

# Good Practice Guide:

## Orienteering and the Environment in Scotland



January 2019

Scottish Orienteering Association

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The Scottish Orienteering Association is a charitable body, registered in Scotland, with registration number SC043563

Date: January 2019 (revision)

## 1 Introduction

This good practice guide provides information for organisers, planners, controllers and participants at orienteering events in Scotland. Sections include details about key stakeholders; statutory designations; biosecurity; the environmental impact of orienteering and mitigation measures.

The document will assist orienteers in securing access to land for events, particularly where there are concerns for nature conservation. The cooperation and support from Scottish Natural Heritage and Forestry Commission Scotland reviewing the guide is acknowledged and appreciated.

## 2 Background

Orienteering in Scotland has been taking place for over 50 years, and the sport has enjoyed access to urban, dune, forest and moorland areas for the staging of events ranging from a handful of orienteers to many thousands of competitors. Urban orienteering (including parks) is also popular. Specialised orienteering maps with superior detail to Ordnance Survey mapping have been created across many areas of Scotland, with new areas being added on a regular basis. The availability of high-quality LiDAR data provided through an agreement with **sportscotland** and the Scottish Government (now available through the Scottish Remote Sensing Portal) has helped in the production of mapping including vegetation and contour detail. When planning events on existing areas, re-mapping or extending areas or seeking access for mapping of new areas it makes good sense to better understand environmental aspects at an early stage.

Access to Scotland's outdoors takes place under Scottish access rights, which apply to most land and inland water, subject to responsible behaviour as described in the Scottish Outdoor Access Code (SOAC). The Code states that you can exercise access rights for recreational purposes, and though recreational purposes are not defined in the legislation they are taken to include "active pursuits" including orienteering. The website <http://www.outdooraccess-scotland.com/> is an excellent source of information including links to SOAC.

The National Access Forum has developed supporting guidance on Outdoor events in Scotland. The publication [Outdoor events in Scotland, guidance for organisers and land managers](#) is the most relevant document and this is also referenced from the guide to Orienteering and Access in Scotland produced by the Scottish Orienteering Association (SOA).

The SOA follows the Environmental Policy and Environmental Good Practice from the British Orienteering Federation (BOF) [https://www.britishorienteering.org.uk/images/uploaded/downloads/officials\\_handbook\\_landaccess\\_environmental\\_goodpractice.pdf](https://www.britishorienteering.org.uk/images/uploaded/downloads/officials_handbook_landaccess_environmental_goodpractice.pdf) The BOF Policy incorporates the Environmental Policy of the International Orienteering Federation (IOF).

## 3 Key Stakeholders

In the majority of cases the landowner or land manager will lead on discussions with regard to any possible environmental constraints or statutory designations and will liaise with the appropriate organisation. In most circumstances this will be Scottish Natural Heritage (SNH).

Information about land ownership is often held within the orienteering clubs. The Access guide described above contains further information and useful links.

Organisers and clubs seeking to map and/or stage events in areas can seek information about possible environmental constraints through the interactive map <https://sitelink.nature.scot/map>.

Data can also be downloaded (shapefiles can be viewed in recent versions of OCAD) at <https://gateway.snh.gov.uk/natural-spaces/>

Understanding possible restrictions can be helpful during discussions with the land manager or landowner. In some circumstances a direct approach to SNH can be useful, for example the staging of multi-day events. The SOA Events Manager can advise organisers and clubs as to the most appropriate action.

The Scottish Capercaillie Group advise the SOA of the most sensitive areas within the species range – currently limited to Deeside/Aberdeenshire, Moray, Easter Ross, Perthshire and Strathspey. A map of areas is supplied to the SOA for restricted circulation to the orienteering clubs that may be affected. This information is reviewed biennially by the Capercaillie Advisory Officer and the SOA Events Manager.

In some circumstances the Scottish Environmental Protection Agency (SEPA) and other agencies will need to be consulted. For example at Highland 2015, a major competition incorporating the World Orienteering Championships and the biennial Scottish 6 Days Orienteering event, “engineering activities” including the bridge constructions and track improvements (culvert upgrades) had to be registered and a fee paid to SEPA. Local material was extracted for the engineering activities, and as the area was in an agri-environmental scheme the appropriate authority (Scottish Government Rural Payments and Inspections Division) were informed.

