

Introduction to Orienteering for Land Use Managers

Introduction

Orienteering is a sport that requires access to natural areas. This document explains what the sport of orienteering is and how race organizers will utilize the land during and leading up to the event.

Note: The document refers to a typical orienteering race which takes place over a few hours and then all course markings are removed. It is also possible for some areas to install permanent orienteering courses for educational, training, and tourism purposes – these “permanent courses” have somewhat different characteristics than those described in this document.

Overview

- Low impact self-propelled sport
- Sport for all ages – age groups from 8 to 80+. Generally families will participate, with each person running a different course depending on their age category.
- Sport for life
- Multiple courses, from short and easy, to long and difficult, are offered.
- Competitive and recreational categories.
- Takes place in natural terrain
- Requires special map, made to international orienteering standards
- Races last for between 15 minutes and three hours, depending on the type of race.
- Participants race from start line to finish line, visiting a number of mandatory checkpoints on the way. They choose their own route between checkpoints, based on their interpretation of the map.
- Typically 50-60 small electronic markers are placed in the terrain at the checkpoints.
- Small footprint – small marker at the checkpoints, only heavy-use points are at the start and the finish areas
- Site setup, race, site take down generally take place in one day.
- Major races (approx. 200-500 participants) take place on a map every two or three years. Smaller local events more frequently (perhaps once or twice a year).
- Time-trial race format – with interval starts
- Racers dispersed in time (interval start)
- Racers dispersed in position (different courses, individuals pick their own route). IE – not like a 10km road race or a marathon.
- Not-for-profit, volunteer-run organizers
- Well trained officials – certified by Orienteering Canada
- Experienced officials – Vancouver club has long history of excellence
- \$5M Insurance provided through Orienteering Canada
- Detailed Safety Plan tailored for all major events
- Orienteers are respectful of nature and appreciative of their privileges and responsibilities that come with having access to natural areas.

Timeline

A typical large orienteering event has a long timeline, of approximately 1-2 years, as follows:

- 2 years in advance
 - Approach Land Use Managers about the event, for “okay in principle”
 - Mappers begin work, making a new map / updating existing map. To make an orienteering map we generally create a basemap either from AirPhotos, or from LIDAR data. Then we hire a mapper to spend a lot of time walking through the terrain, creating the detailed orienteering map
- 1 year in advance
 - Finalize start/finish locations
 - Finalize transportation logistics, including parking and any bussing
 - Submit Permit application
 - Course Planning team begin work: Course planners will design a number of courses and then will visit the land multiple times, in small groups of one or two or three. They will check the accuracy of the map, the safety of the proposed courses, and will leave small markers at the proposed check-point locations
- 6 months in advance
 - Signed permits & contracts
- 2 months in advance
 - Get final “okay” on course layout / checkpoint locations
- Final week before event
 - Course planners put the checkpoint markers into the terrain
 - Course planners put water jugs at some checkpoints
- Day before / morning of event
 - Site crew sets up the Finish arena & start location.
 - Course planners check the checkpoints are okay, and that the course is safe
- Immediately following the event
 - Volunteers and course planners retrieve all checkpoint markers, and all water jugs from the terrain
 - Site crew tears down
 - All garbage removed

Background

Orienteering is a running race in which participants choose their own route from start line to finish line, visiting a number of mandatory checkpoints along the way. The checkpoint locations are marked on a specially prepared orienteering map, which provides detailed information about contours, vegetation, trails, and many other features. The choice of route from one checkpoint to the next is left entirely up to the individual competitor. Races generally last between 15 minutes to two hours, depending on the type of race. The sport rewards navigational competence, endurance, agility, and quick decision-making.

Orienteering is an international sport, with many regional, national, and world championship events held each year. The governing body is the International Orienteering Federation (IOF). In Canada the sport is administered and promoted by local nonprofit clubs, supported by Provincial Associations and the national federation Orienteering Canada.

