



A GUIDE TO WRITING A RISK ASSESSMENT FOR A BMAA EVENT

What is an event Risk Assessment?

An event Risk Assessment (RA) is a document that shows that the writer has considered the potential hazards and risks that may exist at an event. The risk assessment also includes mitigation measures and actions taken, and to be taken, to minimise risks and their potential outcomes.

Why is a risk assessment important?

Risk assessments are very important because they form an integral part of a safety management plan. They help to:

- Create awareness of hazards and risk.
- Identify who may be at risk (e.g., employees, visitors, contractors, the public, etc.).
- Determine whether a control program is required for a particular hazard.
- Determine if existing control measures are adequate or if more should be done.
- Prevent injuries or illnesses, especially when done at the design or planning stage.
- Prioritize hazards and control measures.
- Meet legal requirements where applicable.

What is a hazard?

A good definition is: a **hazard** is any source of **potential** damage, harm or adverse health effects on something or someone.

What is risk?

A good definition is that: **risk** is the combination of the **likelihood** of the occurrence of a harm and the **severity** of that harm. **Likelihood is the chance** of something happening.

An everyday example

When you teach a child to cross a road you will warn them of the danger of being run down by a car. You have identified a hazard which has the potential to have a serious outcome.

You reason that the likelihood of being run down is greater when there is less opportunity for the car to avoid the child, such as if trying to cross from between parked cars when the driver has very little opportunity to see the child and anticipate that it might start to cross.

To reduce the risk you teach mitigating measures. The first basic measure is to look out for the cars rather than just walk across the road regardless. The lookout is a mitigation measure.

Further risk can be reduced by teaching the child to cross in a place that gives both the driver and child the best chance of seeing each other. So, not between parked cars or from behind the ice cream van. This is a further mitigation measure.

You have just completed a risk assessment. You have identified a hazard, assessed risk (likelihood) and developed measures to reduce the risk. That's all there is to it. For our purposes the assessment and mitigations are written down.

Calculating risk

When preparing a risk assessment there is a method of calculating risk that arrives at a numerical score. The score helps you to focus mitigation measures where they are most needed. There are two steps to calculating the **Risk Score**.

Categorise and score injury using the following table of injury type and value. (Injury rather than damage is the main concern for BMAA events organisers.

Hazard severity	Trivial	Minor Injury	Serious Injury	Single Fatality	Multiple Fatality
Value	1	2	3	4	5

Consider the likelihood of the hazard occurring and assign a value using the following table

Likelihood	Highly Unlikely	Possible	Quite Possible	Likely	Highly Likely
Value	1	2	3	4	5

Consider each hazard and its likelihood together and arrive at a risk score by multiplying the two values. The table below shows examples:

Hazard	Hazard Severity	Likelihood	Risk Score			
Trip hazards in and around marquees due to power cables / loose carpet / support ropes and stakes.	2	3	6			
Runaway aircraft entering a spectator area	5	2	10			
Spectators walking into a turning propeller in the aircraft parking area.	4	3	12			

Having made the assessment of possible hazards and their likelihood the organiser must consider mitigation measures to reduce the likelihood of the hazard occurring. And then recalculate the risk score as in the table below.

Hazard	Hazard Severity	Likelihood	Risk Score	Mitigation measures	Revised Likelihood	Revised Risk Score
Trip hazards in and around marquees due to power cables / loose carpet / support ropes and stakes.	2	3	6	To prevent trip hazards from the infrastructure of the marquees: Power cables routed on the ground will follow the perimeter of the	1	2 (was 6)

				<p>marquee where possible. Where power cables cross the visitor walkways they will be covered with rubber protective strips which will be fastened to the ground so that they don't become a trip hazard themselves.</p> <p>All carpet must be taped or pegged to the ground so that there are no loose edges to present a trip hazard.</p> <p>Support ropes and stakes will be marked with high visibility tape to draw attention to them. Walkways will be designed not to be so close to support ropes so as to create the likelihood of tripping.</p> <p>Before, and during the event, Event Staff will approve measures taken and monitor throughout.</p>		
Runaway aircraft entering a spectator area	5	2	10	<p>Designated spectator areas (SA) are located at least 50 metres from the edge of airside areas.</p> <p>SA are parallel to taxiways and runways so that aircraft taxiing, taking-off or landing will not naturally run towards spectators in the event of running out of control.</p> <p>Pilots will be instructed not to start aircraft facing towards a SA.</p>	1	5 (was 10)
Spectators walking into a turning propeller in the	4	3	12	<p>Designated spectator areas (SA) are located at least 50 metres from the</p>	1	4 (was 12)

aircraft parking area.				<p>edge of airside areas.</p> <p>SA are marked by high visibility tape forming a boundary barrier. Signs warning spectators not to cross the tape are exhibited every 20 metres along its length.</p> <p>Spectators are not allowed to enter any airside areas. Airside includes all aircraft parking, taxiways and runways.</p> <p>Airside areas are marked with high visibility warning tape supplemented by signs warning spectators not to cross.</p> <p>Event staff will be tasked to monitor SA and Airside boundaries and prevent spectators crossing.</p>		
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Mitigation measures

