

Overprint Conundrum

Michael Wood MAPsport Services and Orienteering Hutt Valley

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Background

Coinciding with a conversation about unwanted overprint on some recent MTBO maps, I've been talking to OW member Will Vale about some colour issues I've had. He works in IT and is getting into orienteering mapping too. I thought I would write a little essay mostly to clarify my own thinking; but it has a particular application to MTBO as I will show. Excuse me if you know all this.

What is Overprint?

First of all, I had cause to read the help on "overprint" in Condes. The program developer Finn Arildsen is an expert in this area. Condes→Help, list topics for "overprint" and display the top one "Overprint Effect..." Just read the first couple of screens at this stage (but you might want to come back to the rest later on).

So the overprint effect lets underneath colours show through what's above. It comes with a lot of fishhooks though. You have to be careful with overlaps. I think it is good practice not to overlap colours, but it's impossible to cut a hole for a stream on farmland for example – and blue over yellow = green! What's more, the normal view in OCAD knocks out the underneath colours, so potentially you don't get the same picture on paper as you got on screen.

What OCAD Does

OCAD deals with this with an "overprint" setting on each colour. A tick lets the colour combine with what's below, no tick makes it knock out what's below. There are some exceptions, relating to whether there are any zero CMYK values in the upper colour vs non-zero in the lower, uuuuugh! There appears to be a second mechanism in OCAD called the "blend mode" which may combine colours, you have to tick "blend mode" in the colour table to see this. Normal means knockout, darken and multiply are different ways of combining colours. Yes it's truly a minefield.

Luckily, OCAD provides the colour table all set up for us when we start a new file, and we don't have to think about it. They fairly closely follow what the IOF Mapping Committee recommends, and that has recently gone away from simulating overprint to a careful choice of colour order. For example an upper purple which knocks out everything, and a lower purple which is lower down the table to let certain things such as contours show through. OCAD also puts its own ideas into the colour table, for example those clever road infill colours that over-write the sidelines to make neat intersections. The colour numbering too is OCAD's invention I think.

Changes in OCAD

Well and good, but we don't always start with "File->New" every time 😊 Most of us have tailored versions of the symbol set. And the colours are tightly bound to the symbol definitions. We often pick up the symbols from a previous map, and even one a few years old may not have today's colour table exactly. Let alone one from a long time ago, which may have been "handed down". This is particularly relevant to MTBO, where we as a country have decided not to adopt recent IOF symbol changes. That means we CAN'T use OCAD's latest symbols and colours, we have to copy an old file. And it may well have overprint and blending in it. And quite possibly some inappropriate settings.

A quick way to test what "may" come out at your printshop is to export a pdf, and examine it with a browser. I think that Edge and Chrome will display the overprint, if its there. Another way is to use Acrobat Reader which is the creation of the inventors of pdfs. Don't print direct from OCAD, it will use knockout just like your screen does.

If it doesn't look right, investigate the overprint settings. I would hesitate to say just turn them all off as the colour order may not be right for that. But it's something to try.

What Happens in Condes

Many of us use Condes to prepare the file for a printshop.

Condes "reads" the OCAD file. Unlike OCAD you can see the overprint on screen, so here's another way to see whether there's anything wrong. You have to be alert though, you're probably concentrating on the course at this stage.

Condes provides another way to switch off overprint. In the Canvas->Map dialogue, there's a tickbox "Use overprint for colours marked overprint in the OCAD map". So you may be able to deal with it here. Beware of unintended consequences though 😊

Finally, Condes adds its own purple to the mixture. Finn Arildsen believes that overprint on the course markings improves legibility, so by default you theoretically get symbols showing thru the course markings. Two comments:

- a. My eyes cant see much through the purple, and I still cut the circles where they cross important details. Such as track and stream junctions, and where the circle is tangential to a track and takes out a length of it. It is un-necessary to cut circles where they cross tracks at right angles as the brain (rather than the eyes) makes the connection. I'm careful about positioning numbers and lines for the same reasons.
- b. If you so choose, Condes (grudgingly?) lets you switch off the overprint effect for circles and numbers (separately). Its in the Canvas->Course Overprint Symbols dialogue, hiding in the "Overprint colours" tab.

What happens in OCAD Course Setting or Purple Pen

I don't know. Expect the unexpected.

What happens if you use OOM

I don't know. Expect the unexpected.

Conclusion

There's only one reliable test for printing. That's to print, using exactly the same software and hardware throughout.

And that includes the same printshop using the same printer on the same paper.

The OHV printer's machine is down today. They may have to outsource. I'm chewing my fingernails.