OA Tech Newsletter

Edition 1/2009

Welcome to another edition of Tech News – the final one for me, as I'm stepping aside from my position on the OA Board (Director, Technical) at Easter this year, after 5 years on the job.

I'll try not to bore you all with a diatribe about what I have or haven't managed to achieve during this time. Instead, I'd like to look to the future of orienteering. We are a very high maintenance sport. Our competitors expect a lot from our events (despite the low entry fee compared with many other sports), and there is **always** the capacity to better our technical standards.

Organisation of events (or carnivals) has become increasingly more difficult. This is not technology driven – if anything, technology is saving us here. The real problem is that we commit ourselves to too many events. National carnivals now often consist of 7 or more events, while each state is holding three championships (sprint, middle and long) in addition to the badge events they have always held.

This extra workload wouldn't be a problem if only our volunteer base were expanding at the same rate. But it's not. If anything it's getting smaller.

So what's the solution? It's very difficult to reverse the trend of enhancing what our sport offers, but at some stage this must occur (or we will face a crisis in volunteering). My predictions for how this will work are that, over the next 5–10 years:

1. We will accept that most of our competitors want events close to the city and bias our event program accordingly;

2. We will also accept that most of those people don't want to volunteer and so we will effectively make event management (although not course-setting) a paid position, funded from increased entry fees;

3. Event entry will become more flexible, with most people entering beforehand on the web, but extra slots also available on the day;

4. We will drop unpopular events (such as badge events) from our program;

5. We will increase entry fees at major carnivals to fund paid carnival managers.

Is this the future of Australian orienteering?

In This Edition . . .

2009 OA Rules

The latest version of the OA rules have just been released and are now on the OA website. The rule changes from the 2008 version are relatively small, but include:

- Changes to the family relays eligibility to allow more people to compete;

- Simplifying start draw rules for national League events;

- Tightening the guidelines for voiding courses to make it clear that voiding a course really is a last resort (see discussion in the last Tech News).

In addition, at the OA conference we have forecast the likelihood that IOF rules governing the minimum distance between control sites will shortly be amended for Sprint events, allowing control separation as small as 15m. We expect that this will be propagated into the OA rules for 2010. In the meantime, event organisers may seek special permission to use the new rule, as OT have done for their Easter Prologue race (see the event program and the discussion in the following article).

— Andy Hogg

Thoughts on rule 19.4

Rule 19.4 (IOF and OA versions)

Controls shall not be sited within 30 metres of each other (see also Appendix 2, #3.5.5).

Appendix 2, #3.5.5

Proximity of controls (OA version)

Controls on different courses placed too close to one another can mislead runners who have navigated correctly to the control site. According to Rule 19.4, controls should not be sited within 30 metres of each other. Further, only when the control features are distinctly different in the terrain as well as on the map, should controls be placed closer than 60 metres.

Appendix 2, #3.5.5

Proximity of controls (IOF version)

Controls on different courses placed too close to one another can mislead runners who have navigated correctly to the control site. According to Rule 19.4, controls shall not be sited within 30 metres of each other. Furthermore, where the map scale is 1:10000 or 1:15000, only when the control features are distinctly different in the terrain as well as on the map, should controls be placed closer than 60 metres.

The way in which the rule can be broken can arise in different ways. At the NOL events in Tasmania in May 2008, two races (a sprint and a middle distance race) shared the same area, and were run within an hour or so of each other. The races were planned by different course setters, so not only was it necessary to make sure that controls for individual events complied with the rule, but also that neither race inadvertently compromised the other.

After checking the initial drafts of the courses, there were controls that were within the limit in each event, and when the courses were overlaid, many more were within the limit. Why was this so? One possibility is that course setting software, with the ability to zoom on the map, creates an illusion of separation, or alternatively, the course setters' interpretation of 3.5.5 was not as rigid as mine. Where events overlap, course setters need to talk to each other during the planning stages, and a composite master map prepared and checked.

