



Open Water Swimming Safety Guide for Multi-Sport Events

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1 Introduction

The growing popularity of the sport of Triathlon has led to an increased demand for both open water events and access to venues for training. At the same time many clubs and event organisers are being denied access to existing and potential venues. In order to appease concerns regarding access to open water venues it is essential that clubs and event organisers approach the task of organising an event or training session with the highest regard for safety management with the ultimate responsibility for the safety of swimmers, officials and third parties falling with the event organiser. This guideline document incorporates current requirements as well as providing a more detailed health and safety framework for anyone seeking to organise an open water triathlon competition or training session.

The document is intended to assist event organisers, safety officers, referees and other officials to run a safe and successful event or training session. It is intended multi-sport organisers use this guide in conjunction with the 'Home Office Good Practice Safety Guide for small and sporting events taking place on the highway, roads and public places' available for download on the British Triathlon website.

The guidelines work alongside the principle that the event organiser or club have the ultimate responsibility for the safety of all those directly or indirectly involved with the open water swim. Venue choice is pivotal with consideration taken to the type of water chosen and the level of environmental hazards the piece of water imposes on swimmers. The sea and rivers pose many more hazards than lakes or reservoirs. Local knowledge and expertise of the water should always be sought. Consideration of road infrastructure must also be taken, not merely for the remainder of the event, but to ensure the access for emergency vehicles.

The swim course design should follow rigid safety management principles with a full risk assessment being carried out at the venue by more than one person. The risk assessment should set out to reduce risks imposed by the water and surrounding areas to all involved at the event or training session.

It is essential all open water swimming takes place in water meeting the minimum EU bathing standards as laid out by the Environmental Agency and meets the ITU water tolerance requirements. No swimming should take place without the results from the water tests.

By adhering to the advice and guidance provided the organisers of open water swimming training and competition are demonstrating a responsible and proactive approach to managing the health and safety of the participants as well as engaging appropriately with the site managers and owners to safeguard future access.

2. Open Water Concerns and Background

2.1 Background

The “Big 10” water companies (all members of Water UK) own and manage a large number of open water venues ideal for the sport of triathlon. At present there is a blanket overview of not permitting any swimming in their waters. This ruling is based on fears of litigation through illness or injury to participants or to an inability to provide adequate safety cover for “copycat” swimmers outside of organised sessions. Furthermore, some sites have by-laws which make open water swimming an offence.

British Triathlon is actively lobbying on behalf of the sport to maintain and increase access to appropriate open water venues and sits on the Water Sports Safety Group, one of a number of sub groups who report to the Water Safety Forum which in turn engages with an inter-departmental government group on Water Safety.

2.2 Concerns

Will need to address concerns from individual water company boards but the underpinning questions are likely to be:

- a) Is it safe?
- b) What’s everybody else doing?

Specific concerns already raised:

- Sensitivity around safety from a “brand” point of view and associated negative publicity when things go wrong (eg poor water quality, accident/incident).
- Conflicts of interest with other recreational users – sailing, birdwatching, fishing, rowing, jet skiing, windsurfing etc.
- Water quality: suitability for prolonged immersion and potential harm from water being engulfed or access through orifices and open wounds.
- Blue-green algae.
- Weil’s disease (leptospirosis).
- Contamination of water by swimmers (for example, by introducing contaminants from other waters via wetsuits).
- Managing the water outside of the event through community education.
- Site suitability – access/egress, car parking, road infrastructure, emergency vehicle access etc.

There is an appreciation that the risk of drowning is minimal and that water-related fatalities have been due to other inherent medical conditions (usually cardiac-related).

Plus, event specific concerns including:

- Knowledge/capability/experience of organiser(s)
- Provision of safety cover (nature & number of craft, qualification of the water safety providers)
- National Governing Body role

2.3 Opportunities

Whilst there are concerns there are also opportunities including:

- to create a framework that sets out clear guidelines for organisers and water operators/owners to follow
- to identify roles and responsibilities
- to educate – organisers, site operators
- to educate – the community (when/where it is safe to enter open water)
- to identify appropriate, safe venues
- to increase recreational use of waters and encourage new visitors

2.4 Principles

Not about avoiding the risk but about managing the risk.

