OA Tech Newsletter

Edition 1/2008

For those avid readers of Tech News who noticed that the second edition of 2007 did not appear: My apologies, but family commitments precluded me from putting an edition together. To make up for it, this one will be a bumper edition.

The major news on the technical front is that two of our committee chairs are drawing their involvement to a close. Dick Ogilvie (NSW) has been chair of the Technical Committee for 5 years now (longer than my involvement with OA), overseeing several major changes to the OA Rules and the Controller Accreditation scheme. Dick has also been a stalwart of the OANSW board. Dick stood down in January and has been replaced by Jenny Casanova (SA). Noel Schoknecht (WA) has been chair of the Mapping Committee for 7 years (as well as OAWA President for a few terms) but has had trouble keeping up with work commitments in the past few years. Noel has overseen the transition to digital printing and has played a major role in the use of new technology for mapping. Noel will stand down at Easter. I would like to record thanks on behalf of Orienteering Australia for the efforts of both Noel & Dick.

In This Edition . . .

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Closing date for next issue:

1st July 2008

Very Easy Courses – 1:5000 scale maps

At the 2006 OA Conference a recommendation to encourage the use of 1:5000 scale maps for Very Easy courses was adopted. This amended Rule 15.4 of the Foot Orienteering Rules to read:

15.4. For Long distance races the map for age classes M/W16 and under and M/W40 and above may be 1:10000, especially if the map is particularly detailed. The map scale for classes running a Very Easy course may be 1:5000.

The recommendation did not specify the symbol size and line weights and course overlay dimensions that should be used at 1:5000 and it seemed that this aspect had not received much consideration. After some discussion, however, it was recommended that the 1:10000 scale symbol size be used.

In preparing the maps for the Oceania Championship carnival, I produced 1:5000 scale maps for the Very Easy courses for the ACT Long Distance, Oceania Middle Distance and Oceania Long Distance Championships in line with the new rule and the Conference recommendation, but didnt really like the result. The map looked exactly the same as a 1:10000 scale map and I thought that its only effect would be to scare the pants off a young competitor because the course would look twice as long as their usual course.

Going back to the rational for the use of the larger scale, as I understood it, that young children have difficulty reading the fine detail, I subsequently produced 1:5000 scale maps with the symbol size double that of a 1:10000 map. Importantly, this retained the relativity of features in the same way that the increased symbol size and line weight of a 1:10000 scale map does with a 1:15000 map. Perhaps, somewhat inconsistently, I didn't also double the courses overlay dimensions, but increased them by about 50%, giving a control circle diameter of 8mm rather than the usual 5 or 6mm.

Producing a 1:5000 in OCAD is quite easy. "Partial map" allows you to cut the piece you want, and rescaling is straightforward, with OCAD giving you the option to increase symbol size or not. There is a bit of jiggling required to reduce logos and titles down to a comparable size, but if you have converted all text in logos to graphics this is relatively easy.

For all three events the course-setters used Corpse to produce the course maps and control descriptions. The process we adopted was that all courses were set on the main scale map and the 1:5000 scale map used only at the final step so that there was no duplication of any changes and all controls were on the one master map. The setters saved a duplicate copy of the file, loaded the new map, reset the scale and course overlay parameters, and then deleted all courses other than the Very Easy. A Corpse command allows you to delete all unused controls after the other courses are deleted, although that isn't essential. A subsequent trial using the OCAD course-setting module was also relatively straightforward, although I couldnt see a way to do a mass deletion of unused controls.

As the Oceania carnival was the only one of the three majors to use 1:5000 maps last year, perhaps we dont have much experience from which to draw any firm conclusions, but I would recommend that organisers adopt the "large print" option as I've described it for a few more events and lets get some feedback from the kids.

—Bob Allison
OACT

The Effect of Age on Orienteering Speeds.

OT has reviewed and adopted a new set of age-speed factors for 2007. In Tasmania these data are used for calculating "awards for excellence" based on adjusted running speeds, and not used by course planners for determining course distances or winning times.

This review took into account the very excellent data of Adrian Uppill obtained from an analysis of the results of Easter 2005 and reported in the recent (June 2007) edition of the Australian Orienteer. But the OT review also lent heavily on the work of Bird, Balmer, Olds and Davison titled "Differences between the

sexes and age-related changes on orienteering speed". This paper was based on results obtained from various UK Championships and published in the Journal of Sports Science, 2001, Vol 19, No. 4, pps 243-245, a copy of which was kindly obtained for me by Paul Pacque.