Some course setting software programs have an event audit, where the proximity of controls is checked and controls potentially contravening the rule are listed. Others have a measuring tool where suspect controls can be readily checked, so the first line of defence is to use the technology. Where the 60 metre rule potentially applies, the discretion of the course setter and controller is required. Often this

isn't a problem – a boulder 50 metres from a creek junction is clearly OK, but what about a control in a gully 35 metres from a boulder on the edge of the same gully, or a rock highpoint 40 metres from a boulder?
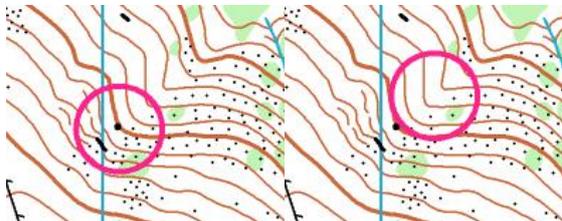
In this example, a competitor whose control was located in the gully and seeing the control on the boulder, might easily assume it to be their control. Is this within the letter and spirit of the rule?

My preference is to not push the limits of the rule, but others may take the view that ultimately it's the responsibility of the competitor to check the control number, and if they punch control 110 (boulder), where the control description says 101(gully), well, too bad, disqualified. In these examples, the limitation imposed by the expanded rule in the appendix (controls should be distinctly different in the terrain as well as on the map) becomes relevant.

The Australian rule hasn't caught up with the IOF rule, where a distinction is made between maps for sprint orienteering and other scales, so for events governed by the OA rules, the 60 metre rule also applies for sprint events. The nature of sprint maps can add further complications; at the 2008 Australian Sprint Orienteering Championships in Queensland (governed by IOF rules because it was a world ranking event), the direct distance between two controls was around 15 metres, but the effective distance (the actual distance that a competitor would have had to travel between the controls) was around 30 metres. I put the scenario on Attackpoint, and asked whether the placement contravened rule

19.4. Opinion was divided – some holding the view that the effective distance was applicable, and that competitors disqualified obviously hadn't bothered to check the control number, while others felt that within the context of an elite sprint race, where seconds could mean the difference between first and third place, such control placement was an instance of the course setter competing with the racers. If the effective distance argument is accepted, it's easy to imagine a scenario where the control circles for two controls virtually overlap, but the effective distance between them easily exceeds 60 metres – e.g. controls adjacent to each other on both sides of a long impassable wall.

Ultimately, it's the call of the controller to decide whether control placement is within the rules, but where there is any possibility of ambiguity in the interpretation of the rules, it's probably better to take a cautious approach and let competitors know that a particular interpretation will be applied, for example, a revision to the rules in the event program:

"Appendix 2, #3.5.5 is changed as follows: Controls on different courses placed too close to one another can mislead runners who have navigated correctly to the control site. According to Rule 19.4, controls shall not be sited within 30 metres of each other; this distance will be measured as the actual distance a competitor would have to travel between the controls, and not the direct distance between the controls"

The 60 metre criterion is open to interpretation, but as course setters may often only be vaguely aware of the rule, it is important that as controllers, we look critically at any controls within the limit to make sure they are "distinctly different in the terrain", and not just different symbols in a control description.

— Greg Hawthorne
Chair, OA Events Committee
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Controller Accreditation

If you haven't already, check out the Sports Accreditation Online website (`https://sao.ausport.gov.au/`) where you can check and update your details, view your accreditations and read the Sports Official newsletter. The newsletter is no longer mailed to you, as was previously the case.

Attached is the 'points table' for re-accreditation for Controllers. Controllers need to have accrued a certain number of points to apply for re-accreditation.

Level 1	40pts	accreditation lasting 5 yrs
Level 2	60pts	accreditation lasting 6 yrs
Level 3	80pts	accreditation lasting 10yrs

Visit the SAO website to see when your accreditation expires and if you have the required points contact me with the details.