Requires a partnership approach with one central objective – the health, safety and welfare of competitors, event staff & officials, site staff and other site users.

Seeking:

- clear framework
- clear rationale
- clear criteria & minimum requirements

Based on a risk assessment model that addresses/acknowledges the concerns and incorporates the requirements of the water companies, the site operator/manager and the National Governing Bodies (British Triathlon, British Swimming, Royal Life Saving Society UK) event organisers must:

- Comply with all current health and safety legislation and guidelines.
- Assess risks and, where required, provide method statements and safe systems of work (including event management structure, responsibilities and authorities).
- Co-operate fully with requests/instructions from person with on-site responsibility for coordinating activities and managing safety.
- Only proceed with activities when site owner/operator has given permission.
- Ensure the activity does not present hazards to others. This may require segregation by use of barriers and appropriate signage.

2.5 Key Stakeholders

- Site owners/operators/water companies

- National Governing Bodies
- Event organisers
- Competitors
- Event staff/volunteers/officials
- Medical & emergency service providers
- Other water/site users – including organised and non-organised activities
- Local community

Responsibilities of National Governing Body:

Guidelines

Minimum requirements

Rules & regulations

Risk assessment model

Education & training framework/delivery

Advice & support – organisers, site owners/operators (including, for example, access audits, reference)

Event registration

Insurance (where applicable)

Responsibilities of Event Organiser:

Safety officer

Risk assessment/safety plan/event official communication plan

Following guidelines

Providing required level of (qualified) cover

Emergency Action Plan & contingency planning

Site survey/audit

Liaison/communication – site owner/operator, site users, community

Competitor information – competitor responsibility statement, race packs, race briefing

Insurance

Event staff/officials – briefings

The site owner/operator can assist with:

Access audit

Communication with other site users, local community

Water quality checks

3. Course Planning and Design

The organisation of a triathlon or aquathlon event that incorporates an open water

swim is complex and time consuming and requires detailed planning in order for it to be a success. Following is an organisational structure guide to tackle the tasks that need to be undertaken and who should do it. There are many ways of structuring a team to organise a successful multi-sport event that includes open water swimming.

3.1 Swimming Organising Team

The Swimming Event Organising Team is responsible for organising and ensuring the safety of the swim section of the triathlon or aquathlon. The team's responsibilities include a safe course selection, liaising with site managers and site safety officers, establishing local information in regards to water abnormalities, identifying safety cover, wave structure and the swim discipline risk assessment. The team's progress will be fed into the overall event team meetings. A suggestive make up of the Swim Organising Team is as follows:

- **Event Organiser:** The person who has ultimate responsibility for the success of the event.
- **Safety Officer:** Responsible for all aspects of safety before, during and after the event
- **Swim Director:** Responsible for the swim section of the event. The promoter will normally select the location, but the Swim course officer must agree that the course and location it is suitable and safe. The course officer will plan each course, ensuring the GPS measurement, accessible entry and exit areas, marking of the course, and water temperature readings.

3.2 Site Selection

Once a potential site has been identified it is essential that the organiser approaches the water owner/operator for permission, preferably in writing, for open water swimming to take place subject to a full risk assessment including water quality tests (pH, enterobacter, evidence of blue-green algae and other water-borne pathogens).

A detailed site survey is a very important task. The preliminary site survey should be conducted before any detailed planning commences. The site should be reviewed again before the event to ensure that no changes have occurred.

Access to the area is very important as this will not only determine how each event should take place, but also, in the event of an emergency, how emergency services would gain access to the start and finish areas and to the course.

The start and finish areas should be clearly defined. The start should be wide enough so the proposed number of competitors can make a safe start free from interference from others. The finish area should be marked so that there is no confusion as to the exactly where the finish is, and when the course is completed.

The choice of water for an open water swim should be suitable for purpose and the course and safety officer should be sure that the competitors are not being placed in

any danger due to the route or condition of the selected water. Event organisers should be wary of holding the swim in a river or sea location as currents, eddies and other environmental complexities add unnecessary safety hazards and are more likely to pose a risk of having to cancel the swim discipline on event day.