#### 4 Statutory Designations

Protected areas include:

- Sites of Special Scientific Interest (SSSI) - areas that best represent our natural heritage including diversity of plants, animals and habitats, rocks and landforms.
- Special Areas of Conservation (SAC) - internationally important for threatened habitats and species.
- Special Protection Areas (SPA) - internationally important for threatened habitats and species (Birds Directive).
- Ramsar - designated as internationally important wetlands in Scotland
- National Scenic Areas - Scotland's finest landscapes. This designation largely relates to development within the planning system and is unlikely to have significant implications for orienteering events
- National Nature Reserves – showcasing the very best of Scotland’s nature, but people are encouraged to enjoy these special places. It is likely that some of the designations shown above will also apply.
- National Parks – Loch Lomond & the Trossachs and the Cairngorms, both important areas for orienteering, are the only National Parks. They are areas of the very highest value for their landscapes, wildlife and cultural heritage. Designations shown above apply in parts of the National Parks though of course the areas also encompass large tracts of agricultural land, settlements and other land use.

The designation of a protected area **does not mean that orienteering cannot take place**. There may however be restrictions, for example at certain times of year the area is sensitive and should or must be avoided. If other suitable but less sensitive sites can be identified there may be fewer issues seeking permissions.

In some special cases SNH may require the landowner to comply with what is known as Operations Requiring Consent (ORC). An application for consent will trigger a Natura Assessment for the



features on Natura sites (SACs and SPAs). This is the usual process for assessing impacts on a European site and allows SNH to incorporate conditions (if necessary) in order to avoid damage to sensitive habitats i.e. avoiding particular areas. Landowners should be familiar with this process – for example FCS went through this process for use of Glen Affric for Highland 2015. Note that for Highland 2015 at Glen Strathfarrar the situation was different because there was no ORC for recreation and subsequently a Natura Assessment was not triggered. However, following best practice, a similar process was followed to ensure disturbance or damage to the special features was minimised. Under the section below (Mitigation Measures) the steps taken by the SOA to assist FCS are described.

There are also provisions under Section 19 of the Nature Conservation (Scotland) Act 2004 and Regulation 18 of the Habitat Regulations [Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in Scotland)] that prohibit intentional or reckless damage to natural features of the designated sites. The protection afforded to the nests of certain, threatened, bird species is extended to all times of the year, and the disturbance of certain bird species at their leks (aggregation of males showing competitive displays) is prohibited. Although the SPA designation draws special attention to certain areas the Act would still apply even if there was a single nest outwith an SPA. This legislation also applies to many other species (e.g. Raptors, Divers). Disturbance could be deemed an offence leading to prosecution. Following best practice will help to avoid offences under these pieces of legislation inadvertently being committed.

Capercaillie are listed in Annex 1 of the EU Birds Directive (1979) and consequently protected under European law. The Agreement with the Scottish Capercaillie Group covers:

- Forest blocks with leks – restrictions to orienteering between 1 March and 31 August
- Forest blocks with known or probable capercaillie nesting and brood rearing – restrictions to orienteering between 15 April and 31 August.

Up-to-date advice will be provided by the Capercaillie Advisory Officer (normally through the SOA Events Manager). The Agreement **does not advise a blanket ban on orienteering in capercaillie woods.**

Landowners and land managers including private estates, FCS, and National Trust for Scotland are generally helpful, co-operative and supportive towards orienteering events. A case study from Scottish Land & Estates (see Appendix A) is an example of where a major event can be successfully staged in an area that was covered by SSSI, SAC, SPA and National Scenic Area designations. Highland 2015 was helped by the Patronage of Lord Moray, with several events taking place in Darnaway Forest, part of the Moray Estates and an area that included SSSI, SAC and SPA designations.

## 5 Biosecurity

The original definition of biosecurity started out as a set of preventive measures designed to reduce the risk of transmission of infectious diseases in crops and livestock, quarantined pests, invasive alien species, and living modified organisms. Preventive measures could go as far as the need for footbaths and disinfectant washes (a familiar process after the 2001 foot-and-mouth outbreak) but typically the main advice given is to **clean equipment, footwear and clothing** to avoid transferring mud or plant material from one area to another. Vehicles (and bikes) should also be cleaned.

