

**Sediment Management Strategy Compliance**  
Report by Senior Waterways and Recreation Officer

<p><b>Purpose:</b> This report provides the Committee with information on the level of compliance with the waterway specifications defined in the Sediment Management Strategy based on the most recent analysis of hydrographic survey data available.</p>
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**1. Background**

- 1.1. The Sediment Management Strategy (SMS) was adopted by the Authority in 2007 with the aim of directing the Authority's dredging operations to achieve compliance with ideal waterway specifications defined in the SMS for various parts of the navigation area.
- 1.2. Assessment of compliance is based on an analysis of hydrographic survey data which allows for actual bed profiles to be compared with the desired profiles defined in the strategy. Initially this assessment was carried out by comparing selected cross sections of the river bed in each management unit with the appropriate specification. However, in 2014 a new method of assessing compliance was adopted with the support of the Navigation Committee. The new method compares the entire bed area of the management unit with the desired profile. This allows for a far more accurate assessment of non-compliant areas and the amount of sediment that would need to be removed to achieve compliance.
- 1.3. Additionally since 2014 the Authority has contracted hydrographic surveys which provide far more accurate detail of bed profiles and quantities of sediment in the system. These surveys also cover river margins and areas outside marked channels in more detail.
- 1.4. The new method also lets officers identify which non-compliant areas are economically dredgable. Economically dredgable sediment was defined as a non-compliant area over 300mm above the required depth in the waterway specification. Better mapping also allows for sediment to be targeted more accurately while operations are in progress. The Authority now has data covering the entire system in the new format and will resurvey the navigation area on a rolling 5 year programme to ensure accurate and up to date data is always available to inform dredging operations in the future.

## 2. Waterway specification compliance summary

- 2.1. Table 1 summarises the waterway specification compliance assessment comparing data from 2017 and 2018. This assessment is based on the latest available hydrographic survey data.

	Non-Compliant Volume (m <sup>3</sup> )		Economically Dredgable Volume (m <sup>3</sup> )		Non-compliant bed area (%)		Economically Dredgable bed area (%)	
	2017	2018	2017	2018	2017	2018	2017	2018
<b>Ant</b>	145,558	127,128	101,418	85,995	53%	53%	20%	20%
<b>Bure</b>	256,031	256,031	202,284	202,284	33%	33%	16%	16%
<b>Chet</b>	10,469	10,469	7,205	7,205	47%	47%	18%	18%
<b>Thurne</b>	421,066	406,136	268,092	256,603	81%	80%	34%	33%
<b>Waveney</b>	141,390	153,698	112,189	128,600	17%	16%	8%	8%
<b>Yare</b>	239,657	252,086	221,787	231,456	17%	18%	12%	12%
<b>TOTAL</b>	<b>1,214,170</b>	<b>1,205,548</b>	<b>912,975</b>	<b>912,146</b>	<b>41%</b>	<b>41%</b>	<b>18%</b>	<b>18%</b>

*Table 1: Waterway specification compliance summary 2018*

- 2.2 This analysis shows that there is still an estimated 1.2 million cubic metres of accumulated sediment above specification depths in the Broads waterways. Of this approximately 900,000 cubic metres is considered to be economically dredgable using the Authority's current plant and equipment.

## 3 Conclusions

- 3.1 Variations in quantities and location of sediment in the system have certainly been affected by the Broads Authority's dredging activities. But the changes in volumes and percentages shown in Table 1 above have also been influenced by the high quality of the data now available from the hydrographic surveys the Authority has recently commissioned. Not only is this data more accurate, having used more data points, but improvements in the way it is modelled have also given a more accurate assessment of sediment quantities.
- 3.2 This is certainly the case for the rivers Yare and Waveney where new more accurate data gives a better assessment of the amount of sediment sitting at the edge of the channel and outside channels in areas like Rockland Broad.
- 3.3 The data now available to the Authority provides a firm basis for informing future dredging operations. We are now able to compare highly accurate data with equally high quality data and this will allow for better assessment of the effectiveness of the Authority's operations on an annual basis.

Background papers:	Sediment Management Strategy 2007
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Date of report:	10 October 2018
Broads Plan Objectives:	NA1
Appendices:	None