

# Navigation Committee

11 January 2024

Agenda item number 12

## Boat Safety Management Group

The Port Marine Safety Code

Safety Management System: Stakeholder Hazard Review 2023

Report by Head of Safety Management

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### Purpose

The report details the outcome of the Safety Management System Stakeholder Hazard Review.

### Broads Plan context

Theme C4 – Maintain & improve safety and security standards & user behaviour on the waterways.

### Recommendation:

To note the report.

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## 1. Introduction

- 1.1. The Broads Authority, as a Competent Harbour Authority under the Pilotage Act 1987, is required to comply with the duties and responsibilities set out in the Port Marine Safety Code (PMSC).

- 1.2. The Code requires that all harbour authorities base their powers, policies, plans and procedures on a Formal Safety Assessment (FSA) and that they maintain a Safety Management System (SMS) to ensure that risks are reduced to a level which is as low as reasonably practicable (ALARP).

## 2. Background

- 2.1. In May 2003, the Broads Authority undertook a detailed Formal Safety Assessment (FSA) which identified 28 hazards and proposed risk reduction measures. The outcome of the Assessment was documented in a Hazard Log.
- 2.2. In 2007, the Authority published a Safety Management System (SMS) to meet the needs of the PMSC. There have been several updates over the years, the current version is issue 7. (The SMS is currently under review and upon completion shall be presented to the Navigation Committee in April 2024). The SMS recommended that the Hazard Log be reviewed by a stakeholder group every three years and for the log to be kept under constant review by officers and the Boat Safety Management Group.
- 2.3. The previous stakeholder review was in March 2019 at the Broads Authority Dockyard, Norwich. A report was brought to this committee in June 2019 and an update on the actions from that review is set out in Appendix 1.
- 2.4. The objective of this report is to document the process by which the hazards were reviewed and updated and to present a summary of significant changes to the hazards.

## 3. The Risk Assessment Process

- 3.1. The PMSC guidance recommends that each scenario (hazard) be assessed against the likelihood and impact of four categories. The four categories are:
  - People,
  - property (assets),
  - Environmental and
  - Port Business (Reputation)
- 3.2. To manage this process, the authority used software that was used for the previous review.
- 3.3. The Stakeholder group reviewed the scenario for each hazard; both for the worst-case outcome and the most likely outcome and scored against each of the four categories in terms of the likelihood of any scenario occurring and the severity of any such an event. Following the assessment an overall numerical score was generated for the hazard.
- 3.4. The method by which this assessment is carried out, and the definitions of the probability, severity, and risk classification, are set out in Appendix 2.

## 4. Review Meeting


- 4.1. The Stakeholder Hazard Review was held on 5<sup>th</sup> October 2023 at Broads Authority Dockyard, Norwich. The meeting brought together a group of suitably qualified and experienced people to discuss and update the hazards. The list of invitees and their attendance are shown below.

Name	Representing	Attended (Y/N)
James Buck	Peel Ports	N
Robbie Bell	RYA	Y
Colin Dye	BHBF	N
Tony Howes	BHBF	Y
Jonathan Myers	Norwich Rowing Club	N
Jackie Kilbourn	Norwich Rowing Club	N
Anthony Trafford	British Marine Federation	N
Ben Falat	NSBA	Y
Robert Middleton	NSBA	N
Clive Edwards	NSBA	Y
Tony Urwin	Bank Boats & Canoe Hire	Y
Bill Dickson	Broads Authority – Chairperson (attending on behalf of Alan Goodchild chairperson for Nav Comm & BSMG)	Y
Rob Rogers	Broads Authority – Director of Operations	Y
Linda Ibbitson-Elks	Broads Authority – Head of Safety Management	Y
Emily Leonard	Broads Authority – Waterways Project Officer	Y
Sue Stephenson	Broads Authority – Ecology & Design Supervisor	Y
Sonja Edgar	Broads Authority – Administrative Officer	Y
Dan Hoare	Broads Authority – Head of Construction & Maintenance	Y
Andy Ellson	Broads Authority – Senior Ranger (Northern Teams)	Y
Chris Morpew	Broads Authority – Senior Ranger (Southern Teams)	Y

- 4.2. The objective of the meeting was to review all the hazards, capture updates, re-categorise against the new requirements and to identify any new hazard or omission. The attendance of a cross-section of interested parties allowed the hazard assessments and mitigating action to be agreed.

## 5. Summary of Changes

- 5.1. Table 2. below provides an overview listing all 52 hazards, new hazards are marked in yellow shading.