OA is looking to update its Level 2 and 3 Controller Accreditation syllabuses. This is part of the ASC's requirement for them to be updated every 4 yrs. The main task is simply re-formatting to ASC requirements. There is money in the Budget to pay for someone who is either a Level 2 or 3 controller to complete this task. If you are interested please contact me to discuss.

— Dave Meyer
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IT News

Orienteering Australia Results System

Update March 2009

Summary

The online results system on the OA web site www.results.orienteering.asn.au/ is currently undergoing further enhancements. These include

1. Ability to allocate results to event categories that match the type of events held at National and State level and which correspond to the event categories used for event statistics

2. Ability to edit results that have been uploaded

Note that the system is still undergoing further development.

Event Categories

The available event categories are designed to support the collection of statistical event information, this feature will be available later in 2009. Hence entering results for as many events as possible will obviate the need to collect participation statistics by other means. Currently the QLD, ACT and WA are uploading most or all foot orienteering events and other states are strongly encouraged to do likewise. Event reports or results lists on state association web pages can then link to the relevant results set on the OA page using a link in the format `http://results.orienteering.asn.au/qldindex.php?pg=results` by substituting the appropriate state abbreviations instead of qld as in this example.

The table over the page show the event categories and explanations. This has been compiled with significant input by Bob Mouatt.

Editing Event Results

Events once uploaded can be editing using the "Edit/Overwrite Results" function accessed from Administration>Results Administration. This presents a list of events available for editing filtered by Month and Year.

This enables attributes of an event to be edited e.g. club, event type or the results to be uploaded again if corrections have been made. The top part of the editing screen is shown on page 6. The process of selecting events is the same as for inserting splits (require the event results to be uploaded first).

Seq	FOOT	Explanation of Category and Statistical Use
1	International (to be added)	All international events, eg World Cup, JWOC, WMOC, Oceania Championships, etc
2	Australian 3-Days (to be added)	The Australian 3-Days, including the Prologue, but not the Slologue, which is National Other
3	Australian Family Relays	The Australian Family Relays including unofficial entrants, but no other events, they would be National Other
4	Badge	While Badge events are on the National Fixture List, the participation data is collated in State information. Does not include state championship events (all disciplines) that are badge events
5	National Schools (Relays)	Only the National Schools Relays participants; associated Public events are National Other
6	National Championships (Long)	
7	National Championships (Middle)	
8	National Championships (Relay)	
9	National Championships (Sprint)	
10	National League/Series	Where not part of another national championship event; would be collated in stats as National Other
11	National Other	e.g. Christmas 5 Days, Slologue, Public events with National Schools, etc
12	National Schools (Individual)	Only the National Schools (Individual) participants; associated Public events are National Other
13	State Championships (Long)	While State Championships (Long) are State level events, the participation data is collated in National information as they are often included in National Championships Carnivals, thus causing high variability in levels of participation
14	State Championships (Middle)	
15	State Championships (Sprint)	
	State Relay/Team	(not available) use State Minor
16	State Club	Events organised for only Club level participation; would be collated with State Other figures
17	State Evening	Any State level event with start times from around 4.30 pm, includes summer/twilight events, street events, night orienteering, etc
18	State League/OY	Major state events just below Badge level generally with age class participation
19	State Midweek	Any State level event with start times before around 4.30 pm on weekdays, includes Queensland Thursday events, OACT Community events etc
20	State Minor	Minor events, below State League/OY level, conducted on weekends, primarily on Sundays
21	State Other	All other events, and for statistical purposes would include State Club and State Park/Sprint, etc
22	State Park/Sprint	Minor events conducted in parks, etc and for statistical purposes would be collated with State Other
23	Schools Championship	All Schools Championships, Primary, Secondary, Combined, etc, but not to include any adult participation
24	Schools/Junior	Events conducted outside of School hours with a focus on school students and juniors, but might include a significant number of adult participants, eg OACT Saturday events