The key point from the summary of this paper was that "before the age of 40 years, there was no substantial slowing in orienteering speed for males (2% per 5 years) but a moderate decline (7.5%) for females. After the age of 45 years, the speed declined 6.5% for men, and 8% for females, until around the age of 69, after which the deterioration was accentuated." I believe this gradually increasing decline in 'O' speed would be the generally accepted perception of most orienteers.

The Bird paper has also suggested that there is a decrease in the ratio of female to male speeds with age (81% at 21, 74% at 45, and 69% at 65) and I have tried to massage the data to conform to this.

These conclusions were used to 'construct' what I call a mathematically smooth set of data. I have assumed that running speeds at 21 equal those at 25 and 30 (difference from SA). The new data are shown in the figure below, including comparisons with both SA and the Bird data.
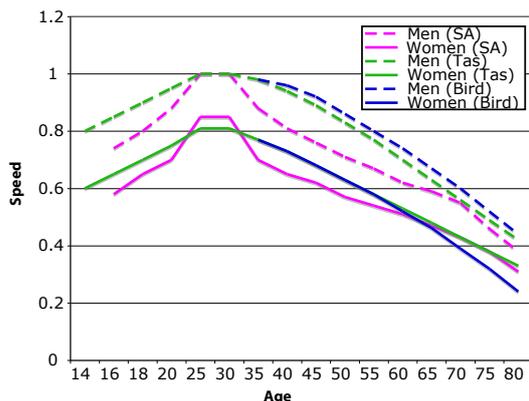
The $\frac{df}{da}$ is seen in the second figure, and is my simple measure of change in speed (which is proportional to the factor but expressed as a %) per 5 year interval. It seems to me quite logical that this figure should slowly and smoothly increase with age, or at least remain steady (but never decrease.) That is in mathematical terms the second differential (the rate of change of the rate of change) should always be positive, or zero, but never negative.
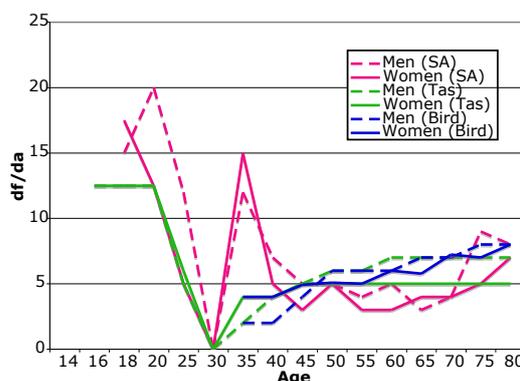
My main concern with the SA data was that it shows a big decrease in speed for both men and women from 30 to 35, and then a lesser decrease to 40, and even lower decrease to 45, which is quite contrary to the data of Bird et al. The decrease from 30 to 35 for Women is accentuated by the higher $\frac{df}{da}$ W/M ratio at 21 of 85% (cf 0.81) in the Bird paper.

I have chosen to pick a figure somewhere in the middle for the juniors, and settled on the same increase in speed (5%) every 2 years. The figures you see in the $\frac{df}{da}$ column are simply this same rate expressed over a 5 year period to be consistent with the data in the same column for seniors. Obviously it is a big ask to get perfect sense from a set of human data, especially in orienteering where terrain and navigational factors are never consistent. Likewise playing with mathematics to interpret physiological decline is not doubt dangerous practice. In either case, Id prefer to be out enjoying the bush than fiddling with figures.

— *Peter Hall*
OT
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Technical News

The technical front has been relatively quiet over the last year.

The OA conference considered a few minor changes to the rules. The rules governing the start draw in multi-day events have been relaxed in response to complaints from organisers that the standard software does not easily allow competitors to be grouped as a block and rotated between days. Instead we have agreed that start draws should be purely random for each day. In addition, the rule for embargoes has been relaxed to allow for events on areas in metropolitan regions for sprint championships. These new rules are now available on the OA website.

As mentioned elsewhere in this newsletter, Jenny Casanova (SA) has taken on the technical chairperson position. Jenny will be keen to hear from people in relation to new initiatives and ideas for the progression of the technical side of our sport. Stay tuned for an agenda for the Technical Committee's Easter meeting.

— Andy Hogg

Mapping News

Printing trial using waterproof, tear-resistant paper

Eric Andrews has been testing synthetic papers over the last 12 months or so. In addition, Noel Schoknecht has done trial print runs using a commercial digital printer on new synthetic (PicoFilm) or synthetic/paper laminate (Enduro) stock that has been imported by Stockman Paper Merchants (WA) from a European company (Sihl). These papers can be used in colour laser printers. The test prints will be brought to Dubbo and distributed at the mapping meeting for road testing and evaluation.

The results of tests so far will be collated and distributed after the meeting. The hope is for durable, water proof and tear resistant papers that can be used for major events without the need for plastic bags or lamination.

