Appendix K: The Ranking System

This document is correct for 2010 and the three level event structure.

Text in bold below has mandatory status and shall be followed by relevant event officials. Other content refers to material provided for guidance and for information. This Appendix shall be read in conjunction with the BOF Rules and shall have the same authority. They shall be considered as their extension.

1. Introduction

1.1 Aim of Ranking List

1.1.1 The aim of the computerised British Orienteering ranking scheme is to rank all regular and competent orienteers in order of orienteering ability. The hope is that this will spur the spirit of competition, thereby helping to raise both navigational and fitness standards. The Ranking list may also be used for International selection purposes as well as for seeding competitors at major events.

1.2 Inclusion of Events

1.2.1 All National (Level 1) Events and all Regional (Level 2) Events are required to contribute subject to the conditions in 1.2.2.

1.2.2 Night events, Relay, Score, Chasing Start and other mass start events may give anomalous results and are excluded from the Rankings scheme.

1.2.3 All competitors [who are members of British Orienteering] in the top year of classes M/W16, and in all classes M/W18 or older, at Ranking events shall score Ranking points.

1.3 General Description

1.3.1 All British Orienteering members who gain points at ranked events will have their points stored in one ranking list.

1.3.2 This ranking list will be displayed on the British Orienteering website and may be filtered so that, for example, only the women in the list that belong to a particular club can be listed by clicking the relevant link on the website**.**

1.3.3 The system is written in such a way that it can accept results data from *both* age based courses (e.g. Area Championships) *and also* colour coded courses (e.g. Regional Events) and produce valid rankings points.

1.3.4 The key to the system is the British Orienteering membership number. Membership numbers are used to link results from different events for a given runner.

1.3.5 The total of a runner's best six scores over the past 12 months gives a runner's current ranking. All courses as defined in 1.2 are included. Short classes

(and M/W18/16B) are ranked, but are no longer ranked separately, e.g. points from the W45S course at an Area Championships will be added to the overarching ranking list, appearing within the W45 category (or the normal age class of the competitor if this is different).

1.3.6 When a competitor is to be ranked as a member of a new club or under a change of name, the British Orienteering National Office shall be informed so that the membership records can be updated. This will then update the information in the ranking lists.

1.3.7 The national rankings lists are available via the British Orienteering web site at all times.

2. Production of the Ranking List

2.1 Submission of Results

2.1.1 Final results must be submitted electronically to the results page in the British Orienteering web site within 7 days of the event. Results not uploaded within this period shall be excluded from Rankings calculations.

2.1.2 Rankings points will then be calculated and displayed automatically.

2.1.3 Results must be submitted in the British Orienteering file format, as defined in section 3 of this Appendix.

2.1.4 The validity of the rankings lists relies heavily on the accuracy of the event data supplied to the compilers of the list. Thus, event Organisers must include competitor British Orienteering numbers with their results and to submit them as soon as possible after the event. Other mandatory data is defined within the 'User Guide' available on the British Orienteering web site.

2.2 Calculation of Ranking Points

2.2.1 The single rankings list needs to be started by some means and this was done by calculating running speeds of competitors at eight major competitions in 2009. These data were then standardised (mean = 1000, standard deviation = 200) to produce "seed data" as the starting point for the 2010 Rankings system.

2.2.2 Runners who have previously gained points in a class are called 'ranked runners' and their 'current score' is the mean of all their previous scores in the last year (not just the best six). The last year is the 12 month period up to the date of the event being computed; any subsequent scores are ignored. This current score is used as the best predictor of their performance at an event (though it is their best six results that make their published ranking). The ranking scheme operates by using the performance of ranked runners on each course at an event to standardise the scores. This process ensures that points awarded to a runner are (as far as possible) dependent only upon the quality of the run and not who else turns up at the event.

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2.2.3 The term "course" used in 2.2.2 is not to be confused with the term "class". In the previous rankings scheme, results for e.g. M55L and M60L were analysed separately, even though they often ran the same course. The new rankings scheme requires the results of *all* runners on the same course to be analysed together, whatever their age classes.

2.2.4 At ranking events, the mean of the current scores of the ranked runners on a course is awarded to a runner matching the mean time of those ranked runners. The standard deviation of the current scores of those ranked runners is also calculated along with the standard deviation of their times. For these four calculations, the final 10% (rounded up) are ignored e.g. if there are 38 ranked runners on a course, only the first 34 are used for the calculation.

