Navigation Committee

05 November 2026
Agenda item number 8

Waterways compliance report

Report by Waterways & Recreation Officer and Waterways Project Officer

Purpose

This report provides the Committee with information on the level of compliance with the Waterways Specifications defined in the Waterways Management Strategy, based on the most recent analysis of hydrographic survey data available.

Broads Plan context

This report relates to the Broads Authority's aim to manage sediment in the Navigation Area, as described in the Broads Plan objective:-

C1 - Maintain navigation water depths to defined specifications, reduce sediment input and dispose of dredged material in sustainable and beneficial ways

Contents

1. Introduction 1
2. Waterway Specification compliance summary 2
3. Methodology 3
4. Latest results 3
5. Future priorities 4
6. Risk implications 4

Appendix 1 - Updated sediment compliance and prioritisation table 6

1. Introduction

1.1. The Authority adopted the Waterways Management Strategy (WMS) in 2021. A critical outcome of the WMS is to direct the Authority's dredging operations to achieve the Waterway Specification for individual Management Units within the navigation area. This means that the Authority is focusing its dredging efforts so that waterways users in

the Broads have enough water depth most of the time, except during very rare low tides. Where compliance falls short of the targets, then action can be identified and planned into the future dredging programme.

1.2. Management Units are used in the Waterways Management Strategy to split the rivers, broads and dykes into identifiable management sections based on similar overall environment, channel form and waterways usage.

1.3. Sonar hydroacoustic technology allows for very high-resolution data of the entire bed area of the management units to be compared with the desired profile. This allows for an accurate assessment and mapping of non-compliant areas and quantifying the amount of sediment to be removed to achieve compliance.

1.4. The spatial and numerical data analysis allows the identification of non-compliant areas and where these can be economically dredged. High-resolution mapping also identifies sediment accumulation very accurately, thus driving efficiency when it comes to targeting sediment removal.

1.5. As reported within the September 2024 Navigation Committee report on waterways compliance, the plan to resurvey all Management Units on a rolling five-year hydrographic programme to ensure up-to-date data is available is on track. Since that last report, locations surveyed in January 2025 and January 2026 include all the Management Units in the River Yare and Management Units in the River Bure and Chet respectively.

1.6. In the same surveying window, areas were surveyed after dredging to allow assessment of the results. In 2025 and 2026, these areas included from Horstead through to Hoveton Viaduct and Rockland & Bargate Broad respectively.

2. Waterway Specification compliance summary

2.1. The ‘boat usage score’ is derived from ranger input to inform the level of usage by boats within Management Units. Previously, mobile phone location data highlighted general trends of river usage but required a high level of sense checking due to anomalies caused by data drift, particularly in data collection areas (100 m^2) that incorporated footpaths and roads adjacent to the river. Given the amount of expert judgement needed to correct for weaknesses in the method, the activity index has reverted to the previously used 'boat usage score' generated through the ranger teams year-round experience and knowledge of the river stretches.

2.2. Rangers have allocated 'boat usage’ scores by four levels across the Broads network; the levels are 'very high', 'high', 'medium' and 'low'. Boat usage scoring includes unpowered craft (sailing, paddlecraft, rowing dinghies etc) and motorised craft. This reflects the relative number of craft actively using the Management Units.

2.3. 'Very high' usage is found on the River Bure in Management Units: Salhouse Broad, Hoveton Viaduct Bridge to Salhouse and Salhouse Broad to Horning Church, which reflects the number of private moorings, hire boat yards and general popularity of the area. 'Low' areas of boat usage include Units such as: Tyler's Cut, Meadow Dyke, Horsey Mere and dykes primarily used for mooring, e.g. Acle Dyke, Hardley Dyke etc.

3. Methodology

3.1. Once all the data sources have been collated for each Management Unit (see Table 1 below for the list of criteria), the Management Units are ranked based on the final column "Priority Score". This approach enables multiple factors to be used in the prioritisation of locations where dredging is most required, will have the biggest impact and will be cost effective to deploy Authority resources. The updated sediment compliance and prioritisation table is included in Appendix 1.

Table 1. Description of the criteria to evaluate Waterways Compliance.

Management Unit	Sediment Volume (m^3)	Non-Compliant area (%)	Proportion of economically dredgable sediment (%)	Boat usage score / Boat usage category	Priority Score
Definable waterbody area (river stretch or broad) where hydrographic data has been captured	Volume of sediment in cubic metres needed to be dredged to achieve the Waterways Specification	Percentage of the surface area of the Management Unit that has some accumulated sediment above the Waterways Specification	Percentage of the Sediment Volume which is in a layer greater than 30 cm (i.e deep mud)	4 = very high 3 = high 2 = medium 1 = low Scores reflect number of vessels (unpowered/ paddle craft and motor vessels) using the waterways	Score calculated by multiplying the values in the previous three columns and dividing by 100.