3.3 Water Quality

Water quality is of prime importance. Potential open water swimming sites need to be tested for pH, enterobacter, evidence of blue-green algae and other water-borne pathogens. Sites which cater for other waters sports are likely to already undertake regular water quality testing but this must not be assumed. Where water tests are not routinely undertaken advice should be sought from the Environment Agency or local authority on who can undertake the necessary tests and the frequency of the testing. It should be agreed in advance who is going to pick up the costs associated with the testing. **Under no circumstances should open water swimming take place until the results of the tests are known and acceptable readings have been recorded.**

The risk assessment must ensure that the quality of the water is suitable for swimming. It is important to recognise the risk to health associated with swimming in open water which is polluted and that there is a chance that athlete may contract an illness from competing in such water.

ITU state Water Quality Tolerance Limits are shown below. The samples should be taken from three different locations on the swim course:

- pH between 6 and 9
- Fecal coliform (ocean) not more than 200 per 100mls
- E'coli (fresh water) not more than 200 per 100 mils
- Entero-cocci 35 per 100mils

All bathing water in the UK should meet the minimum standards set out by the EU bathing directive. Information on this directive can be found at http://environment-agency.gov.uk/subjects/waterquality/?lang=_e.

3.4 Designing a Swim Course

The risk assessment of the water will help determine the most appropriate area(s) of water to use for swimming but the final course design should, ideally, have input from a locally-based water safety team (or from the team providing water safety cover during the training session/event if different). Local hazards linked with the type of water such as lakes, reservoirs, rivers, harbours/docks and the open sea should be addressed. It is advised that lakes and reservoirs pose the least safety hazards.

Whilst a spectator/sponsor friendly course design is desirable the **overriding priority** is the **safety of the competitors, the officials and the water safety cover providers.**

Contingency planning (for example, revised course or alternative activity) in the event of inclement conditions should also be considered from the outset.

The final course design should consider:

- **Access/ egress**

Are the entry and exit point(s) wide enough to accommodate the number of swimmers?

What are the underfoot conditions – will it be necessary to use matting and /or a ramp construction to assist swimmers?

- **Warm up area for events** (if appropriate)

Can the course accommodate a clearly identifiable warm up area (with safety cover) that does not interfere with the start?

Is there sufficient room for all competitors who are likely to swim in different directions?

(**Note:** Competitors should always be clearly briefed on warm up and start procedures)

- **Start Line**

Is there sufficient space at the start line to accommodate the anticipated number of swimmers?

Note: Deep water starts require more space than shallow water or beach starts

- **Finish Line**

Restricted width to allow a register to be taken and/or hats to be collected where applicable

- **Distance to first turn**

Ideally allow at least 200m before the first turn to allow swimmers to spread out reducing risk of collision and confusion.

- **Course Measurement and Marking**

Course measurements should be conducted using a GPS receiver where practical. The course should be determined using local knowledge with alternative routes planned should water/weather conditions deteriorate and the swim needs to be shortened.

- **Course shape**

The easiest courses for swimmers to navigate are based on a simple shape/design with a minimal number of turns. For example – straight out and back, triangle, circle or rectangle. Try to avoid complicated, unusual courses which can disorientate swimmers.

If possible the design of the course should incorporate features on the landscape, for example an electricity pylon, which stand out and can assist swimmers to navigate.

Try to make turns “smooth” avoiding sharp turns with rapid changes in direction where possible. Try to avoid 180° turns

Where there is an increased chance of novice or nervous swimmers try to design a course which allows ready access to shallow water or the bank/beach.

Where currents exist it is preferable for swimmers to swim against the current in the early stages of the swim when they have most energy and are at their strongest. Similarly, if windy conditions it is preferable for swimmers to swim against the wind in the early stages of the swim.

- **Swim Buoys**

Each turn should be clearly marked by a swim buoy. Ideally the buoy should be brightly coloured (not blend into background and be different colour from swim hats) and of sufficient height to be clearly seen at water level. If there is a likelihood of waves or swell the height of the buoys may need to be greater than those used in calm conditions. In all cases the visibility of the buoys and their ability to stand up correctly should be tested beforehand.