2.2.5 The standard deviation score is added or subtracted from the mean score for each standard deviation time faster or slower than the mean time (pro-rata). The current scores of all ranked runners are rebased after each event to ensure that the mean current score of all ranked runners is 1000 and the standard deviation of their current scores is 200. This prevents the scores drifting over time.

2.2.6 Courses where there are fewer than 10 ranked runners are not included in any rankings calculations.

2.2.7 Points for the rankings lists are calculated as follows:

- **Runner's points,** $RP = MP + \frac{SP \times (MT - RT)}{ST}$

- **(*MT* - *RT*)/*ST* gives number of standard deviations of runner's time *RT* above or below race mean time *MT* (*ST* is the standard deviation of the ranked runners' times)**

- **Multiplying by *SP*, the standard deviation of the ranked runners' points, converts this to points**

- **This difference is added to *MP*, the average points for the runners in the race and this gives the runner's points *RP***

- **a modified formula is used in conjunction with the standard one for small courses, defined as those with fewer than 20 ranked runners:-**

  RP* = 2000 – *RT**(2000 – *MP*)/*MT

- **If there are between 10 and 19 ranked runners, a weighted mean of the scores given by the above two formulae is used, e.g. with 17 runners, the points are**

- **0.7 x Main formula + 0.3 x Small course formula**

- **Points awarded are given the same weighting whatever the level of event.**

- **The smallest number of points which can be awarded is zero (any negative scores are replaced by 0)**

2.2.8 Example

- Suppose X comes 4th on a course in a time of 88 minutes (*RT*); the average time for the ranked runners in the race is 100 minutes (*MT*) and the standard deviation of their times is 10 minutes (*ST*)

- Thus (*MT* - *RT*)/*ST* = 12/10, or 1.2 standard deviations above the average time for the ranked runners in the race

- Suppose the quality of the runners is high (mean points (MP) = 1100 and standard deviation (*SP*) = 100)

- So X gets more points than the average runner, this given by 1.2 x 100 = 120

Thus final points = 1100 + 120 = 1220

3. Uploading Rankings Results into the British Orienteering Website

3.1 Data file Specification:

3.1.1 Provided the columns (fields) indicated in 3.2.1 in bold are filled, a *winsplit* browser file exported from any results programme (such as OEScore2003 © Stephan Kramer) can be uploaded into the British Orienteering results/ranking system.

3.2 Winsplit Split Browse data file

3.2.1 The normal *winsplit* split browser file contains a header line with column names in:

Stno;Chip;**Database Id**;**Surname**;**Firstname**;YB;S;Block;nc;Start;Finish;**Time**;**Classifier**;
Club no.;**Cl.name**;City;Nat;Cl. no.;Short;Long;Num1;Num2;Num3;Text1;Text2;Text3;
Adr. name;Street;Line2;Zip;City;Phone;Fax;EMail;Id/Club;Rented;Start fee;Paid;
Course no.;Course;**km**;**m**;**Course controls**;Pl;Start punch;Finish punch;Control1;
Punch1;Control2;Punch2;Control3;Punch3;Control4;Punch4;Control5;Punch5;Control6;
Punch6;Control7;Punch7;Control8;Punch8;Control9;Punch9;Control10;Punch10;
(may be more) ...

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Following this are the rows containing the data for the event, each row is terminated with a carriage return {CR}.

3.2.2 The fields that are required for a local event to be uploaded have asterisks (*) **the fields that are bold must be completed for the event results to be loaded into the ranking system.**

Stno	
Chip	
Database Id*	BOF number of member
Surname*	Surname of member
First name*	First name of member
YB	
S	Sex, M/F Block
Nc	
Start	
Finish	
Time*	Time taken on course (00:00:00, hrs:mins:secs)
Classifier*	blank, 0-3; blank or 0 is competitive; 1, 2, 3 are not
Club no.	
Cl.name*	Club name – although often stored in City
City	
Nat	
Cl. no.	Age Class competition entered if applicable
Short	
Long	
Num1	
Num2	
Num3	
Text1	
Text2	
Text3	
Adr. Name	
Street	
Line2	
Zip	
City	
Phone	
Fax	
Email	
Id/Club	
Rented	
Start fee	
Paid	
Course no.*	Course number, a number 1 to …
Course*	Course Name, usually a colour at local and regional events