MTBO (not yet available)
International
National Championships (Long)
National Championships (Middle)
National Championships (Sprint)
National Series   Where not part of another event
State Championships (Long)
State Championships (Middle)
State Championships (Sprint)
Badge
State League/OY
State Minor
State Midweek
Schools Championship
Schools/Junior
Other
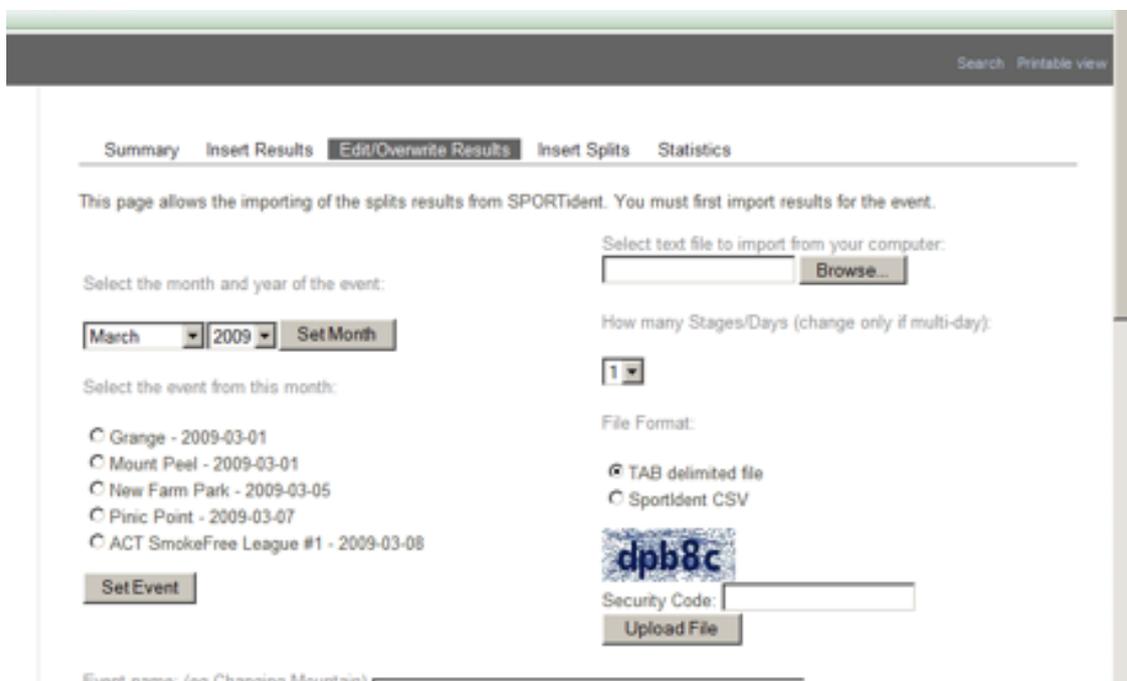
SI Card and Compatibility Issues

Until recently orienteers in Australia had SPORTident cards 5 and 6 (less common). SI have several other models available and now SI Card 9 is being used by some orienteers. Unfortunately this card is not compatible with the older control units - BSF6 and older. These units are still in use in some states.

Some features of the cards are as follows

SI Card 5: numbers 1 - 499,999, can read control units 1 - 256, holds 30 controls plus 6 as the code only i.e. no time

SI Card 6: numbers 500,00 - 999,999, can read control units 1 - 1024, 64 controls

SI Card 8: numbers 2,000,000 - 2,999,999, can read control units 1 - 1024, 33controls

SI card 9: numbers 1,000,000 - 1,999,999, can read control units 1 - 1024, 50 controls

The newer cards can also have reserved numbers and store the competitors name.