The list of possible threats is diverse and no list can be definitive. There are threats to many tree species including common species encountered by orienteers. Scots pine, lodgepole pine and Corsican (Dothistroma Needle Blight leading to widespread felling); oak (sudden oak death); juniper

(Phytophthora austrocedri) and ash (ash dieback) are just some of the problems. In 2015 the brittle cinder fungus caused the sudden collapse of a massive beech tree (a string course control) next to Darnaway Castle and the disease was also detected in a beech tree adjacent to the main crossing point into the race arena. This tree was felled by the Estate as a preventative measure.

Risks to livestock from dog faeces is also a concern. Neosporosis which can cause abortions in cattle and Sarcocystosis which can cause neurological disease and death in sheep may cause farmers concern. Event details should contain advice to orienteers with dogs to pick up any faeces (even if agricultural land is not currently covered by the Dog Fouling (Scotland) Act 2003).

Water bodies (including ponds, lochans, rivers, streams and bogs) are also potentially at risk from invasive organisms and the advice about clean equipment, footwear and clothing is also applicable to these areas.

## 6 Environmental Impact of Orienteering

An excellent source of reference is the IOF report (2010) <http://orienteering.org/wp-content/uploads/2010/12/IOF-ENV-007-Orienteering-a-nature-sport-with-low-ecological-impact.pdf>

This report refers to various environmental impact studies carried out in the UK and overseas. Additionally the SOA has been involved with studies in particularly sensitive areas including:

- The Sensitivity of Vegetation Types to Trampling by Orienteers in Culbin Forest, Karen Mackellow 2004
- Impact Study on the effect of Orienteering on the Culbin Forest, David Vaughan 2006
- World Veteran Orienteering Event, Rothiemurchus Estate, John O'Keefe (SNH), 1994
- Impact Analysis of the Orienteering Event held at Barry Buddon, Dr Theo Loizou 2009

These studies suggest that very large events in an area e.g. 3,000 competitors should be staged infrequently, and this is in line with our policy of organising major events such as the Scottish 6 Days in Scotland in different regions every two years. Smaller events can take place more frequently.

Orienteering encourages and provides contact with nature, providing health and well-being. The environment is one of the fundamental values of orienteering, and it is very much in our interest to understand and protect the environment for our sport to flourish.

With appropriate management to avoid particularly sensitive times and places, the impacts of orienteering events are marginal. Other factors including trampling, tracking and grazing by animals e.g. deer, cattle and sheep or forest operations are likely to have a more significant effect on the environment.

## 7 Mitigation Measures

Orienteering is an "off-track" activity though this has to be qualified with the statement that the least technical courses (primarily aimed at juniors and beginners) are mainly along tracks. For other competitors the presence of tracks in an area may offer the best route choice option (faster movement over the ground). In dealing with landowners the off-track nature of orienteering needs to be stressed from the outset. A typical example of technical course "legs" where control points (check points) are off-track is shown below:

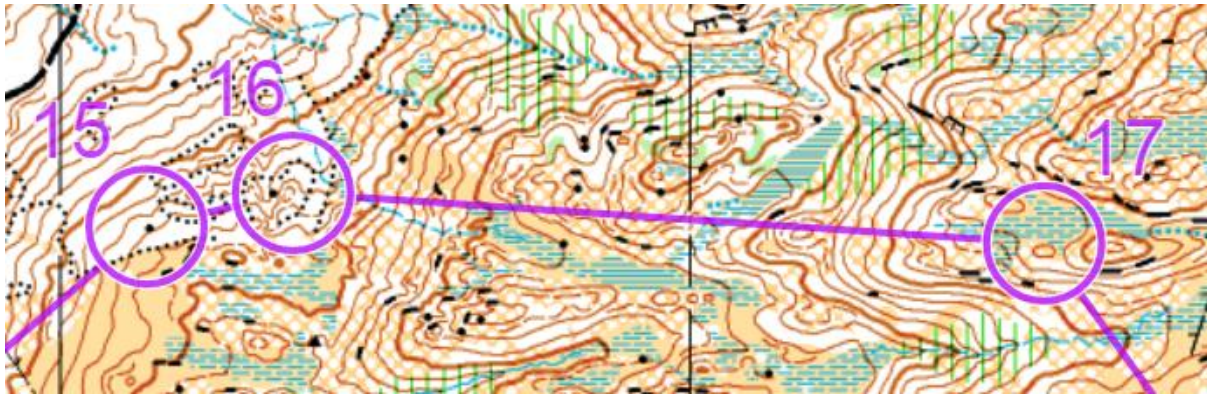


Figure 1: Off-track orienteering. Technically difficult orienteering in Glen Affric