Review of colour printer purchased by OT

Orienteering Tasmania has recently purchased a high quality colour printer (Xerox DocuPrint C4350). A review of this printer and the economics of its purchase will be distributed at the mapping meeting at Dubbo.

Mapping workshop

Eric Andrews conducted a very successful and well attended mapping workshop at Molong prior to JWOC. 14 people attended, including 2 from NZ. Eric has been invited to attend a mapping workshop in New Zealand and will conduct another mapping course in association with the Australian Championships in Queensland in 2008. Erics efforts in training mappers with hands on, practical exercises is greatly appreciated. The OA mappers are taking a keen interest in developments of the use of GPS/digital technologies in map making.

After 7 years as Chair of the OA Mapping Committee, I wont be seeking re-nomination to the position partly because of work commitments, and partly because its time for a new person to bring new ideas, enthusiasm and initiatives to the role. I have really enjoyed the position and would like to thank everyone in the sport that I have worked with. I will assist the new Chair in any way possible and will pass on relevant files, report etc. after the AGM.

— Noel Schoknecht
Chair,
OA Mapping Committee
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IT News

Orienteering Australia Results System

The Orienteering Australia web site now has a Results page developed to satisfy the following objective – "Make all major event results available on the OA Web site with a long term objective to enable participation data to be collected. In the longer term the system can also be available for other events".

The page can be viewed at `http://results.orienteering.asn.au/index.php`

The online results system was implemented for major events in time to host the results for the Australian Three Days. The system is based on PHP and MYSQL as the database, and is hosted separately from the remainder of the OA site. Features to date are:

1. Lists results for almost all major events on the National Calendar with the exception of Tasmania who are not currently using OE or MT software

2. View overall results and splits for single day, multi-day and relay (splits in HTML format for relays)

3. Display listing for all by Category (All/National/State), by Club (State Association considered a club where they run events), by Event Type (e.g. NOL, Championship), time period (all to Week)

4. Calculate badge cut offs.

To date results have been uploaded by a small number of users, but from 2008 the plan is to have a user in each state take responsibility for their events.

Features currently under development and to be available progressively from January 2008:

1. Search for all the results for a competitor, lists their badge credits where applicable

2. Links to event and competitor photos

3. Hierarchy of user access (administration to user)

4. Develop separate state pages if required

5. Provide statistical data

6. Support for elite ranking calculation

7. Export of data to an OE Archive

8. Documentation

One issue is the unique identification of competitors due to:

1. Variable spelling of names

2. Different club formats

3. Assignment to different clubs at particular events e.g. Oceania

Improving data standards as follows will assist to overcome the above:

1. Provide cleansed OE archive export to each state periodically

2. Use of a common club format as distributed in 2006 (available on OA web site)

3. Provision of OE and MT templates to states with standard club formats and with both 5 year and 10 year age classes

Using MT Software for the Australian Three Days

Some tips for using MT software for the Australian Three Days are contained in a document entitled "Using MT for Australian Three Days.pdf" available at `http://www.orienteering.asn.au/technical/SPORTidentInfo/`. Note that the section describing how to manage "blocking" in a class is no longer relevant as the relevant rule has been changed.

— Robin Uppill
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Soapbox

This section is reserved for readers letters. All contributions welcome.

PDA/GPS Unit for Mapping

Dear Andy,

Our club recently applied for, and was successful in obtaining, a grant under the FACSIA Volunteer Small Equipment Grants-Sport (2007)scheme. This was an annual scheme to help not for profit organisations support the work of their volunteers and in 2007 included sporting organisations for the first time. It provided up to $3000 per grant to cover the purchase of items of direct benefit to the volunteers.

We requested funding for the purchase of a PDA / GPS unit and associated software to assist volunteer mappers. The unit purchased was a Hp Rx5765iPAQ (which incorporates a built in GPS). This purchase was based on the observation that the mapper, Eric Andrews, was using a Hp iPAQ in the field with a separate GPS plugged into it. We used the program OziExplorer, which allows base maps for an OCAD map to be loaded into the Pocket PC. In the field, the mapper's position on the map is indicated by an arrow on the screen and their track is indicated by a red line. There is provision for saving the waypoints and track file or the information can be used immediately to assist in mapping. The map coordinates are also continually updated on the screen.

The PDA/GPS has proved to be a useful tool for part-time mappers. It is very simple to operate in the field but quite a multi step process to get the system working. We are still coming to grips with the system, but hope to be able to report more for the next Tech News. It would be nice if OCAD made a version for handheld PDAs but I understand this is not being actively worked on.

— Janet Morris (OANSW)