So the new cards have some advantages for competitors and organisers. However they add complexity when still using the older units. Organisers may need to check entries for the numbers indicating a competitor has a SI Card 9, and offer competitors SI cards for hire if they are using older control units at their event. Or organisers could advise in entry information which SI cards can be

used.

The SI Card 5 is not longer listed on the SPORTIdent web site at `www.sportident.com`, and some communications have suggested it is no longer available and is no longer being produced. However SI Card 5 can still be purchased on line from `www.sportident.se`. Card 5 is still the cheapest, card 6 the most expensive of the three

with the Card 9 priced midway between the two.

Any state purchasing new SI cards either for hire need to be aware of these issues when considering which cards to purchase. SI Cards 5 and 6 are still the most universal.

— Robin Uppill
OA Director, Special Projects
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Level 3 Controller's workshop

The last Orienteering Australia Level 3 controller's workshop was held in Hobart in 2005 (they are nominally scheduled every 3 years). This year it will be held in Adelaide on August 8th and 9th.

Christine Brown (fresh from the World Games where she will be IOF Senior Event Adviser), Robin Uppill and Jenny Casanova will be chairing the workshop. There will be a day of theory sessions on the Saturday 8th and some activities in the forest on Sunday 9th.

The reason for holding the workshop in Adelaide is to ensure that SA has enough accredited controllers for the Aust Championships carnival 2010.

Other states with a shortage of Level 3 controllers are encouraged to send their potential controllers to this workshop, as the next Level 3 workshop is unlikely to take place before 2012.

For the first time the Level 3 controller's workshop is being held outside a major carnival week. Therefore, some funding has been made available by Orienteering Australia towards travel costs to Adelaide. It is anticipated that states will also cover some of their controllers' costs. Accommodation in Adelaide will be arranged by billeting with host orienteers.

— Jenny Casanova
Chair, OA Technical Committee
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A brief comparison of commonly-used course setting software

Course setting software is an essential element in minimising the risk of error in course planning. All the software considered here will do the basic job, and some offer more sophisticated options that will cover just about all the events you are likely to organise.

The four programs considered are Condes, OCAD CS, Purple Pen, and Corpse.

The software at a glance

Condes
`http://www.condes.net/`
Condes has been around since 1985, and is currently in its eighth major revision. It offers a comprehensive list of features, including multiple background maps and relays. Version 8 reads maps in OCAD 9 format, although it can export courses in OCAD 8 format only (not really a problem, as the actual OCAD export is the course overlay).
OCAD CS (course setting)
`http://www.ocad.com/en/ocadcs.htm`
OCAD CS is the course setting variant of OCAD, and some of its functionality reflects its

heritage. It has the advantage of keeping everything within OCAD, so OCAD users should find its interface familiar.
Purple Pen
`http://purplepen.golde.org/`
Purple Pen is a recent addition to the course setting software scene, and has the advantage of having been able to address the interface shortcomings of the other software, although it does not have the full range of functionality of the others considered here.
Corpse
`http://www.o-ware.com/`
Corpse is an Australian package that does more or less what all the other packages do.

Features of the software

Condes started its life as course setting software without maps, and the interface often reflects this. For example, you can design a course simply by placing all controls on the map, and then specifying the controls for a course within the course dialog, without any reference to the map, and Condes will then draw the course on the map. Condes supports relays and butterfly loops, but these are specified within the course dialog, rather than graphically on the map, and more complex course variations can be tedious to specify. Condes sup-

ports the use of two different maps for the same event (e.g. 1:15 000 and 1:10 000 versions), and cut-outs for control circles can be applied to different courses at the applicable scale, although only a single control description is supported, which is not always appropriate.

In general, the user interface is quite intuitive – the toolbar offers all the options that you would expect, and menu items reflect the objects associated with course setting (except an Event menu item – this is essentially covered by the event wizard when you set up the event, although you can edit the event name via one of the File menu options).