Sometimes the positioning of safety cover (for example boats/canoes/surfboards) at the turn buoys helps create a more visible reference point for swimmers and also helps ensure that they navigate the course correctly (however, this should not be relied upon because there will always be the potential for these safety craft to be called into action).

Note: The system used to anchor the buoys should also be thoroughly tested particularly in river and sea swims (or in high winds) where there is a potential for the buoys to be carried by currents and lifted by swells

- **Type and positioning of safety cover**

This should be agreed in conjunction with the safety cover provider but consideration should be given to:

Powered craft(s) – for speed in handling incidents

Non-powered craft – for helping swimmers navigate the course safely and safely accessing groups of swimmers in an emergency

Land cover – for example, lifeguards and/or spotters based on land who are able effect localised rescues and/or communicate with water-based craft to guide them to incidents.

The positioning of the craft should consider key points such as start line and turn points with other craft spread around the course. Ideally motorised craft in particular should be positioned “within” the course so that they do not have to cut across a group of swimmers in the event of an incident and so that they have a safe, clear channel (least distance) to use should they need to recover a swimmer and return them to land. A separate, clearly identified landing point with good access for land based vehicles, for example an ambulance, should be considered.

All craft/personnel involved in safety cover should have a clear means of communication with their colleagues – may include radios*, mobile telephones* and/or hand signals – with a clear chain of command. The use of laminated (or water resistant) cards with contact details of key personnel should be adopted.

*Where mobile phones and/or radios are used they should be securely fastened to a lanyard fitted around the users neck

Where possible safety personnel should rehearse different rescue scenarios – for example, conscious compliant swimmer in difficulty, conscious non-compliant swimmer in difficulty, unconscious swimmer, evacuation of all swimmers – as part of their training.

Note: All safety personnel should be appropriately trained/qualified and should be readily identifiable

See appendix for radio and communications procedures.

4. Safety Management

The swimmers' safety is the most important factor in any open water event. The organising committee, in particular the safety officer, should prepare a plan for managing safety. This plan will form part of a safety case for the event (see Appendix A for details of what a typical Safety Case should contain).

The whole of the safety organisation is provided for this purpose. Some points related specifically to the competitors are:

- Swimmers must be identifiable with clearly marked numbers and brightly coloured swim hats, which may also be numbered. The event will normally provide swim hats;
- Maximum entry - safe number of swimmers to have in the water at any one time;

Note: wave starts should be used with a maximum of 120 swimmers per wave. Waves are usually ordered by age group, sex and elite to avoid congestion on the cycle discipline. The fastest athletes should be set off first.

- Safety cover, safety craft and / or canoes must be provided on the water. Personnel assigned to water safety must be in the ratio of 1 to, at most, every 20 competitors. Emergency exit points should be available for swimmers to leave the water and separate exit points should be available for safety craft.
- At no point during the swim should any competitor be more than 50 metres from assistance. In addition to canoes at least one motorised safety craft should be used at every event. First aid and warming facilities also need to be available.

- Number of officials, marshals and boats - the numbers will be determined by the:
 - type of event
 - Number of competitors
 - experience and age of the competitors
 - location; proximity and number of water egress points.

Note: The ratio of boats to swimmers is a key consideration. For instance for a lake swim where swimmers are no more than 10 metres from a shore, you may wish to set a ratio of 1 boat to 20 swimmers, whereas for a sea swim where there is no easy access to a landing place away from the start and finish areas it may be better to allocate a ratio of 1 boat to every 6 or 8 swimmers.

- Communications - the safety officer will establish the level of communications required when carrying out the risk assessment. The type of communications required and who should be included will be detailed in the safety case.
- Race information – athletes should be informed before arriving at the event of the water type, health and safety information regarding the swim and offered advice on open water swimming.
- Event briefing – athletes should be briefed on the course and safety concerns and what to do if they find themselves in difficulty when lined up ready to start the swim. A PA system or a megaphone just be used to ensure all competitors can hear.
- First aid cover - provision of first aid cover is essential, consideration should be given to where this is located and whether there is a need for first aid expertise in the safety boats

Note: Even when the water temperature and conditions are good it is advisable to have hot drinks available. Hypothermia can occur in relatively warm water particularly in very thin or weaker swimmers. A cut off time for the swim should be agreed with the race safety officer and chief referee prior to the event. If any competitor fails to complete the swim before the cut off time he / she should be removed from the water and be ordered to retire. Competitors refusing to retire will not be insured to continue racing and may be subject to disciplinary action by British Triathlon. The cut off time will be dependent on the water conditions, temperature and the length of the swim.