When considering mitigation measures it is important to be realistic. In the examples above the mitigation measures to protect spectators rely upon fencing, signage and constant monitoring by Event Staff. If the event cannot afford, or provide, these measures then it would be better to restrict the event entry so there are no spectators. This might be cheaply achieved by a sign on the gate and a single person responsible for ensuring that no unauthorised people come onto the site. By doing that the hazard is eliminated and the risk score is zero. It is likely that the final outcome of the risk assessment is a balance of reducing the hazards and applying mitigations.

Where do I start?

It is helpful to use a pre-prepared template to start your RA. The BMAA has written a template that can be used for ground based and flying events. However, each event may present its own unique hazards and so the writer must only use the template as a guide, not as an exhaustive list.

RISK ASSESSMENT

Specify event
Place
Date

Organiser: **Name of Club - if applicable**
Name of individual responsible for organisation - mandatory

Telephone:

FAX:

Email:

Official Web Site

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EVENT NAME xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx – RISK ASSESSMENT

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1 INTRODUCTION

1.1 DESCRIPTION

Describe the event, e.g. trade show, rally, party etc..

1.2 PROGRAMME DATES

Note the dates for the event listing activity on each date as applicable. For example:

01/01/18 Event set up

02/01/18 Event open

03/01/18 Event breakdown

1.3 OFFICIALS

Complete the list of officials as appropriate for the event. For example:

Event Director

Competition Director

Chief Marshal

Chief Safety Officer

Site contact

Security

1.4 TIMINGS

Note the times for the activity on each date as applicable. For example:

01/01/18 1030 – 1700 Event set up

02/01/18 1100 – 2200 Event open

03/01/18 0900 - 1200 Event breakdown

1.5 SITE LAYOUT

Include description of site and measures for segregation as applicable

2 GENERAL SAFETY

2.1 EVENT MANAGEMENT

Who is running the event. For example a club or an individual?

Past experience. Previous experience running this or other events.

2.2 ANTICIPATED NUMBERS AND VISITORS

Who do you expect to come and how many will there be?