	Review Date	ID	Scenario Name	Risk Score	
✓	21/08/2024	NS0059	Diving (Scuba)	5.31	

✓	09/10/2024	EP0006	Boat wash: Powered craft speeding creating excess wash	4.06	
✓	09/10/2024	CM0041	Other crisis management: Mass Fish Kill	4.38	
✓	09/10/2024	CM0049	Shoreside environmental: Fire	3.38	
✓	09/10/2024	CM0051	Shoreside environmental: Giant Hog Weed and other hazardous species	3.75	
✓	09/10/2024	CM0052	Shoreside user activity: Motorised Vehicles and Bicycles	2.44	
✓	09/10/2024	CM0053	Shoreside environmental: Trees and Vegetation	3.38	
✓	09/10/2024	CM0023	Other crisis management: Water borne diseases	3.69	
✓	09/10/2024	EP0039	Water pollution: Cargo	3.81	
✓	09/10/2024	EP0037	Other environmental: Carbon Monoxide poisoning	4.81	
✓	09/10/2024	EP0038	Impacts on Wildlife / Habitats: Non-Native invasive species	5.38	
✓	09/10/2024	NS0025	Contact with structure: Natural obstructions to navigation - vegetation	2.81	
✓	12/10/2024	NS0015	Other nautical safety: Event management open water swimming events	2.56	
✓	12/10/2024	NS0027	Collision: Collision with Dredging and River Maintenance Works	2.44	
✓	12/10/2024	NS0029	Other nautical safety: Extreme Weather	5.56	
✓	12/10/2024	NS0019	Other nautical safety: Boat embarkation and disembarkation	5.06	
✓	15/10/2024	CM0014	Members of public: Swimming	3.5	
✓	15/10/2024	NS0033	Other nautical safety: Wild Fowling (Gun Punting))	1.94	
✓	15/10/2024	CM0056	Shoreside environmental: Adverse Weather	2	
✓	15/10/2024	CM0022	Other crisis management: Medical emergencies	4.13	
✓	15/10/2024	NS0020	Collision: Sailing Yachts/Dinghies	2.81	
✓	15/10/2024	CM0050	Shoreside environmental: Litter and fly tipping	1.88	
✓	15/10/2024	NS0026	Other nautical safety: Passage of Gt. Yarmouth & Breydon Water	4.25	
✓	15/10/2024	NS0034	Collision: Rowing coaching vessels	2.81	
✓	15/10/2024	NS0024	Collision: Boat testing / demonstrating at high speed	3.56	
✓	15/10/2024	NS0010	Other nautical safety: Event Management of Sailing Racing Event	4	
✓	15/10/2024	NS0018	Collision: Waterskiing and Wakeboarding	1.75	
✓	15/10/2024	NS0005	Collision: Powered craft	4.13	
✓	15/10/2024	NS0008	Grounding/Stranding: Recreation vessel grounding	2	
✓	15/10/2024	NS0011	Other nautical safety: Event management of unpowered vessel racing event, rowing/paddling	2.94	
✓	15/10/2024	CM0054	Shoreside user activity: Fall from height	4.13	
✓	15/10/2024	CM0057	Shoreside infrastructure: Slips trips and falls	3.5	
✓	15/10/2024	NS0043	Collision: non-powered vessel - paddleboard, canoe, rowing skiff	4.44	
✓	15/10/2024	NS0021	Capsizing/Listing: Capsizing of unpowered recreational craft	3.94	
✓	15/10/2024	NS0036	Fire/Explosion: Any vessel	6	
✓	15/10/2024	NS0017	Other nautical safety: Powerboat Racing	3.81	
✓	15/10/2024	NS0007	Collision: Collision with recreational craft and hire vessel	4.5	
✓	15/10/2024	NS0004	Collision: Commercial ferry and a recreational vessel	3.13	
✓	15/10/2024	NS0003	Collision: Commercial vessel and a recreational vessel	3.31	
✓	15/10/2024	CM0046	Shoreside Infrastructure: Countryside furniture and structures	2.13	
✓	15/10/2024	CM0048	Shoreside user activity: Angling	0.75	
✓	15/10/2024	PE0044	Port Infrastructure Delay: Mutford Lock	4	
✓	15/10/2024	NS0016	Contact with structure: Other bridges & layby moorings	4.25	
✓	15/10/2024	NS0012	Other nautical safety: Angling	3.06	