Practical steps should be taken to lessen ecological impact. The IOF report highlights measures including:

- **Dispersal in Space** – A wide range of courses are usually on offer for all ages and abilities (under 10s to over 90s). Courses are planned at different physical and technical standards. Controls are placed widely in the terrain and linked to make up the required standard of courses. The combination of many control points and inter-control route choice results in the competitors being spread out in the terrain and not concentrated as in a cross-country race or in a marathon.

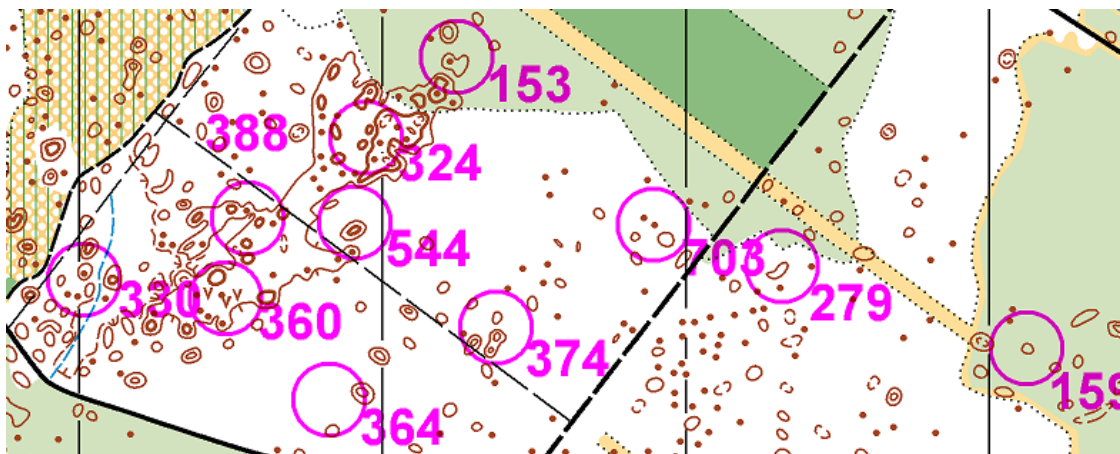


Figure 2: Multiple controls for multiple courses at Culbin Forest

- **Dispersal in Time** – Competitors make their own decisions about route choice and navigation and are usually set out at timed intervals. This means that the number of competitors in the forest at any one time or place can be relatively low.
- **Low Competitor Density** - The dispersal in space and time results in a low competitor density at any point in the competition terrain, far less than might be envisaged by those not familiar with the conduct of the sport. A low competitor density is a requirement for competitive purposes, which is to minimise competitor-to-competitor disturbance, in order to promote solo-navigation and solo running. This procedure has the coincident effect of minimising ecological disturbance.
- **Episodic, short-term activity** – There is normally a long interval between orienteering events in the same terrain, typically many years for major events. There is an obvious ecological benefit in allowing any damaged vegetation to recover and displaced fauna to return

- **Avoidance of Sensitive Areas** - If sensitive areas are notified to the planners, they will place controls not only outside the notified areas but also in such positions that the logical route choices do not pass through them. This can be done without the competitors being made aware of the existence of the sensitivity, if secrecy is required by the ecologists responsible for the area. In some cases, printing or overprinting the map with black vertical stripes (permanently out of bounds) or purple vertical stripes (out of bounds for the event) may be requested. There may be tapes or intermittent tapes on the ground used to define these areas, usually on small features with rare fauna or flora.