2.3 LOCATION LAYOUT & ACCESS AREAS

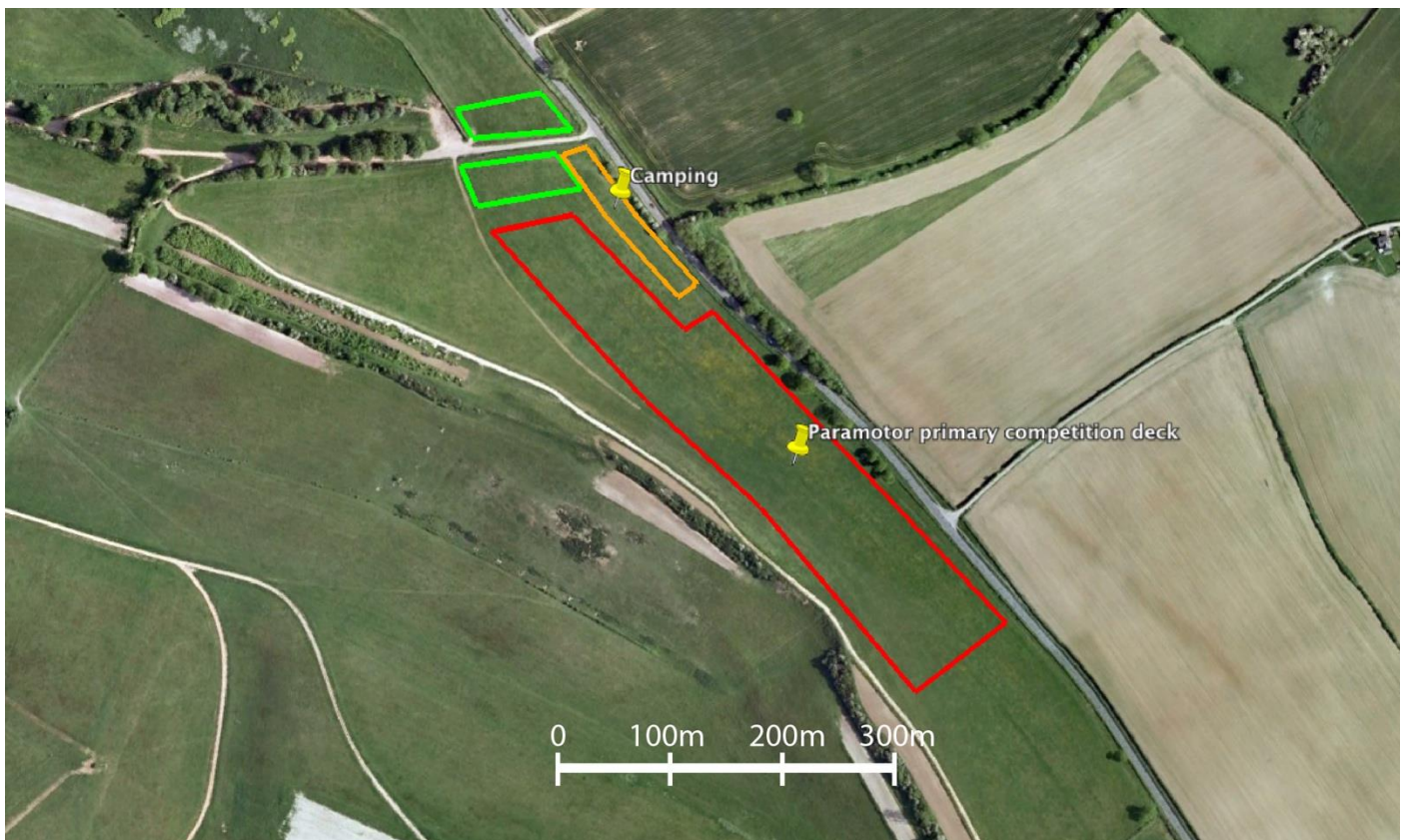
The following figures/ diagrams show the layout of the event.

Areas designated as PUBLIC are access to all visitors to the site.

Areas designated AIRSIDE are access only to pilots & marshals.

EXAMPLE OF DESCRIPTION OF A LAYOUT FOR AN EVENT WHERE AIRCRAFT WILL BE PRESENT.

Figure 1: Camp site and take-off area detail:



The competition camping area is marked in ORANGE. The spectator viewing areas are marked in GREEN.

To the south east of the camp site is the primary take-off area which is designated AIRSIDE. There will be a minimum 25m separation zone between any camping or viewing areas and the take-off area, and marked with barrier tape.

EXAMPLE OF DESCRIPTION OF A LAYOUT FOR AN EVENT WHERE AIRCRAFT WILL BE PRESENT.

2.4 WARNING SIGNS

Where will warning signs be placed:

These signs are intended to warn the public of potential hazards, and to communicate the access level

2.5 BOUNDARIES

How are the boundaries between the public and private/restricted areas marked and marshalled?

2.6 SEPARATION ZONES AND OVERFLYING

What will be the minimum distance between public and private/restricted/hazard areas?

How will the separation be ensured?

2.7 TRADERS

All traders and exhibiting at the event will be required to show evidence of public liability insurance (£2,000,000 minimum cover) and their own Risk Assessment. Describe how this will be managed and monitored throughout the event?

2.8 RUNNING ENGINES

FOR AN EVENT WHERE AIRCRAFT WILL BE PRESENT. What measures are taken to ensure the safety of all attendees?

2.9 CAMPING

If applicable **What measures are taken to ensure the safety of all attendees?**

2.10 PUBLIC ACCESS

If there is public access to the site, e.g. footpath near a campsite, what safety measures are planned?