- Emergency procedures - including the triggers for shortening the course or abandoning the swim. These triggers will include:
 - the maximum safe sea state,
 - maximum wind speed,
 - forecast of an imminent electrical storm
 - interference on the course by other boat users.
- Event cut off point - the time after which all competitors must have left the water. All decisions regarding the management of safety will be recorded in the safety case

4.1 Risk Assessment

In many instances organisers will have thought about safety requirements but have not actually recorded their findings anywhere. By documenting safety procedures, policies and practices organisers are able to establish a health and safety audit trail. This will support the organiser in the event of an incident by demonstrating a responsible and proactive approach to managing safety. It will also provide a written template for the organisers of future events, particularly club training sessions where club members may take turns to organise the training.

Important:

- The risk assessment, and any subsequent update, should be undertaken at the venue
- The risk assessment and associated safety documents must be “live” and regularly reviewed and updated
- Any measures to manage safety identified within the document must be in place (any deviation on the day should be documented*) prior to the session taking place.

* e.g. change to swim route due to weather conditions

The risk assessment itself is quite straightforward. It is basically a three step process

- 1) Identify hazards that have the potential to cause harm
- 2) Assess the likelihood or risk of the hazard causing harm and to who (assessed as low, medium or high)
- 3) Identify measures that can be taken to reduce the risk to an acceptable level, ideally low

If a risk cannot be managed to an acceptable level then steps should be taken to completely avoid the hazard, for example, by changing the swim course. If this is not possible the activity should not take place.

British Triathlon provide a generic risk assessment document for registered events which provides a framework for recording findings.

The risk assessment will assist the organiser (and the site owner) to identify whether the body of water is suitable for open water swimming and that participants are not being placed in danger due to the location or condition of the venue. There are a number of factors that need to be considered and documented including both physical and people hazards.

Responsibility for the content of the risk assessment lies with the event organiser (or club) although a designated third party e.g a safety officer, can be engaged to write the document.

Physical Hazards

These include, but are not restricted to:

- Access and egress, condition and proximity of start and finish points
- Likely water temperature – which will have implications for recommended swimming distances and immersion times **NB Also need to consider wind chill factor**
- Currents or eddies
- Water quality
- Hidden, overhanging or underwater hazards
- Other water users
- Depth (changes)
- Conditions underfoot
- Seasonal hazards e.g weeds

People Hazards

These include, but are not restricted to:

- Groups with mixed ability
- Inexperienced open water swimmers
- Over-confident
- Low body fat – reduced cold water tolerance

The risk assessment document should also be supported by additional background information including:

- Description of venue – including maps and diagrams of swim course
- Depth of water
- Location of weed beds
- Nature of water – lake, river, sea etc
- Contact details for owner / operator
- Average water temperatures for period of use
- Water quality
- Access arrangements for club
- Access arrangements for emergency vehicles
- Normal operating plan
- Emergency action plan
- Use by other activities (sailing, windsurfing, jet ski etc)

4.2 Normal Operating Procedures

The risk assessment can be used to draw up a Normal Operating Plan (NOP) which describes how the event or session will run from arrival at the venue and the pre-swimming checks to final departure.

For training sessions it is advisable to draw up specific rules that participants should be able to read, be briefed on (and sign to say that they have read and understood).

For example see Appendix C for Club Open Water Session Rules

4.3 Emergency Action Plan

In addition to the NOP organisers should also develop an Emergency Action Plan (EAP) which details what action should be undertaken in the event of a foreseeable incident. This might include :

- Injury to a swimmer
- Hypothermia
- Drowning
- Distressed swimmer
- Deteriorating weather e.g lightning, high winds, poor visibility
- An unauthorised craft entering the swimming zone

Consideration should be given to roles and responsibilities, communication (on site and externally e.g. ambulance service), medical provision, provision of blankets, access of emergency vehicles, recovery of swimmers from the water, access to safety equipment e.g. throw ropes, lifebuoys

Where possible it is advisable to practice scenarios to test the EAP remembering that when an incident does occur safety cover needs to be maintained for all swimmers and that all attention should not be focussed on where an incident is occurring.