One aspect of the interface that is not obvious is that different options are available depending on whether you have opened an event file or not. For example, if you want to change the text description of a symbol (e.g. "Cliff, crag" to simply "Cliff"), this is done via the Symbols menu item, which is available before you open an event file.

Condes has a measuring tool, so it is quite easy to measure the distance between two controls to check whether rule 19.4 has been violated, but it does not have an event report which lists all possible proximity violations. The measuring tool can also be used to accurately measure distance walk to the start, or distance to the assembly from a road junction as it allows changes of direction after a left mouse click. Other useful features are the ability to show which courses use which controls (displayed when the mouse hovers over a control), and automatic refresh of the background map if it is updated.

OCAD CS uses a course-setting symbol set to add courses to a background map, so that the map itself remains unchanged. Familiarity with OCAD helps (a lot!) – for example, selecting a course setting symbol from the symbol list and placing it on the map requires that the "drawing mode" tool is selected (the straight line tool from the full OCAD set). This is not really intuitive unless you have used OCAD as a map drawing package (or have read the documentation). Another aspect of this adaptation of OCAD-the-map-drawing-package to OCAD-the-course-setting-software is drawing a course on the map; for example unless you accurately select a control circle when specifying courses (indicated by a little box appearing at the centre of the control circle/triangle), OCAD can display some pretty weird behaviour (e.g. inserting odd numbers into the control list) that can be rather frustrating. Deleting a control from a course via the map, rather than the control list, also deletes the control from the map altogether, and if that control happens to have been used in

five other courses, OCAD CS will tell you five times that a control is missing.

OCAD CS supports relay courses, and setting up the combinations is reasonably straightforward – a combination of the map and course interfaces.

Although not available in the current release, useful features that are scheduled for the forthcoming OCAD 10 release are automatic control descriptions (main feature only), course climb (if the map has a digital elevation model), and proximity reports.

Purple Pen is a by far the most intuitive software of this quartet, and if you have a simple event to organise, it is certainly worth a look. Although it doesn't have measuring tool, it has a proximity report in the event audit, which lists all controls within 100 metres of each other. Courses can be printed from within Purple Pen, but it also allows export of courses as OCAD files, with the base map used for the course defined as a background map, so the background map has to be available on other PCs that use the exported course files (maps can be printed from the demo version of OCAD).

Purple Pen doesn't support relays, and it does not have a "lock controls" option, two essential features that would be required if it were to be a serious alternative to the other packages, but it has easily the simplest interface, and is gaining quite widespread acceptance in the orienteering community, so more comprehensive features will hopefully be added.

A nice feature of Purple Pen is the "best fit" placement of control numbers on the master map – as controls are added, Purple Pen will move numbers so that they don't overlap previously placed controls. It also has an option for a dual IOF symbol and text in control descriptions, which is a nice way of introducing juniors and beginners to the beauty of control symbols.

I haven't really used Corpse, other than to try it out for this summary with the demo version, but from my limited testing, it seems to cover most event requirements (with the least intuitive interface of the four packages). The demo version limited the testing of the relay function, but relay course design was one of the better aspects of the interface, with the proviso that the software does not appear to support relay models and seems to rely heavily on the course setter's knowledge of relay course design. The Corpse website implies that it supports control locking, but a search on "lock" in the Help produced no references.

At a fundamental level, the interface ignores the normal practice of having ellipses after menu items that invoke a dialog (e.g. "Save as", instead of "Save as . . . "), and functions that are quite in-

tuitive in the other software require two steps in Corpse (for example, deleting a control requires use of the "Cut" tool or a right click and selection of the delete option). I was also able to design a course that had duplicate control numbers, al-though admittedly I was warned that the control number was already being used. There might be instances where this would be useful, but potential for disaster seems to me to outweigh any benefit.