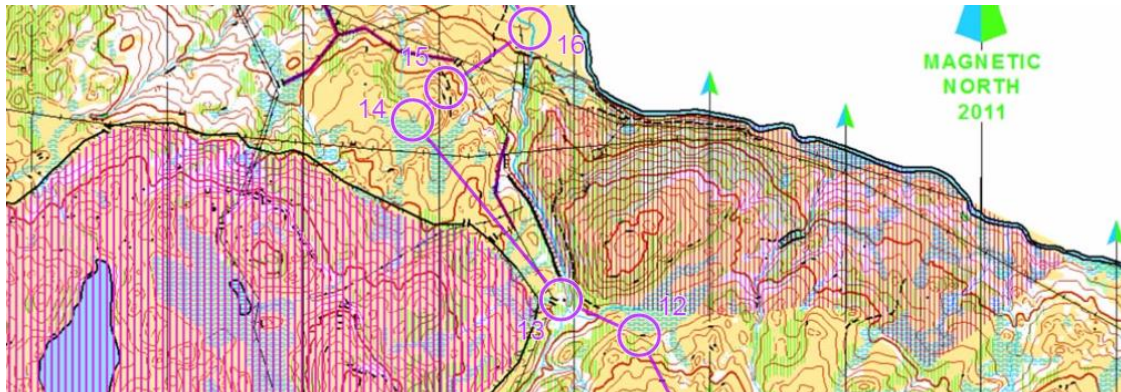


Figure 3: Courses planned to avoid out of bounds area (refuge area near Torinturk, Oban)

Example A: An osprey eyrie at the World Orienteering Championships 2015 (WOC) was not highlighted on the map but courses were planned to avoid the site by an agreed distance. Competitors tracked *across* the field of view and did not run *towards* the nest (a perceived threat). These measures were instigated after consultation with a leading expert (and with the agreement of the Royal Society for the Protection of Birds).

Example B: For Highland 2015 confidential maps were provided to the FCS showing the likely “loading” of competitors in different zones of Glen Affric (see Appendix B). The number of control sites in each area was also stated – more controls meaning a lower competitor density at any one site. SNH provided GIS files showing the most sensitive areas – blanket bog, wet heath and mosaics of bog and heath. In addition to the maps a Statement of Compliance was produced (see Appendix C). This information was replicated in the race bulletin, including Bulletin 4 (Appendix D) issued to WOC competitors and officials. The FCS provided a copy of the map to SNH and secured relevant consents for the event to take place.

## 8 Contact

The SOA Events Manager can provide additional help and advice if requested. Please contact the Events Manager, Scottish Orienteering Association at the National Orienteering Centre, Glenmore Lodge, Aviemore PH22 1QZ Email: [colin.matheson@scottish-orienteering.org](mailto:colin.matheson@scottish-orienteering.org)



## Appendix A Case Study – Scottish Land & Estates



Case Studies > World-class Orienteering

### Culligran Estate



#### Case Study

##### World-class Orienteering

The first week in August 2015 saw 6000 competitors and many more fans of the sport from all corners of the world descend on Culligran Estate in Glen Strathfarrar. The Scottish 6 Days and World Orienteering Championships were held in the same week across the Highlands at Damaway, Glen Affric, Achagour and Strathfarrar. Frank Spencer-Naim hosted day two and said: "Here on Culligran Estate, we were delighted to welcome over 5,000 contestants to Glen Strathfarrar for Day 2 of the Scottish Orienteering Championships ("Scottish 6 Day") held in conjunction with the World Orienteering Championships."

"After overnight rain, the sun shone and the glen sparkled. This was all totally new ground for the Orienteers. The Royal Engineers played a key role and installed two temporary bridges across the River Farrar, enabling the courses to go on to Struy Estate as well as Culligran. Helpful liaison with SSE resulted in a constant river flow being maintained for the duration of the competition. The parking for some 2000 cars was provided by Erchless Estate in a field by Struy Bridge from where the competitors and spectators had to walk in."

"All in all it was a great opportunity to showcase the magnificence of the Highlands and the resourcefulness of land managers and owners."

Assistant Event Coordinator Colin Matheson, from Naim, admitted the logistics of holding the events together across so many sites had taken almost 4 years to arrange and praised local estates for their support and encouragement.

The 71 Regiment of the Royal Engineer together with soldiers from the South Dakota National Guard erected three temporary bridges across the fast flowing River Farrar under the KAPE (keeping the Army in the Public Eye) and RUE (SDNG Reciprocal Unit Exchange) programs.