3 COMPETITION SAFETY – include if applicable and amend to be appropriate for the event. Delete if not applicable.

3.1 REGISTRATION

Procedures

3.2 FLYING DURING ARRIVAL PERIOD AND FREE FLYING

Local regulations

3.3 PILOT AND NAVIGATOR QUALIFICATIONS

Complete

3.4 AIRCRAFT AND ASSOCIATED EQUIPMENT

Requirements

3.5 PILOT RESPONSIBILITIES

Stipulations

3.6 FLYING AND SAFETY REGULATIONS

3.6.1 BRIEFING

Briefings attendance

3.6.2 COMPLIANCE WITH THE LAW

Stipulations

3.6.3 PREPARATION FOR FLIGHT

Stipulations

3.6.4 FLIGHT LIMITATIONS

Stipulations

3.6.5 DAMAGE TO A COMPETING AIRCRAFT

Stipulations

3.6.6 TEST AND OTHER FLYING

Stipulations

3.6.7 FITNESS

Stipulations

3.6.8 AIRFIELD DISCIPLINE

Stipulations

3.6.9 COLLISION AVOIDANCE

Stipulations

3.6.10 CLOUD FLYING

Stipulations

3.6.11 PENALTIES

Stipulations

3.6.12 FUELLING

Stipulations

4 EMERGENCY MEASURES

4.1 MEDICAL ASSISTANCE **The text highlighted in red below is required for all events. Complete detail marked as xxxxxxxxxxxxxxxx**

•A first aid kit (minimum requirements as per BMAA site criteria guide) must be present at all sites whilst in use for the competition.

•An emergency plan must be made for each site so that emergency services can be called and gain access to site efficiently. At least one Marshall must be present at each site during the expected duration of competition use taking on the responsibility for fire, first aid and emergency services coordination.

•A close to hand landline or mobile phone with good battery charge state and reception on site is essential.

•Where practicable, the implementation of onsite trained first aiders during the event should be considered.

•Provision must be made to control spectators so that they are not a hazard to the safety of themselves or the competitors. Particular care must be taken to ensure good separation from landing decks during precision landing tasks to allow for aircraft that may lose full control and veer off the side of the deck during landing.

4.2 EMERGENCY SERVICES

The Ambulance, Air Ambulance, Fire, and Police services will be notified of the event's location. The nearest Hospital (with Accident & Emergency) is xxxxxxxxxxxxxx Hospital, approximately xx miles away, a journey time of about xx minutes at normal driving speeds. The nearest air ambulance is xxxxxxxxxxxxxx Air Ambulance, located at xxxxxxxx, approximately xx miles away.

The site entrance will be signposted from the road. In the event of an emergency, a marshal will be sent to the road junction to await the arrival of the emergency services.

4.3 FIRE

The following provisions will be made for fire:

Describe provisions e.g. extinguisher types and location.

Nominate personnel competent to use the equipment.

5 RISK ASSESSMENT

5.1 CORE DEFINITIONS

Hazard: anything that can cause harm

Likelihood - the chance or probability that someone or something may be harmed by a hazard.

Risk = Severity of Hazard x Likelihood of Occurrence.

5.2 TYPES OF HAZARD

Your examples

5.3 SEVERITY OF HAZARD

The severity of a hazard should be assessed under the following headings, depending on the possible outcome should the hazard become a reality, and allocated a score:

Trivial	Minor Injury	Serious Injury	Single Fatality	Multiple Fatality
1	2	3	4	5

5.4 LIKELIHOOD OF OCCURENCE

The likelihood of the hazard occurring should be assessed against the following headings and again allocated a score:

Highly Unlikely	Possible	Quite Possible	Likely	Highly Likely
1	2	3	4	5

5.5 RISK MATRIX – GENERAL SAFETY

Hazard	Hazard Severity	Likelihood	Risk Score	Mitigation measures	Revised Likelihood	Revised Risk Score

5.6 RISK MATRIX – FLIGHT SAFETY

Hazard	Hazard Severity	Likelihood	Risk Score	Mitigation measures	Revised Likelihood	Revised Risk Score

6 ACTIONS

6.1 PROCEDURES **The text highlighted in red below is required for all events.**

In the event of an accident, the following procedure will be followed:

- Marshals or other first responders report to Chief Marshal, who should be nearby.
- Chief marshals oversee first aid with local first aiders, and report incident to main organiser.
- Organiser to distribute information to local emergency services as appropriate, and liaise with them to guide to site.

6.2 SANCTIONS AVAILABLE

Your sanctions

6.3 POLICY

Zero tolerance with respect to any violation of Air Navigation Orders or safety instructions given by the competition director in briefing.

7 DISTRIBUTION

BMAA Chief Executive

BMAA Safety Officer

Event Organiser

Event Safety Officer

Event Chief Marshal if applicable

Signed by Event Organiser

Date

Risk Assessment accepted by xxxxxxxxxxxxxxxx on behalf of the British Microlight Aircraft Association.

Signed on behalf of the BMAA

Date

8 APPENDIX A: EVENT DOCUMENTS

Examples as applicable to the event:

Certificate of Insurance

Site Plans

Flight areas

Staff briefings

Marshal briefings

Staff information sheets e.g. Emergency procedures