

**The Port Marine Safety Code
Safety Management System: Hazard Review**
Report by Head of Safety Management

Summary: This report details the outcome of the Safety Management System Annual Hazard Review.

The Committee is invited to note the report, and members' views are sought on the recommendations in Section 6.

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.
- 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 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 Assessment² 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)³ to meet the needs of the PMSC. The SMS recommended that the Hazard Log be reviewed and updated annually, to validate the existing hazards and capture any new ones.
- 2.3 The most recent review was in 2011, the Hazard Log was reviewed and amended. A report was brought to this committee in April 2011.

¹ Port Marine Safety Code, DETR, ISBN 1 85112 365 2, dated March 2000

² Broads Authority Navigational Formal Safety Assessment, 328S116, Issue 1.2, dated May 2003

³ Broads Authority Port Marine Safety Code Safety Management System, Issue 2, dated June 2009

- 2.4 At the meeting of this committee in February 2012, a change to the timetable of the Hazard Review was agreed in order that the outcome of the review could instigate a formal update of the Safety Management System and more readily feed into the work plans for the forthcoming financial year and outputs from the review could also be referenced in the Authority's Annual Report.
- 2.5 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 Review Meeting

- 3.1 A Hazard Review Meeting was held on 29 October 2012, at UEA Sports Park, Norwich.
- 3.2 The meeting brought together a group of suitably qualified and experienced people to discuss and update the hazards. The invitees are listed in Table 1 below.

Name	Representing	Attended (Y/N)
Mr David Broad	Vice Chairman, Broads Authority Chairman, Navigation Committee	Y
Mr Phil Ollier	Vice Chairman, Navigation Committee Chairman of the Boat Safety Management Group	Y
Martin Broom	NSBA and River Cruiser Class	Y
Mr Tony Howes	Broads Hire Boat Federation	Y
John Carr	Eastern Rivers Ski Club	Y
Paul Mitchelmore	Environment Agency	Y
Robin Richardson	Potter Heigham Pilots	Y
Pat McNamara	Great Yarmouth Port Company	N
Kevin Marsh	Broadland Environmental Services Ltd	N
Mark Casto	Broads Angling Strategy Group	N
Colwyn Thomas	Rowing interests	N
John Staveley	Lowestoft and Oulton Broad Motor Boat Club	N
Trudi Wakelin	Director of Operations, BA	N
Mr Steve Birtles	Head of Safety Management, BA and PMSC Designated Person	Y
Mr Adrian Vernon	Head Ranger Services, BA	Y
Mr Rob Rogers	Head of Construction and Maintenance, BA	Y
Adrian Clarke	Senior Waterways and Recreation Officer, BA	Y
Chris Bailey	Administrative Officer, BA	Y

Table 1: Attendees at Hazard Review Meeting

3.3 The objective of the meeting was to review all the hazards and capture updates. The attendance of a cross-section of interested parties allowed the hazard assessment and mitigating action to be agreed.

4 Updated Hazard Log

4.1 The discussions and decisions of the meeting were recorded and documented in a spreadsheet, the Hazard Log, a summary of which is set out in Table 3. A full copy of the Hazard Log is available on request.

4.2 The Hazard Review Action Plan is set out in Appendix 1. The plan shows progress on actions from last years review and also documents actions following this review.

4.3 The Boat Safety Management Group will monitor progress of the hazard Review Action plan and updates will be brought to this committee.

5 Summary of Changes

5.1 All the hazards are assessed in terms of the likelihood of an accident occurring and the severity of any such accident.

5.2 The method by which this assessment is carried out, and the definitions of probability, severity and risk classification, are set out within the Safety Management System (footnote 3). The risk categories are reproduced in Table 2 below.

Category	Name	Meaning
A	Intolerable Region	These risks require urgent attention and should be the focus of regular reviews. Any suitable risk control measures that are identified should be seriously considered for implementation. Such risks cannot be declared ALARP, a means of reducing or avoiding the risk must be found and implemented.
B	ALARP Region	These risks require review to ensure that they can be satisfactorily weighed against the time, trouble, cost and physical difficulty in taking further measures to reduce them. Important Note: It is incorrect to say that a risk in this region "is ALARP". In fact, it means the risk <i>has the potential to be declared ALARP</i> , on the basis of the level of risk and the mitigations identified and implemented.
C	Broadly Acceptable Region	These risks require occasional review (e.g. annually) to ensure that they remain under control and that they remain within the Broadly Acceptable region. They do not require demonstration of ALARP.