An important prerequisite to conducting an orienteering event is the preparation of an orienteering map made according to international standards for the sport. An orienteering map is richly detailed, and includes such small terrain features as boulders, ditches, and fences, as well as trails, vegetation, and elevation contours. Each club develops and produces its own maps, and expends significant resources to maintain and expand its map inventory. The production of a good map can take months or even years, but once produced, in the absence of significant changes to the terrain a map can be reused for many years.

Orienteering events can be held in areas ranging in size from a few hundred acres to a few square miles. Open woods with varying topographical features are the most frequently encountered terrain. However, orienteering can take place on open land or on city streets as long as challenging locations for control markers can be found. Typically seven to ten courses are offered varying in their length & difficulty. Beginner courses consist of control markers fully accessible from trails, while the intermediate and advanced courses offer a mix of on- and off-trail navigational challenge.

Chartered clubs organize a schedule of local orienteering events each year. The events are usually held on weekend days during seasons appropriate to the region. At each event, a number of courses are offered, ranging from short and easy to long and difficult. Participants are of all ages and skill levels. Some enjoy the sport as a non-competitive activity or family outing, while others race competitively. The time required to complete a course may range from 15 minutes to several hours. A well-attended local event in North America may attract more than a hundred participants, while National Championship may attract up to 500 participants. Outside North America the largest events attract up to 25,000 participants.

Organizing a race is a lot of work, and the club's volunteer members take on all the duties and responsibilities of event administration. These activities include:

- Contacting local land managers for permission to use the venue in general, subject of course to specific event conditions;
- Applying for a special use (and/or group use) permit, including details such as where registration/parking areas will be and whether porta-potties should be rented;
- Designing the courses to be used for the event, including detailed discussion with resource managers to ensure sensitive areas are used appropriately; this may also depend on the time of year for a proposed event, the ground conditions, and other ongoing activities (such as hunting);
- Updating and printing the maps;

- Placing control markers (usually orange & white fabric flags/triangles) in the woods temporarily on the day of (or the day before) the event;
- Setting up and taking down the registration, start, and finish areas.

Orienteering is a nondestructive use of land, compatible with good environmental management practices. Furthermore, since route selection is an individual choice, participants seldom follow the same path through the terrain. This helps minimize the impact of foot traffic on plants and soil; in fact, typically the only areas other than the registration, start, and finish (gathering) areas that are impacted by more than a single footstep or two are either trails or within 1-2 meters of a checkpoint. Additionally, participants are distributed over the multiple courses, with each participant selecting only one course to run. Registration, start, and finish are usually held near an entrance portal, where the danger of environmental impact is small. Space for parking needs to be provided, but participants can walk some distance from a central parking and facilities area to the competition areas. Typically any given venue is used at most once a year, allowing ample time for vegetative regrowth to eliminate even the slightest short-term impact that an event may have caused.

In Scandinavia, where the sport can attract more than 20,000 participants to a single event, detailed environmental assessments have found no significant impact on the land. Other research studies (references available upon request) have shown negligible impact in many terrain types from well-planned events ranging in attendance from 100-2,000 participants. Course designers work with land managers to identify areas that may be sensitive for environmental or other reasons at the time of year the event is being conducted, and the courses are designed to avoid such areas. Furthermore, a typical Canadian local event has far fewer participants – almost always less than 200.

Events are generally held rain or shine. Each club is insured against accidental and general liability through a group policy administered by Orienteering Canada. However, serious orienteering injuries are rare. Novice participants are instructed in the use of a safety bearing, which will guide them to a location from which they can return to the finish. All participants check in at the finish whether or not they completed their course, and a search will be made for anyone still out at the conclusion of the event. Within the last few years, many clubs have also promoted the obligatory use of electronic timing systems that serve to ensure that all participants have returned from the woods by the end of the day.

In conclusion, orienteering is an environmentally benign activity that offers all ages a chance to experience the outdoors in a manner that can be both physically and mentally challenging. It is also compatible with larger societal trends that emphasize healthy lifestyles that take advantage of low-impact ways of being outdoors, and is an activity that responsibly uses public and private lands.

