

The National Grid six-inch and 1:10,000 scales

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As in the cases of the 1:1250 and 1:2500 maps, this is an endeavour to add to official histories on the subject as well as filling in a few blank areas.

It is fairly well known that the six-inch and its 1969 successor 1:10,000 scale map were, and are, the largest scales to cover all of England, Scotland and Wales. In the case of many Scottish counties and islands the scale includes almost 100% of the terrain.

Nearly fifty counties contain varying amounts of originally basic surveys at these scales, as follows:

Mainly 1:10,000 scale	Argyll & Bute, Caithness, Inverness, Islands of Arran, Hoy, Islay, Lewis, Mull, Shetland and Skye, Ross & Cromarty, Sutherland.
Approx 50% of county at basic 1:10,000 scale	Aberdeen, Angus, Banff, Brecknock, Caernarvon, Cumberland, Dumfries, Dunbarton, Durham, Kirkcudbright, Lanark, Merioneth, Moray, Nairn, Peebles, Perth, Radnor, Roxburgh, Stirling, Westmorland, Wigtown, Yorkshire North and West Ridings.
Small areas at basic 1:10,000 scale (excluding coastal)	Ayr, Berwick, Cardigan, Clackmannan, Devon, Denbigh, East Lothian, Edinburgh, Hereford, Isles of Scilly (parts) Kincardine, Kinross, Lancashire, Linlithgow, Midlothian, Montgomery, Monmouth, Northumberland, Orkney, Renfrew.

In the 1960s the estimation was 3058 maps for Scotland, 501 for England and 258 for Wales. That was in addition to 6400 maps derived from the 1:1250 and 1:2500 scales. A pilot sheet for the latter may have been published in 1950 – possibly SZ09SE at Bournemouth, or any one of seven sheets in or east of Edinburgh.¹ But in the same year, differing from all future six-inch and 1:10,000 work in basic areas (which were resurvey) revision of the county series on national Grid sheet lines commenced in Devon. This resulted in twelve maps covering the southern part of Dartmoor published in 1954 (all but one, part 1:2500).

In 1956-7 work in Scotland commenced south-east of Ayr. Originally it was hoped to marry a revision of the county series detail (as per Devon) with air surveyed contours but this was soon found to be impracticable. The location was roughly NS30-70 and NX39-79. Complete resurvey started soon after, west of Ben Hope in Sutherland, the initial maps (published 1960) being NC34NW, SW, SE, SE and NC35SW. Meanwhile provisional six-inch maps covering the whole of Great Britain (except most of the highlands and islands of Scotland) were published between 1947 and 1965 with variable degrees of revision content including much for the one-inch map. However, an area in Durham and Northumberland was specifically revised to six-inch standards during 1947-8 and these provisional

¹ NT27NW, NE, SW, SE, NT36NW, NT37SW, SE

maps are much superior historically to SX49SW, 49SE, 69NE and SS22SW in the 'by-passed' area of Devon which although published in the early 1960s were 1:2500 revisions of 1904-05!

Anyone who supposes that survey work, particularly in the highlands of Scotland was idyllic, is directed to *Sheetlines* 29 and an account of the 1870s work under the apt title of *Campaigning at home*. Even with such modern aids as helicopter transport and tidelines plotted as contours from air photographs as well as the bulk of the survey done by this means, life could be difficult, as the account of the relatively simple resurvey of South Dartmoor revealed.²

But continuing with the programme itself, the mid-1970s saw economic stringency once more and the temptation to considerably extend 1:10,000 area not only for locations not yet taken up, but create new ones including at least one already revised at 1:2500. Those known were on Exmoor, Salisbury Plain and west of the Rhondda. Such stringencies caused considerable alarm amongst 1:2500 map users, particularly in Scotland. And a check in 2005 revealed that the two English examples of major downgrading were in fact at 1:2500 scale.

Whilst the northern part of Dartmoor had been resurveyed at six-inch scale in 1964 (mainly SX58 and 68; four maps basic six-inch; four part 1:2500 of 1904, 1932 and 1953 possibly brought up to date for significant change), the bulk of the programme in England & Wales was due to commence in 1975. In April 1981 a last ceremonial measurement (by instrument) was taken on NY68NE at the Kielder reservoir. This was the 'final' English map with one each allegedly awaiting completion in Scotland and Wales.

