

Submission from the ONZ Mapping Committee

To ONZ Council

18 May 21

## Competition Rules for New Zealand Foot Orienteering Events – Map Scales

### Summary

We appeal to you to revise Section 15 in the ONZ Rules. It needs to require larger minimum map scales for mainly older orienteers.

### The Situation

Older orienteers need larger scales to deal with degrading close vision. (Younger orienteers who are not familiar with the symbols need larger scales too.) The Mapping Committee sought to have suitable enlargements laid down during the ONZ rules revision process. But the end result leaves too much to controller judgement.

We presented the rules team with evidence about the degradation of eyesight with age, which is much more than people commonly think. And the fact that a person with good eyesight cannot see the map as it appears to someone with poor eyesight. Hence reliance on mapper, planner or controller judgement is not appropriate. We called for minimum percentage enlargements based on age - 133% from age 40, and 150% from age 60.

There was once a similar situation with beginner courses. Courses were described as “Easy” and “Very Easy”, but children were coming back in tears (and being lost to the sport) due to the navigation being beyond their skills. A “judgement” approach was clearly ineffective. The situation was fixed by writing quite prescriptive rules for what courses must do, and matching those to age groups. The colour-coded difficulty levels are continuing to do their job today.

### The Problem in Practice

Section 15 of the rules provides for enlargements for older age groups in a table. The column “Normal Scale” ***does not satisfy our eyesight-related enlargements***. And we are seeking out and enjoying more complex areas as time goes on. Terrain complexity is even used in event marketing!

The column “Alternative Scale” is a mixture of larger and smaller scales. It suffers the clear defect of being optional. It also suffers by including ***smaller*** scales such as 1:15,000. This scale is only used for international competition and we doubt it will ever be used in NZ. This means the whole column is unlikely to be taken seriously. But the main problem is ***that younger controllers simply cannot see through the eyes of older orienteers***.

During 2020 and 2021 so far, “judgement” has sometimes produced a sufficient enlargement and sometimes not. Good enlargements (even more than our minimums) have generally been seen for forest events. Insufficient enlargements have often been seen for sprints. This is serious, considering that fine detail often prevents passage in urban terrains, and results depend on seconds.

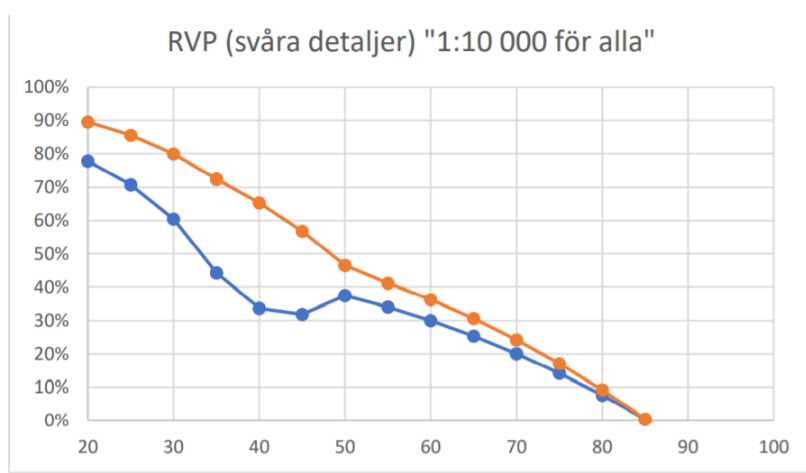
For example at the 2021 NZ Champs, the open classes were given maps at 1:3000. Classes from 40-55 had no enlargement at all, while classes from 60 received 1:2500 (120%). We are quite happy with the non-IOF scale for elites (noting our extensive use of school/campus terrains.) However ***when elites need a larger scale, our older orienteers need even larger.***

## Eyesight Background

We weren't part of the rules revision team, so we made four submissions in writing. They are documented at [www.mapsport.co.nz/mapresources.html](http://www.mapsport.co.nz/mapresources.html), see especially the most recent one of Feb 2021. We asked for minimum enlargements of 133% from age 40, and 150% from age 60.

We reproduce a typical relative visual performance graph from a Swedish orienteering study here. 95% of the population are between the orange and blue lines. This shows we drop below 50% at about 50 and 25% at 70. Even a controller aged 50 is unlikely to appreciate the problems of a 70yo with half their visual ability.

A translation of the full study is at <http://www.mapsport.co.nz/swedisheyesightstudy.pdf> which notes that spectacles and magnifiers are only partly effective in overcoming the falloff.



The bottom line is that a controller cannot use the “evidence of their own eyes” to assess the suitability of a map for those with poorer eyesight.

## What We Would Like to Happen

The enlargements of 133% from age 40 and 150% from age 60 are a bare minimum to give older orienteers a good visual experience. The Swedish paper even suggests “our veteran maps should actually have 3-4 times the line width and font size for that veterans should have the opportunity to achieve the same enjoyment and readability at all as an elite under 30 years”. (Google translation has some grammatical oddities.)

We suggest only one column in the table in Section 15, with minimum enlargements over the elite scale according to our percentages. We think that the “alternative” column, with its mixture of smaller scales and larger scales, should be removed.

Orienteering should not be a test of eyesight. Thank you for your consideration