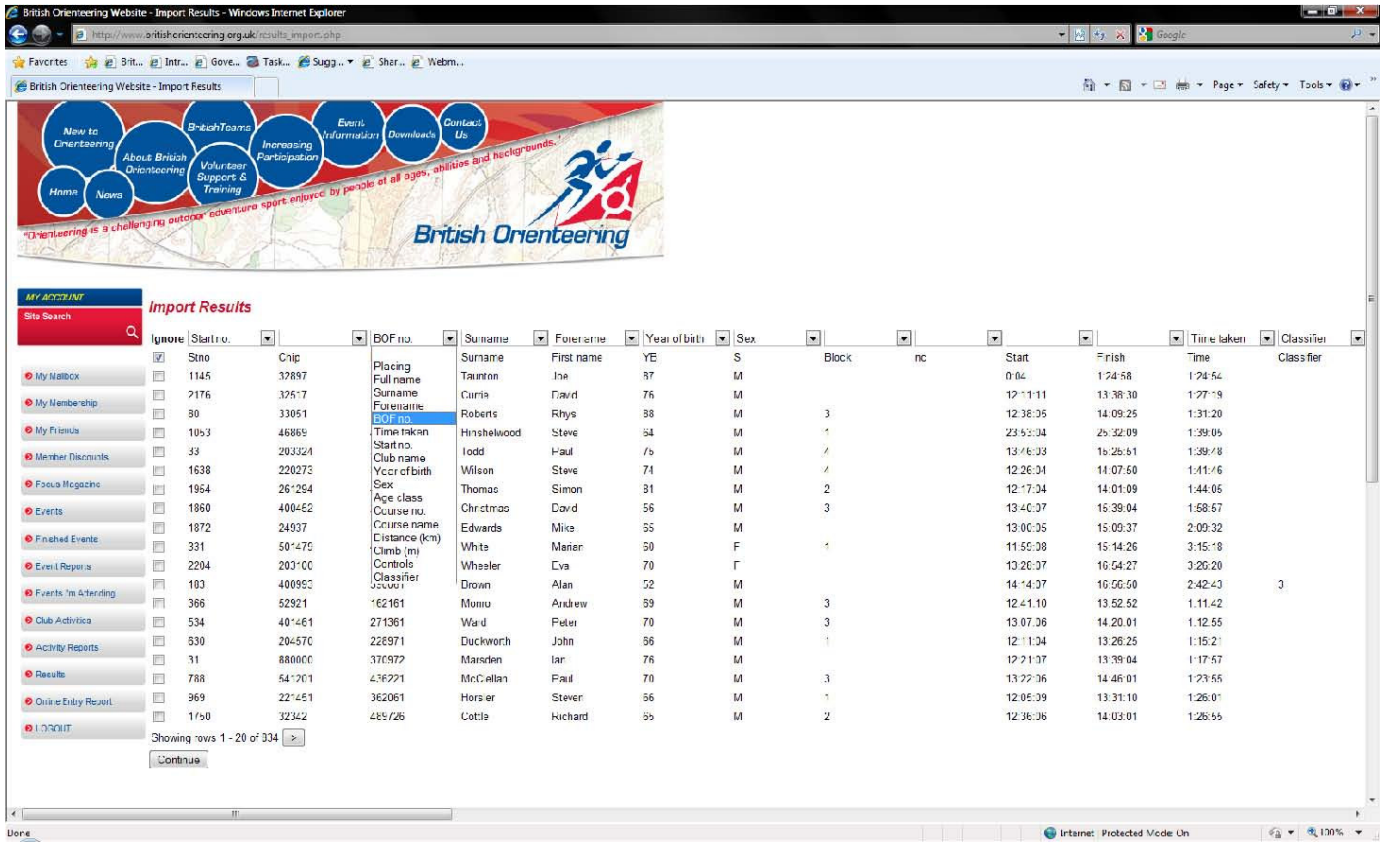
km	Length of course in km
m	Climb on course in metres
Course controls	No of controls on course
Pl	
...	Each control is then listed for as many controls as there are

Do not be concerned if your field names are different to the above, provided you understand the data that each field contains.

3.2.3 If you are creating a data file to upload from some other software you need to provide the following data:

Database Id*	BOF number of member
Surname*	Surname of member
First name*	First name of member
S	Sex, M/F
Time*	Time taken on course (00:00:00, hrs:mins:secs)
Classifier*	blank, 0-3; blank or 0 is competitive; 1, 2, 3 are not
Cl.name*	Club name
Cl. no.	Age Class competition entered if applicable
Course no.*	Course number, a number 1 to …
Course*	Course Name, usually a colour at local and regional events
km	Length of course in km
m	Climb on course in metres
Course controls	No of controls on course

3.3 Further Guidance

3.3.1 Two user guides (Local & Regional and National) and the file specification as described in 3.1 and 3.2 are available from the British Orienteering website, accessible to those designated as ‘results secretaries’

3.4 Example Screen Shot