4.4 Open Water Swimming Training Sessions

Open water swimming training sessions should be approached with the same planning phase and approach to safety as organising a public event. To maintain good relations with the owner ensure that their requests are followed. Open water training sites are a precious commodity. Ensure as the organisers you:

- Complete all necessary permits, insurance and risk assessments.
- Abide by the venue's rules and club session rules **see appendix C**.
- Register all swimmers and note medical conditions and emergency contact details.
- Stick to a designated a session start and finish time.
- Appoint a safety officer who will remain on the shore.
- Pair swimmers of similar abilities to watch over each other (the buddy system).
- Work with the site owner/operator to encourage responsible swimming.

4.5 General Advice for Open Water Swimming

Whilst water quality tests provide an indication of the suitability of a venue for open water swimming they do not mean that there is a complete absence of potential pathogens. There are simple practices that swimmers should be advised to adopt to minimise risk of infections further.

- Cover all cuts and abrasions, however minor, with sticking plasters. You should not consider swimming if you have deep cuts.
- Wash hands in fresh water before eating after you have swum.
- Take a full shower at the earliest opportunity.
- Try not to ingest water while swimming.

In addition all swimming kit (wetsuit, costume, goggles, hat etc) should be washed in clean water and thoroughly dried prior to the next session/event.

5. Race Day Organisation

5.1 Registration

When registering athletes the officials should:

- check competitor information is correct;
- ensure that the disclaimer is signed, and includes relevant medical information and ability to swim the distance;
- encourage athlete to note medical information on the rear of their number;
- check the competitor against list of entrants to determine starters;
- issue race numbers;
- issue race hats.

Note: The registration area is also a good place to have a race information board with race details, water temperature and any last minute changes to the published programme.

5.2 Event briefing - competitors

There should be a separate briefing for competitors and officials. The timing of the briefings for competitors should be included on the entry form. The competitors briefing should take place in an area that allows the expected number of competitors and swimmers' representatives to gather and hear the information clearly. It should be held with sufficient time allowed for swimmers to complete their pre-race preparations and if necessary to travel to the start position. Any information updates can be passed on at the briefing. If necessary a public address system should be used. If the briefing is in the open air a PA system is essential.

The referee will lead the briefing with assistance from the safety officer and the medical officer. The briefing will cover:

- The race - the specific aspects dictated by the venue and the event including:
 - swimmer identification - the procedure for marking the swimmers with their race numbers should be clearly explained.
 - the start - all competitors should know the start procedure. It is worth

- rehearsing the procedure during the briefing to ensure that the particular requirements of the event are clear;
 - the course - the referee should be satisfied that all competitors understand the route they will swim and what they are expected to do at turn points and the finish. Instructions should be simple if possible;
 - the finish - the layout and the approach to the finish should be explained;
 - after finishing - the procedure for leaving the finish area and the water.
- Environmental conditions:
 - weather - Current air temperature, sun, wind, forecast for changes throughout the period of the race;
 - water - temperature, current or tidal flow, waves, likely effects of the wind, water quality, any health warnings related to the water quality. Forecast for changes throughout the period of the race.
- Safety - points that all should be aware of including the normal and emergency procedures.
- Medical - what medical provisions are in place.

5.3 Event briefing - officials

Where possible technical officials should be sent an information pack explaining their duties (terms of reference) in advance of the event. This information should cover all officials, so that individuals are aware of how their duties interact with others. Copies of the officials' briefing notes should be given to all officials on the day, preferably laminated to make them waterproof.

The referee will conduct the briefing on the day of the event with assistance from the safety officer and the medical officer. The briefing will cover the specific duties required by the venue and the event. Safety aspects that all should be aware of including the normal operating procedures and the emergency procedures plus the medical and other safety provisions that are in place. All technical officials and boat crews, including canoe lifeguards should be included in this briefing

An example of a briefing format for both swimmers and officials is included in the Sample Safety Case at Appendix A.