4. Latest results

4.1. The Management Unit Horstead to Coltishall Common was recently dredged in 2024, however the most recent sediment volume shows there is still 5,946 m^3 of sediment within this unit. The reason behind the moderate volume of sediment persisting in this Unit, is due to various locations of gravel bed and an old cattle crossing. Natural gravel

beds are ecologically sensitive which meant we could not dredge to full depth, or in some cases at all to avoid disturbance to the overall river hydromorphology and fish spawning sites. Prior to the refresh of the Waterways Management Strategy and Action Plan in April 2027, there is potential for a review of dredge specification depth, so that a target is not being chased that is a) not a priority for most users, and b) presents an unacceptable ecological risk.

4.2. In 2024 we reported that Bishops Bridge to Postwick had a non-compliant volume of 20,975 m^3. In the 2026 data, this is now showing as 5,039 m^3. This stretch had a two-year dredging campaign between Trowse Bridge and Postwick to target the main shoals, resulting in improved compliance.

5. Future priorities

5.1. Whilst the priority ranking of Management Units is derived from a range of information and data, shaping an effective dredging programme also relies upon operational practicalities, gaining various ecological and waste permits, and third-party landowner agreements. The priority river stretches to be dredged in the next two years include Hoveton Viaduct Bridge to Salhouse, and through to Horning Church. The lower Bure is also a priority to dredge, which will take place when a suitable re-use site has been secured in the Bure Loop area. A large stretch of the River Ant, between Barton Broad to Ludham Bridge is high on the list to be included on the programme in upcoming years.

5.2. Hoveton Viaduct Bridge to Salhouse ranks higher in the prioritisation table than Salhouse Broad to Horning Church. However, because a suitable sediment re-use location has been identified, extending the dredging downstream to Salhouse Broad to Horning Church would be operationally efficient and cost-effective while the team and equipment are already working in the area.

6. Risk implications

6.1. To support the Authority's compliance with the Port Marine Safety Code through its Safety Management System, this report assesses compliance with the Waterways Specifications and identifies the priority order for dredging projects. Maintaining the specified waterway depths helps to reduce risks to river users. The Authority manages these risks through a continuous programme of hydrographic data collection, compliance assessment and targeted dredging.

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Background papers: Waterways and Compliance Report – September 2024
Waterways Management Strategy

Broads Plan strategic objectives: C1 - Maintain navigation water depths to defined specifications, reduce sediment input and dispose of dredged material in sustainable and beneficial ways

Appendix 1 – Updated sediment compliance and prioritisation table

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River	Management unit	Sediment volume (m3)	Non-compliant area (%)	Proportion of economically dredgable sediment (%)	Boat usage score (4 - 0)	Boat usage category	Score
Bure	Cockshoot Dyke	424.25	98.77	0.95	3	High	281.97
Bure	Salhouse Broad	17229.75	89.45	0.75	4	Very High	268.53
Waveney	Haddiscoe Cut	30095.47	63.78	0.88	3	High	169.11
Waveney	Geldeston Dyke	2279.69	89.2	0.94	2	Medium	168.19
Bure	Hoveton Viaduct Bridge to Salhouse	18687.58	45.27	0.77	4	Very High	139.66
Bure	Coltishall Common to Juby's Farm	14322.19	60.45	0.73	3	High	132.13
Yare	Thorpe River Green	5151.98	59.88	0.72	3	High	129.97
Bure	South Walsham Broad	9449.71	81.25	0.46	3	High	111.31
Ant	Barton Broad to Ludham Bridge	19519.62	68	0.53	3	High	109.07
Thurne	Martham Dyke	663	100	1	1	Low	100
Ant	Stalham Dyke	5789.91	47.57	0.68	3	High	96.52
Yare	Rockland Broad (outside channel)	110425.23	96.58	1	1	Low	96.12

River	Management unit	Sediment volume (m3)	Non-compliant area (%)	Proportion of economically dredgable sediment (%)	Boat usage score (4 - 0)	Boat usage category	Score
Yare	Bargate (outside channel)	16178.71	94.62	0.99	1	Low	93.45
Ant	Lime Kiln Dyke	1225.18	49.2	0.59	3	High	86.84
Bure	Salhouse Broad to Horning Church	15050.09	28.41	0.73	4	Very High	82.99
Bure	Acle Dyke	3663.48	83.72	0.98	1	Low	82.42
Bure	Horstead to Coltishall Common	5946.2	87.12	0.93	1	Low	81.12
Yare	Rockland Broad (marked channel)	10442.49	51.03	0.79	2	Medium	81.1
Waveney	Oulton Broad	28186.16	59.51	0.45	3	High	79.46
Bure	Malthouse Broad	6179.11	65.24	0.4	3	High	78.84
Ant	Sutton Dyke	8662.88	64.93	0.57	2	Medium	73.66
Thurne	Catfield Dyke	3733.1	82.22	0.89	1	Low	72.92
Bure	Marina Quays to Bure Mouth	9056.73	28.35	0.81	3	High	69.26
Bure	Fleet Dyke	3978.09	50.37	0.45	3	High	67.27
Thurne	Hickling Broad (marked channel)	15955.08	67.23	0.5	2	Medium	66.57
Thurne	Martham Ferry to West Somerton Drainage Mill	5565.87	48.99	0.65	2	Medium	63.64
Ant	Ludham Bridge to Ant Mouth	2261.37	45.57	0.46	3	High	63.09
Yare	Hardley Dyke	1781.8	69.41	0.86	1	Low	59.42