— Greg Hawthorne

	Condes	OCAD CS	Purple Pen	Corpse
Cost	€240 (discounts available)	€31 (discounts available)	Free	$A100 (discounts available)
Licensing options	Unlimited within the club purchasing the licence	1 copy per PC	NA	1 copy per PC
Functionality	FootO, MTBO*, Score, Relays	FootO, MTBO*, Score, Relays	FootO, Score	FootO, MTBO*, Score, Relays
Ease of use	3/5	2/5	5/5 (but with reduced functionality)	1/5
Map formats supported	OCAD, image formats (.bmp, jpg etc)	OCAD, image formats	OCAD, image formats	.eps, .bmp
Multiple map scales	Supported as background maps	Print option	Print option	Print option, or use "stretch" option
Control locking	Yes	No	No	?
Map export	OCAD, eps, bmp	OCAD	OCAD	eps (if eps is the background map)
Print	Print page window configured for printer driver	Print page window configured for printer driver	Print page window selected by user	Print page window selected by user
Relays	Farsta model	Farsta model	NA	User defined

MTBO* - supports MTBO control number format

Mapping News

Revision of the international mapping specifications ISOM2000

In 2008 the IOF Map Commission commenced a project to revise the International Specifications for Orienteering Maps 2000. The revision process will involve three consultations with member federations and a final draft is planned for validation from 2012. In late 2008 Orienteering Australia presented a submission for the first round of consultation.

One of the main points presented in the OA submission is a proposal to use a 'legibility' test for the printed map rather than requiring the map to have the 'same quality' as printing with the traditional spot colour, offset printing method. Under the current rules other printing methods such as laser printing (which is commonly used in Australia) are not recommended for IOF Foot-O events even though the legibility of the map may be of a high standard and suitable for the orienteering terrain.

While it is accepted that the traditional spot colour, offset printing method still produces the best quality map, some other printing methods are now able to produce very high quality maps. The high quality prints obtained from some of the 'new-age' printers has also been noted by the team leader of the IOF Map Commission's Print Tech Project who has indicated that "the best non-offset maps are close to being acceptable and maybe in the near future some of the non-offset maps will be good enough to be approved for use in IOF Foot-O events." With these encouraging comments it is hoped that the proposed legibility test requirement will be accepted in the revised ISOM, which will then permit the printing of high quality laser or other printed maps for IOF events in Australia, and thereby being able to take advantage of the benefits of digital printing over the traditional printing method.

The OA submission also made other proposals including:

- A review of the Pantone Matching System colour specifications and to ensure the review takes into account orienteers with poor colour vision. An orienteering map is a colour coded map hence it is very important that all the colours used on a map are discernable for as many people as is possible. The work of Barbara Junghans (Garingal Orienteers, NSW) who co authored "Orienteers with poor colour vision require more then cunning running," *Clinical and Experimental Optometry*, 2008, was presented as a relevant, supportive research paper in this regard.

- The provision of a uniform symbol numbering system and colour settings for use with OCAD.

- The addition of a new symbol for 'Crossable bank line' to a lake, water course and marsh. This is necessary in Australia where often the actual water level of the lake may be much lower (or dry) than shown on the map, and that this area may offer the possibility of running across the blue areas.

- The addition of a new symbol for 'Impassable vegetation' for vegetation that can not be crossed (and being the same as the Sprint specifications, extra dark green). The extra dark green area symbol may be warranted to indicate to the orienteer that a narrow strip of vegetation is actually impenetrable; hence will eliminate the element of chance of getting through as the current dark green symbol is used for impassable to very difficult to run, i.e. running reduced to $0 - 20\%$ of normal speed.

- The addition of a replacement symbol for 'Railway line' as per sprint specifications. The existing symbol is relatively wide and much more than in reality and if there are adjacent fences, roads and paths the map becomes very cluttered and or illegible with linear features. The rail line symbol used in Sprint maps is a narrow double line with a dashed infill and looks neater than the traditional railway line symbol.

If you have any comments or suggestions about any aspect of the mapping specifications or would like a copy of OA's submission, please let me know.

— Adrian Uppill
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