6. British Triathlon Swimming Rules

The written rules for open water swimming as published by British Triathlon shall apply as appropriate. Swimming rules are listed below and can be accessed the British Triathlon website.

6.1 Rule Book Section 9 - Swimming

S9.1 Competitors shall use no aids other than a cap, goggles, nose clip and a costume, which may be a wetsuit.

S9.2 A wetsuit may consist of up to three separate parts. The wearing of wetsuit leggings only, gloves and/or socks is not permitted. The maximum permitted thickness of material is 5mm. This maximum thickness also applies to any overlap of materials.

S9.3 The minimum water temperature at which wetsuits are optional is 14°C.

S9.4 Water temperature should be measured at a minimum of three points along the course, including the mid and furthest points from the shore, at a depth of 60 cm. The lowest measured temperature should be considered the official water temperature. Temperature readings should be taken one hour before the start of the event. At the following temperatures the following maximum swim distances are obligatory:

Water Temperature	Max. Distance
13°C	2000m
12 °C	1000m
11 °C	500m

NB: Based on the above table the minimum temperature for a standard distance swim (1500m) is 12.5°C.

9.5 At temperatures less than 11°C it is recommended that no open water swimming take place. The above are based on water temperatures alone and assume that the wind chill factor is negligible. If wind chill is significant swim distances may be reduced at higher temperatures.

9.6 The use of wetsuits is forbidden or mandatory if the following combinations of distance and water temperature are attained:

Swim Length	Forbidden above:	Mandatory below:
< 1500m	22 °C	14 °C
1501-3000m	23 °C	15 °C
3001-4000m	24 °C	16 °C

NB: Junior/Elite competitors should refer to ITU rules for wetsuits in international competition which vary from the above.

6.2 Rule Book Section 10 – Open Water Swim Safety

S10.1 Straight line courses: Safety craft or platforms shall be stationed at 100m intervals along the course spaced from the back marker to 200m in front of the lead swimmer. Additional boats/canoes shall patrol the swimming area to ensure that no swimmer is at any time more than 50m from safety cover.

S10.2 Circuit courses: Safety craft shall be spaced at 100m intervals with canoe, boat or lifeguard backup so as to achieve a ratio of one safety unit per 20 swimmers. At no time should any swimmer be more than 50m from safety cover.

S10.3 No safety cover shall leave the course or be withdrawn until the last swimmer has left the water.

S10.4 A suitable craft shall act as a guide by maintaining station 25m in front of the leading male and female swimmers.

S10.5 All turns shall be clearly marked by buoys or other forms of marking. These must be at least 1m high.

S10.6 The course shall be clearly marked by buoys or other marking devices located at least every 100m and a minimum of 1m high. All markers shall be a different colour to swim hats.

S10.7 First aid units in attendance must be aware of the requirements for the treatment of shock and cold.

S10.8 Sufficient blankets should be on hand to supply a minimum of 20% of the entries.

S10.9 Re-heat facilities are to be on hand, together with a good supply of hot drinks.

S10.10 Wherever practical the ratio of the sections should be maintained if the swimming distance has to be reduced.

S10.11 The nearest hospital casualty department must be informed that any race with an open water swim is taking place. Details given must include event location, start time and numbers of competitors expected.

6.3 Rule Book Section 17 - Swim Conduct

S17.1 Competitors may stand, or rest on the bottom, or on a non-moving object, but may not gain unfair advantage or make progress, other than is deemed necessary to execute entry into and exit from the designated swimming course by doing so. In shallow waters, an exact point when swimming must commence and may cease shall be appointed and marked.

S17.2 Competitors shall at all times swim so that they do not deliberately obstruct or interfere with other competitors. Making contact other than by accident shall be declared unsporting impedance.

S17.3 Race organisers may set a time limit for the swimming section. The time limit will be determined when the event is registered with British Triathlon and be published in all race information and must be covered in all race briefings.

S17.4 At the end of the specified time limit any competitor still in the water shall be ordered to retire. Competitors refusing to retire will not be insured to continue racing and may be subject to disciplinary action by British Triathlon.

S17.5 At all events, both pool-based and open water, no diving is permitted unless pre-agreed at the time of registering and then only for entry at the start of the swim and for re-entry on multiple lap courses.