✓	15/10/2024	NS0013	Contact with structure: Potter Heigham and Wroxham low bridges	2.25	🟡
✓	15/10/2024	NS0042	Contact with floating object: Large volume of floating debris	3	🟠
✓	15/10/2024	NS0009	Contact with structure: Recreational vessel contact with mooring or infrastructure	4.19	🟠
✓	15/10/2024	CM0055	Shoreside environmental: Ground conditions	2.31	🟡
✓	15/10/2024	CM0045	Shoreside infrastructure: Power Lines	2.75	🟡
✓	16/10/2024	CM0047	Shoreside environmental: Livestock in Fields	1.56	🟡
✓	29/11/2024	NS0060	Other nautical safety: Foil boards (Foiling) and boats	4	🟠
✓	29/11/2024	NS0061	Other nautical safety: Remote Operated Vehicles (ROVs)	2.38	🟡

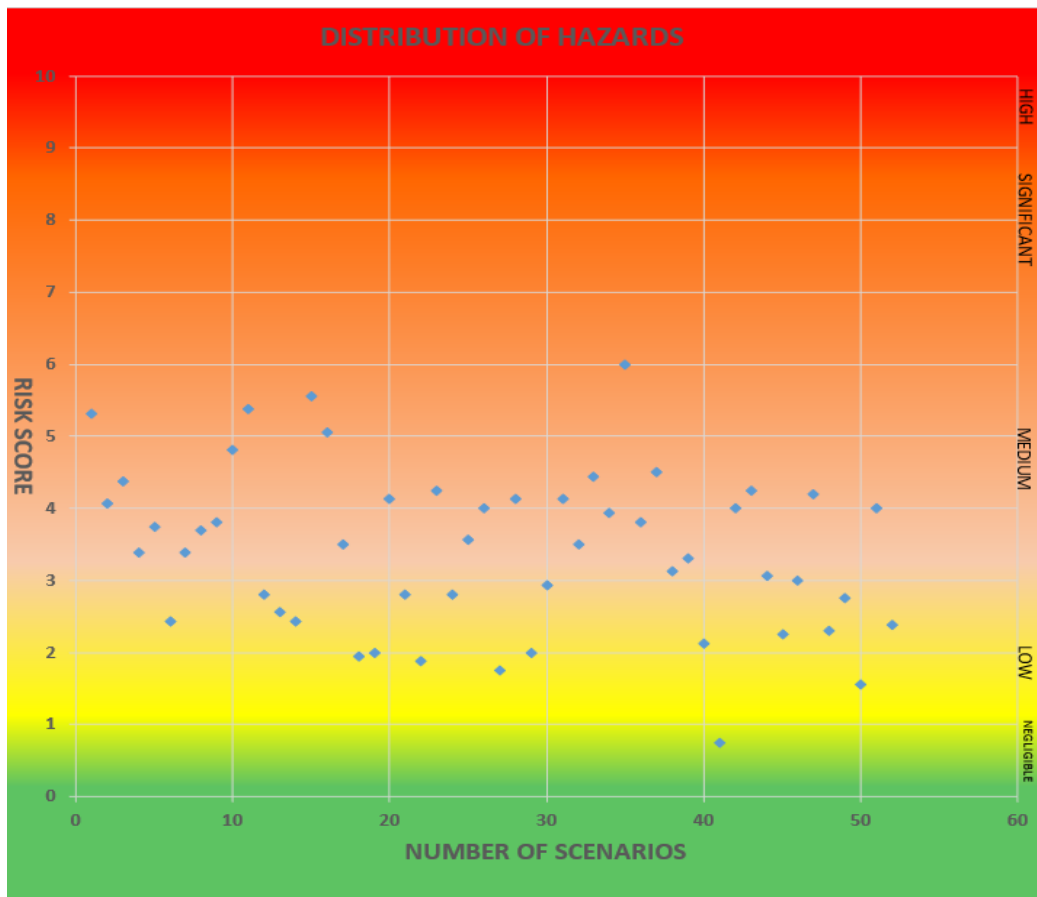
5.2. The Table below shows Hazards which have been declared dormant. All hazards are managed to an ‘as low as reasonably practicable’ level.

	Review Date	ID	Scenario Name	Risk Score	
✓		NS0035	Collision: Trawling on Breydon Water	2.5	🟡
✓		NS0030	Collision: Kite Surfing	1.75	🟡
✓		NS0031	Collision: Ringos and inflatable equipment capable of carrying persons towed at speed	1.81	🟡
✓		NS0032	Other nautical safety: Punting (Skipped)	1.25	🟡
✓		NS0040	Other nautical safety: Water plants, Hickling Broad	2.25	🟡

**NB:** The Hazard NS0040 – Water plants Hickling Broad has been merged with NS0023 – Natural Obstruction to Navigation – Vegetation.