Norwegian Orienteers Kjell Svihus and Kristin Skadsem from Ganddal near Stavanger and her team enjoyed the challenges presented by the Highland landscapes. Kristin described Culligran as "Fantastic! Wet, like home but much greener and great for orienteering".

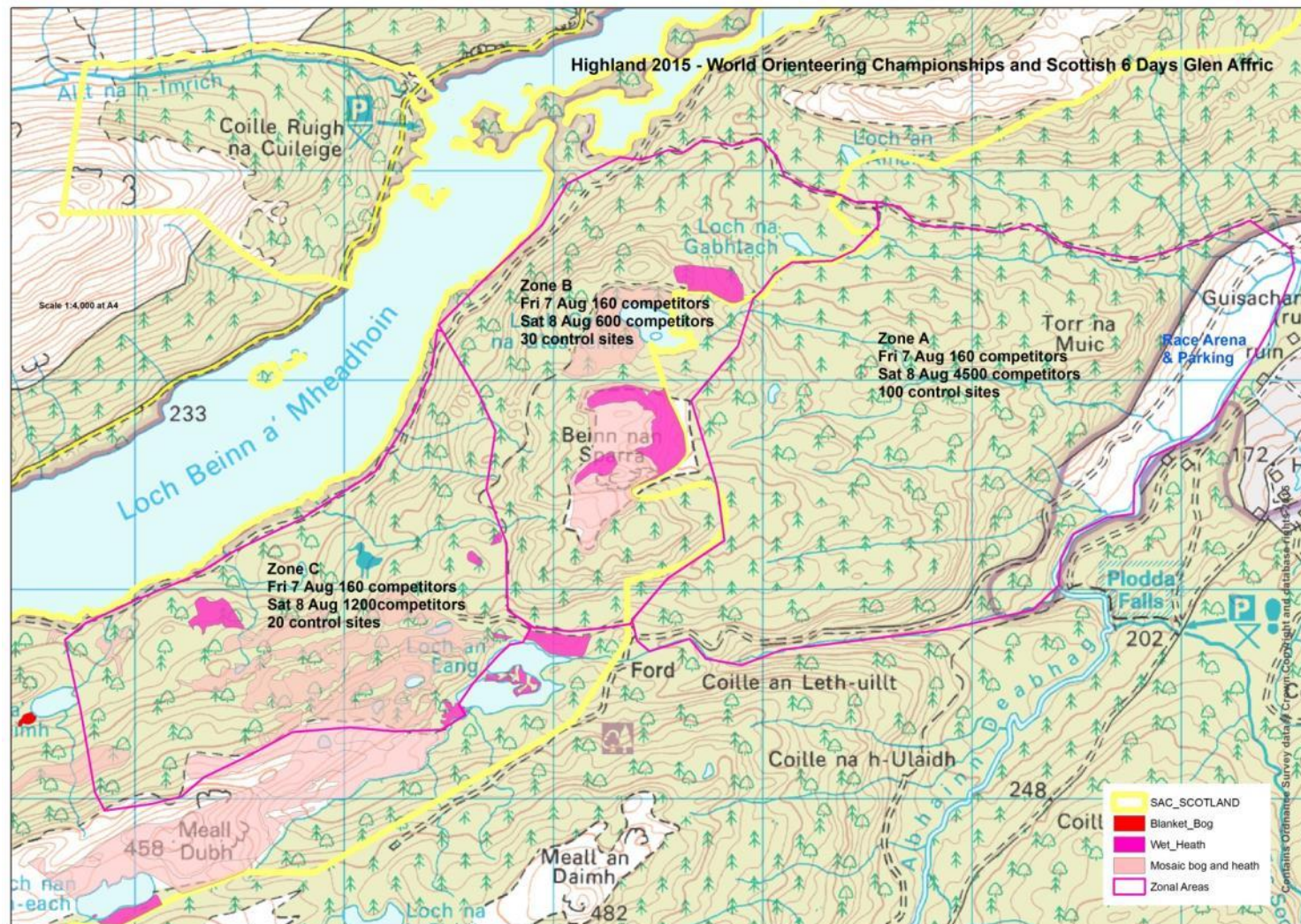


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## Appendix B Competitor Zones



## Appendix C Highland 2015 Statement of Compliance – Sensitive Habitats

Highland 2015 incorporates the World Orienteering Championships (WOC) and Scottish 6 Days Orienteering (S6D) event. WOC was previously staged in Scotland in 1976 and 1999, and the S6D biennially since 1977.

