment.data.gov.uk/water-quality/view/landing [Accessed: November 2024].

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