River	Management unit	Sediment volume (m3)	Non-compliant area (%)	Proportion of economically dredgable sediment (%)	Boat usage score (4 - 0)	Boat usage category	Score
Yare	Bishops Bridge to Postwick	5039.07	22.09	0.85	3	High	56.27
Yare	New Mills to Bishops Bridge	3147.82	23.09	0.81	3	High	56.22
Bure	Mautby Marsh Mill to Marina Quays	23451.12	21.1	0.85	3	High	53.55
Thurne	Womack Dyke	3278.7	48.86	0.54	2	Medium	53.02
Bure	Juby's Farm to Caen Meadow	6136.29	34.15	0.76	2	Medium	51.72
Thurne	Hickling Broad (outside channel)	192282.53	81.52	0.6	1	Low	48.7
Thurne	Somerton Boat Dyke	632.18	77.1	0.59	1	Low	45.16
Bure	Caen Meadow to Hoveton Viaduct Bridge	5320.21	28.26	0.78	2	Medium	43.97
Bure	Upton Dyke	723.53	30.63	0.69	2	Medium	42.47
Thurne	Heigham Sound	5965.73	57.29	0.37	2	Medium	42.02
Thurne	Thurne Dyke	344.46	70.86	0.2	3	High	41.81
Ant	Barton Broad (outside channel)	12343.67	35.24	0.39	3	High	41.61
Bure	Horning Church to Thurne Mouth	9687.85	20.66	0.64	3	High	39.7
Yare	Bargate (marked channel)	2573	51.05	0.69	1	Low	35.02
Ant	Tyler's Cut	1414.48	64.86	0.5	1	Low	32.64
Thurne	Horsey Mere	49911.91	97.44	0.33	1	Low	32.2

River	Management unit	Sediment volume (m3)	Non-compliant area (%)	Proportion of economically dredgable sediment (%)	Boat usage score (4 - 0)	Boat usage category	Score
Bure	Acle Bridge to Stokesby	6345.21	12.91	0.82	3	High	31.71
Thurne	Waxham Cut	7772.87	34.19	0.92	1	Low	31.29
Bure	Stokesby to Herringby Hall	7083.72	11.75	0.88	3	High	31.18
Ant	Barton Broad (marked channel)	13169.61	22.71	0.45	3	High	30.56
Yare	Deal Ground to Trowse Eye	670.65	34.98	0.84	1	Low	29.3
Ant	Smallburgh Canal	996.92	26.4	0.98	1	Low	25.8
Yare	Postwick to Brundall	13316.94	10.19	0.83	3	High	25.42
Ant	Wayford Bridge to Barton Broad	8778.53	15.49	0.53	3	High	24.84
Waveney	Oulton Dyke	2706.79	11.78	0.7	3	High	24.74
Yare	Langley Dyke	948.93	27.11	0.89	1	Low	24.18
Thurne	Deep/Deep Go Dyke	1319.34	13.54	0.82	2	Medium	22.29
Thurne	Meadow Dyke	1437.39	45.06	0.45	1	Low	20.35
Bure	Ranworth Dam	333.58	10.13	0.61	3	High	18.55
Waveney	Geldeston to Beccles	2741.89	9.29	0.65	3	High	18.2
Chet	Loddon to Chet Mouth	2233.72	26.36	0.62	1	Low	16.41
Waveney	Beccles to Burgh St Peter	13163.22	9.21	0.84	2	Medium	15.49

River	Management unit	Sediment volume (m3)	Non-compliant area (%)	Proportion of economically dredgable sediment (%)	Boat usage score (4 - 0)	Boat usage category	Score
Bure	Herringby Hall to Mautby Marsh Mill	3489.17	5.62	0.83	3	High	14.01
Thurne	Thurne Mouth to Martham Ferry	1298.88	10.14	0.44	3	High	13.39
Thurne	Candle Dyke	305.84	6.23	0.8	2	Medium	9.92
Waveney	St Olaves to Breydon	7813.52	4.89	0.9	2	Medium	8.81
Ant	Turkey Broad	7752.62	11.6	0.65	1	Low	7.51
Ant	Upstream of Wayford Bridge	1515.41	15.81	0.4	1	Low	6.37
Yare	Brundall to Cantley	7687.42	3.47	0.83	2	Medium	5.74
Yare	Upper Seven Mile House to Breydon	1092.65	3.35	0.78	2	Medium	5.25
Waveney	Breydon Water (marked channel)	5194.21	1.57	0.91	3	High	4.25
Waveney	Burgh St Peter to St Olaves	2146.06	2.09	0.79	2	Medium	3.29
Yare	Cantley to Reedham	654.96	0.8	0.72	3	High	1.73
Yare	Reedham to Upper Seven Mile House	58.67	0.15	0.65	2	Medium	0.2
Bure	Bridge Broad	14.56	0.19	0.94	1	Low	0.18
Bure	Thurne Mouth to Acle Bridge	3588.12	0	0.71	3	High	0