Some of the best orienteering terrain in Scotland coincides with environmentally sensitive areas which may have multiple designations – Special Areas of Conservation, Sites of Special Scientific Interest, Specially Protected Areas and so on. The need to protect vulnerable habitats and species are covered by the Nature Conservation (Scotland) Act 2004

Early August is one of the least sensitive times of year for other species (flora and fauna) and land management operations, and we have taken advice from Scottish Natural Heritage (SNH) and other bodies such as the Royal Society for the Protection of Birds and Forestry Commission Scotland to minimise possible disturbance to habitats and species. In all instances courses have been planned to deliberately avoid sensitive areas –in Glen Affric and Glen Strathfarrar blanket bogs and wet heaths have been avoided where practicable. Mitigation measures taken have included issuing planners and controllers with map overlays (provided by SNH) showing blanket bogs and wet heaths.

The following statement was received from the planners:

*We can confirm that we are aware of the locations of blanket bog, mosaics and longitudinal marshes. We can confirm that there are no controls set in or near blanket bog sites, and navigational routes will keep runners away from these sites. Regarding the mosaics, again there are no controls on any of them, though we do use the contoured hills between them for sites and routes. Routes have been designed to encourage runners to use the dry ground adjoining the marshes, which gives faster running. We also intend to put comments in the final details telling runners to avoid these marshes as much as possible, and that the dry ground is faster. We feel we have minimised the impact on these terrains as far as possible and are compliant with SNH guidelines in respect of both blanket bog and Mosaics.*

A number of specially protected bird species have also chosen to nest in competition areas, with expert guidance and agreement sought from relevant experts and statutory bodies to determine what was acceptable in terms of buffer zones or direction of approach.

Numbers taking part in WOC are limited – fewer than 200 athletes. The numbers of competitors taking part in the S6D may reach 5,000. These competitors will be spread over 35 different courses with each course visiting somewhere between 15 and 25 different control sites. There are 150 control sites in each area, ensuring that the footfall and subsequent impact is minimised. Within Glen Affric only the longer courses, with more limited numbers, will visit areas outside the forest i.e. open moorland.

In the competition bulletin and programme competitors are advised that if areas are marked as out of bounds these must be respected. WOC Bulletin 3, due for publication in early June, includes a short section on orienteering and the environment. Repeated studies across Scotland and elsewhere in the UK have shown that the environmental impact of well-planned and organised orienteering events is minimal and areas will soon recover.



## Appendix D World Orienteering Championships Bulletin 4 (extract)

### RACE VENUE LOCATION MAP



#### WOC AND THE ENVIRONMENT

Some of the best orienteering terrain in Scotland coincides with environmentally sensitive areas which may have multiple designations – Special Areas of Conservation, Sites of Special Scientific Interest, Specially Protected Areas and so on. The need to protect vulnerable habitats and species is covered by the Nature Conservation (Scotland) Act 2004, with special consideration in relation to capercaillie. Capercaillie are listed in Annex 1 of the EU Birds Directive (1979) and consequently protected under European law. Because of capercaillie, orienteering is not permitted in many areas from the period 1st March to 31st August and this has severely restricted training opportunities in e.g. Speyside.

Early August is one of the least sensitive times of year for other species (flora and fauna) and land management operations, and we have taken advice from Scottish Natural Heritage and other bodies such as the Royal Society for the Protection of Birds and Forestry Commission Scotland to minimise possible disturbance to habitats and species. In some instances, courses have been planned to deliberately avoid certain areas – for example in Glen Affric blanket bogs and wet heaths have been avoided where practicable. Please avoid running through marshes where possible. A number of specially protected bird species have also chosen to nest in competition areas; expert guidance and agreement has been sought from relevant experts and statutory bodies to determine what is acceptable in terms of buffer zones or direction of approach.

If areas are marked as out of bounds, please respect these restrictions and keep to permissible areas.

Repeated studies across Scotland and elsewhere in the UK have shown that the environmental impact of well-planned and organised orienteering events is minimal and areas will soon recover. WOC 2015 is in some superb terrain and we hope you will appreciate the natural beauty of this special area of Scotland.