## 6. Updated Hazard Log

6.1 The graph below shows the distribution of the hazards and how the vast majority have been assessed with the control measures and mitigations, to be low to medium risks, and demonstrating that we currently have no high or significant risks.



- 6.2 The 2019 Hazard Review Action Plan update is set out in Appendix 1.
- 6.3 The Boat Safety Management Group will monitor the progress of the Hazard Review Action Plan (Appendix 3) and updates will be brought to this committee as appropriate.
- 6.4 The Broads Authority Safety Management System (SMS) will be updated to include the reviewed Hazard Log.

## 7. Recommendations and Conclusions

- 7.1 The review of the Hazard Logs by the Boat Safety Management Group (BSMG) concluded that of the 52 active hazards, 52 have been declared ‘as low as reasonably practicable’ (ALARP).
- 7.2 The Safety Team would like to conclude this hazard review by thanking the BSMG members for their time and expertise spent reviewing the hazards and for their continued support and input into the safety management of the Broads.

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Date of report: 12 December 2023

[Broads Plan](#) strategic objectives: Theme C4 – Maintain & improve safety and security standards & user behaviour on the waterways.

Appendix 1 – 2019 Hazard Review Action Plan – Update

Appendix 2 – Risk Categories and Criteria

Appendix 3 – 2023 Hazard Review Action Plan

## Appendix 1 – 2019 Hazard Review Action Plan- Update

2019 Hazard Review Action Plan - Update							
Hazard		Description	Action	Responsible Officer	Target Complaint Date	Progress to Date	Completed
Cat	No.						
<b>Med</b>	NS0003	Collision: Commercial vessel and a recreational vessel	Develop General Direction to all commercial vessels over a certain size to require notification, escort, and pilot.	LB	Dec 2019	Special Directions apply on a case-by-case basis.	Dec 2019
<b>Med</b>	NS0007 and NS0043	Collision: Collision with recreational craft and hire vessel; and Collision: Non-powered vessel – paddleboard, canoe, rowing skiff.	Update Hire Boat Licensing to include unpowered boats including sail following release of the National Hire Boat Code	Head of Safety Management	April 2020	The Code for the Design, Construction & Operation – Version 2 came into effect on 1 <sup>st</sup> January 2022 and made mandatory under the Broads Authority Hire Boat Licensing conditions.	Jan 2022



## Appendix 2 – Risk Categories and Criteria

	People	Environment	Property	Business/Reputation
5	Multiple fatalities	Major (Has the potential to cause catastrophic and/or widespread damage - Tier 3, requires major external assistance)	Major (> £10 million)	Major (National media coverage, Significant change in stakeholder confidence, Impact lasting more than three months, attracts regulators attention /comment, Major Business disruption and impact)
4	Single fatality	Significant (Has the potential to cause significant damage and impact - Tier 2, pollution control measures from external organisations required)	Serious (£1m - £10m)	Serious (Local, regional media coverage, Moderate change in stakeholder confidence, Impact lasting between one and three months, Moderate business disruption)
3	Serious injury(s) (MAIB/RIDDOR reportable injury)	Minor (An incident that results in pollution with limited/local impact - Tier 1, Harbour Authority pollution controls measures deployed)	Moderate (£100,000 - £1m)	Moderate (Negative local publicity. Moderate damage to reputation. Moderate loss of revenue, £750,000 - £4m)
2	Minor injury(s)	No Measurable Impact (An incident or event occurred, but no discernible)	Minor (£0-£100,000)	Minor (Local complaint/recognition, Minimal change in stakeholders 'confidence, impact)

		environmental impact - Tier 1 but no pollution control measures needed)		lasting less than 1 week. Minor business disruption)
1	No injury	None (No incident - or a potential incident/near miss)	None	None

Likelihood	
Very Unlikely	1:50 years
Unlikely	1:25 years
Occasionally	1:10 years
Probably	1:5 years
Likely	> 1 per year

## Appendix 3 – Hazard Review Action Plan

No.	Description	Action	Responsible Officer	Target Date	Progress to Date	Completed
1.	Error found on the software hazard review paperwork.	BA to develop improved systems to record, review and monitor data.	HOSM	2025		
2.	Ensure Stakeholders are placed in groups where they have specific knowledge, experience, and interest in a particular hazard scenario.	BA to ensure future hazard reviews are organised to consider stakeholders particular experience, knowledge and interest when selecting hazards to be reviewed.	HOSM	2026		