Table 2: Definition of Risk Classifications

5.3

3 below provides an overview listing of all 41 hazards, giving the previous and new risk assessments. **Yellow** shading indicates where assessments have been changed. New hazards are marked with **orange** shading. Hazards which have been closed or superseded are greyed out. Hazards which are declared ALARP are marked with **green** shading.

Direction of Change	Hazard	Title	Previous Assessment					New Assessment				
			Prob	Severity			Cat	Prob	Severity			Cat
				Pers	Env	Ass			Pers	Env	Ass	
↔	001a	Passage of Commercial Craft	Rem	Maj	Mod	Mod	B	Rem	Maj	Mod	Mod	B
↔	001b	Passage of Commercial Passenger Craft	Rem	Maj	Mod	Mod	B	Rem	Maj	Mod	Mod	B
New	001c	Passage of Commercial Craft; Ferries	n/a	n/a	n/a	n/a	n/a	Prob	Mod	Min	Min	B
↔	002	Powered craft speeding	VFre	Min	Min	Min	B	VFre	Min	Min	Min	B
↔	003	Inexperienced Helmsmen	V Fre	Min	None	Min	B	V Fre	Min	None	Min	B
↔	004	Yacht and Dinghy Racing	Pro	Min	None	Min	B	Pro	Min	None	Min	B
↔	005	Competitive Rowing	Rem	Mod	None	Min	B	Rem	Mod	None	Min	B
↔	006	Angling	Fre	Min	None	Min	B	Fre	Min	None	Min	B
↔	007	Potter Heigham Bridge	Prob	Mod	None	Min	B	Prob	Mod	None	Min	B
↔	008	Wroxham Bridge	Prob	Mod	None	Min	B	Prob	Mod	None	Min	B
↔	009	Swimming	Rem	Sev	None	None	B	Rem	Sev	None	None	B
New	009a	Swimming (open Water)	n/a	n/a	n/a	n/a	n/a	Rem	Sev	None	None	B
↔	010	Bridges	Fre	Mod	None	Min	B	Fre	Mod	None	Min	B
	011	Grounding	N/A	N/A	N/A	N/A	B	N/A	N/A	N/A	N/A	N/A
↑	012	Mutford Lock	Rem	Mod	None	None	B	Rem	Mod	Min	Min	C
↔	013	Powerboat Racing	Rem	Sev	Min	Mod	B	Rem	Sev	Min	Mod	B
↔	014	Water-skiing - Collision	Rem	Sev	Min	Mod	B	Rem	Sev	Min	Mod	B
↔	015	Water-skiing & wakeboarding wash	Fre	Min	Min	Min	B	Fre	Min	Min	Min	B
↔	016	Embarkation and disembarkation (drowning)	Rem	Sev	None	None	B	Rem	Sev	None	None	B

Direction of Change	Hazard	Title	Previous Assessment					New Assessment				
			Prob	Severity			Cat	Prob	Severity			Cat
				Pers	Env	Ass			Pers	Env	Ass	
	017	Motor cruisers and rowers	N/A	N/A	N/A	N/A	B	N/A	N/A	N/A	N/A	N/A
↔	018	Sailing yachts	Fre	Min	None	Min	B	Fre	Min	None	Min	B
↔	019	Dinghy Sailing	Pro	Mod	None	Min	B	Pro	Mod	None	Min	B
↔	020	Navigating Small Craft in Isolation	Pro	Mod	None	Min	A	Pro	Mod	None	Min	B
↓	021	Flood alleviation scheme	Fre	Min	Min	Mod	B	Prob	Min	Min	Mod	B
	022	Swamping	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
↔	023	Medical Emergencies	Pro	Min	None	None	B	Pro	Min	None	None	B
↔	024	Water borne diseases	Rem	Mod	Min	None	B	Rem	Mod	Min	None	B
	025	Boat Testing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
↔	026	Obstructions to Navigation	Fre	Min	Min	Mod	B	Fre	Min	Min	Mod	B
↔	027	Passage Through Great Yarmouth	Fre	Mod	Min	Mod	B	Fre	Mod	Min	Mod	B
↔	028	Dredging and River Maintenance Works	Rem	Min	Min	Min	C	Rem	Min	Min	Min	C
↔	029	Power Lines	Rem	Sev	None	Min	B	Rem	Sev	None	Min	B
↔	030	Ice	Pro	Mod	None	Min	B	Pro	Mod	None	Min	B
↔	031	Embarkation and disembarkation (falling)	Fre	Mod	None	None	B	Fre	Mod	None	None	B
	032	Channel Markers	Fre	Min	Min	Min	B	Freq	Min	Min	Min	B
↔	033	Man Made Obstructions	Pro	Min	Min	Mod	B	Pro	Min	Min	Mod	B
↔	034	Extreme Weather Conditions	Pro	Mod	Min	Mod	B	Pro	Mod	Min	Mod	B
	035	Kite Surfing and Parascending	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	036	Stand up Paddle boarding	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Direction of Change	Hazard	Title	Previous Assessment					New Assessment				
			Prob	Severity			Cat	Prob	Severity			Cat
				Pers	Env	Ass			Pers	Env	Ass	
New	037	Kite Surfing	n/a	n/a	n/a	n/a	n/a	Vfreq	Sev	Mod	Min	A
New	038	Ringo's and Inflatable equipment towed at speed	n/a	n/a	n/a	n/a	n/a	Vfreq	Sev	Min	Min	A
New	039	Punting (Skipped)	n/a	n/a	n/a	n/a	n/a	Rem	Mod	none	Min	B
New	040	Wild Fowling (Gun Punting)	n/a	n/a	n/a	n/a	n/a	Ex Rem	Sev	Min	Min	B