Recent Major Events in Whistler

2010 – Western Canadian Champs

2012 – BC Champs

2014 – Natinoal Champs

Minimal impact on the environment:

Orienteering relies fundamentally on being able to access wilderness terrain. Therefore issues of environmental impact have been subject to various studies and the International Orienteering Federation's Environment Commission (web: <http://orienteering.org/about-the-iof/commissions/environment-commission/>) maintains a record of these studies and provides event organizers around the world with information regarding the environmental impact of the sport and best practises in planning and executing events to further reduce the impact. Of particular interest are two reports by Brian Henry Parker, Chairman of the IOF Environment Commission:

1. **“Orienteering, A nature sport with low ecological impact” (2010).**

WebURL: <http://orienteering.org/wp-content/uploads/2010/12/IOF-ENV-007-Orienteering-a-nature-sport-with-low-ecological-impact.pdf>

Summary: A view expressed by some ecologists is that orienteering, by its off-track nature and often with large numbers of competitors, has the potential for damaging flora and fauna. This potential appears not to be realised in practice. In the many thousands of orienteering events that are held worldwide each year ecological incidents resulting in unacceptable damage are extremely rare, close to zero. This document gives reasons why this is so and tests the expectation that orienteering has low ecological impact against a summary of reported scientific studies.

2. **“Review of Research into the Ecological impact of orienteering” (2005)**

WebURL: <http://orienteering.org/wp-content/uploads/2010/12/IOF-ENV-002-Review-of-research-into-the-ecological-impact-of-orienteering.pdf>

Summary (excerpt): Research has been conducted in the three main areas of environmental concern: the trampling of vegetation, the disturbance of large mammals and the disturbance of birds. Some studies are reported in refereed journals but most of the others are only available in documentation with very limited circulation. Those studies which have come to the notice of the IOF are critically reviewed and, for each of the three areas of concern, are used to test the hypothesis that orienteering does cause significant long-term ecological damage.

The conclusion to be drawn from the general vegetation impact studies is that orienteering has low to very low impact with generally rapid recovery. With respect to sensitive vegetation, the sport takes precautionary measures and no evidence of significant long-term damage has been reported. The hypothesis is rejected.

With respect to the disturbance of large mammals the sport takes precautionary action and no evidence of long-term detriment has been reported. The hypothesis is rejected.

In general these studies show that there is minimal impact on the environment. To give some of the highlights from the 2010 report, this is due to several factors including:

- Dispersal in space. A wide range of courses are offered to accommodate different ages and abilities (the youngest age group is under 10 and the oldest is over 80). The combination of many control points, different courses, and the individual inter-control route choice results in competitors being spread out in the terrain and not concentrated as in a cross country race or a marathon.

- Dispersal in time. Most orienteering races are a “time trial” format which uses a staggered start with intervals between competitors on the same course of at least one minute or more. This disperses the athletes in time so that there are never large groups of runners travelling together.
- Low competitor density. The dispersal in time and space 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.
- Episodic, short period activity. Orienteering is episodic, it is infrequent. It is also short in duration, an event completing in a few hours.
- Refuges for large mammals. Guidelines are followed during the course planning stages as follows:
 - i. If the terrain covered by the various courses is large, then refuge areas should be provided for animals. Ideally these will be areas of thick forest. These will be marked as out of bounds on the maps and courses will be designed so all sensible route choices will stay away from these areas. Courses that go past these refuge areas will be designed to circulate around them in the same direction.
 - ii. If the terrain covered by the various courses is relatively small (perhaps 2-3 sq km or less) then no refuge areas are required as animal flight distances will take them outside of the competition terrain.
- 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.

Minimal impact on other park visitors & users:

- Courses and assembly areas are in areas away from the major park activities.
- Races in busy areas are scheduled to minimize interference with other activities.
- Detailed transportation plans are provided when necessary to avoid traffic and parking congestion