5.4 Of the 43 recorded hazards, two are a Category A hazard, 32 are Category B hazards, two are Category C hazards and seven are Closed. On the basis of the worst-case impact, the hazards are distributed by Risk Classification as shown in

Table 4 below.

Likelihood \ Severity	Extremely Remote	Remote	Probable	Frequent	Very Frequent
Catastrophic	B 0	A 0	A 0	A 0	A 0
Severe	B 1	B 6	A 0	A 0	A 2
Major	B 0	B 2	B 0	A 0	A 0
Moderate	C 0	B 4	B 9	B 4	A 0
Minor	C 0	C 1	B 2	B 3	B 2

Table 4: Hazard distribution by assessment

6 Recommendations and Conclusions

- 6.1 It is recommended that the hazard log remains under continual review, and is subject to a Stakeholder Review in October 2013 and then one year from the date of publication of the report.
- 6.2 It is concluded that of the 36 active Hazards 34 have declared ALARP with two hazards requiring urgent mitigation.
- 6.3 It is recommended that the Hazard Review Action Plan (Appendix 1) is implemented.

Background papers: Nil

Author: Steve Birtles

Date of report: 22 November 2012

Broads Plan Objectives: None

Appendices: APPENDIX 1- Hazard Review Action Plan

2013/14 Hazard Review Action Plan

Hazard		Description	Action	Action	Target Compl Date	Progress to Date	Completed
Cat	No.						
A	037	Kite surfing	<p>The Hazard review panel did not support the activity, recommended not to legislate against the sport.</p> <p>ACTION – Rangers to issue special directions if anyone is found participating in the sport</p> <p>ACTION - Statement to be added to BA Website of Authority's position</p>	SB/ AV	April 2013		
A	038	Ringo's and Inflatable equipment towed at speed	<p>The Hazard review panel did not support the activity, recommended not to legislate against the sport.</p> <p>ACTION – Rangers to issue special directions if anyone is found participating in the sport</p> <p>ACTION - Statement to be added to BA Website of Authority's position</p>	SB/AV	April 2013		
B	002	Powered craft speeding	<p>ACTION – Review boat test areas.</p> <p>ACTION – Engage with day boat operators and BHBF to determine what measures are available to control speed on day boats</p>	SB / AV AV	Jan 2014 April 2013	Item carried forward from 2012/13 Action Plan. Boat Test Area Review schedule on directorate work plan for 2013/14.	
B	009a	Swimming Open Water	ACTION – Develop guidance in line with other Navigation Authorities	RW/SB	April 2013		
B	023	Medical Emergencies	ACTION – Investigate the feasibility of installing defibrillators at the BA Yacht Stations	SB	April 2013		

B	015	Water-skiing & wakeboarding - wash	ACTION: Complete review of Wakeboarding trial at end of 2012	SB/AV	Nov 2012	2012 review now completed, proposed extension of wakeboarding 'getting air' to additional zones out to public consultation.	
B	032	Channel Markers	Action. Develop more detailed comprehensive guidance to users on navigating using the channel markers.	SB	June 2013	Item carried forward from 2012/13 Action Plan. Guidance developed and issued for inclusion in hire boats skippers manual further guidance to be published on BA website	

All other Actions from 2012/13 Action Plan are completed.