Linear accuracy standards on the 1:10,000 map derived from the larger scales are good given that the detail is necessarily generalised. It is probably equally good on the basic 1:10,000 where all detail including contours and tide lines are surveyed by plotting machine from air photography. But possibly not so good by OS exacting standards where any fencing (not discernable on an air photograph) needed to be surveyed or completed on the ground using plane table and microptic alidade.

Historical accuracy at the date of publication would also be good for maps derived from 1:1250 or 1:2500 urban areas under continuous revision, and also basic 1:10,000 areas. Rural 1:2500 could be much more variable even if attempts were made to tackle significant change.³

The Dartmoor maps at six-inch scale⁴ were compared with their 1:10,000 successors detail and National Grid accuracy on the assumption that the latter would be more accurate due to the more sophisticated methods of survey. But in fact the 1950 revision compares remarkably well in all respects except possibly more accurate contours.

SX57NE includes eight square km of reduced 1:2500 mapping of 1951-2 and the survey diagram reflects this with the following notes: 'Surveyed at (a) 1:2500

² *Sheetlines* 55, 11

³ *Sheetlines* 55 and 57

⁴ SX56NE, 57NE

scale 1951-2 (b) 1:10,000 scale 1980. Revised for significant changes 1981. Contours surveyed 1980'. Splitting hairs, the 1:2500 was a revision not a survey.

A selection of twelve six-inch and a single 1:10,000 map survey diagrams and their somewhat complex variety appeared in *Sheetlines* 56. In general the later 1:10,000 examples seen are much more straightforward but a curious exception was noted in the case of TQ40SW published 1976. The survey diagram shows: 'Surveyed at (a) 1:1250 scale 1964-71 (b) 1:2500 scale 1954-68'. Differing from diagram shown in *Sheetlines* 56 the individual 1:1250 squares are not dated except for two picked out in pecks with † shown therein with the explanation: 'Not published at 1:1250' they contain small areas of foreshore and low water mark. As in the case of SX57NE the 1:2500 was purely a revision of the old county series adjusted to the National Grid.

Digital 1:10,000 maps of Cornwall, comprising five maps at the Lizard and possibly fourteen in the Camelford / St Gennys area were first tried in 1980-82⁵ but OS soon returned to analogue. Further experiments in the 1990s resulted in SK63SW (Keyworth, Notts) being produced from 1:2500 Landline data⁶ and this method of production is now the norm.

So also is site-centring as an option, as well as such benefits as: improved currency of information, plot on-demand production, colour output and improved graphic specification – with a very attractive result being the example centred on NT2476 (Edinburgh) in the products and services catalogue as early as 1999.

Adopting the axiom of Richard Oliver that something is better than nothing at all,⁷ this is something of a provisional account. County names have been taken from Richard's concise guide⁸ as indeed was the detail regarding the 1947-8 six-inch revision of parts of Northumberland and Durham. Much of the dating comes from Annual Report progress maps – mainly 1959-60, 62-63, 73-74 and particularly the map which accompanied the 1979 Serpell report which gave the projected 1:10,000 areas of Exmoor, Salisbury Plan and South Wales, all three still apparently at a basic scale of 1:2500.

John Cole has been a prolific contributor to *Sheetlines* over many years, focussing on large-scale mapping, a subject few others have studied. This is likely to be his final contribution, other than occasional letters (see page 60); as he says, 'I've done my stint'. The current editors, on behalf of themselves and their predecessors, send hearty thanks to John for his efforts. For those members who know little of John's career at OS, we hope to include a biographical note in *Sheetlines* 93.

⁵ The list appearing on page 42 of *Sheetlines* 35 should probably read SW61NE & SE, SW71 NW, NE & SW, SX08 all quarters, SX18 all quarters, SX09SW, SX19 all quarters and possibly SS10SE.

⁶ *Sheetlines* 44

⁷ *Sheetlines* 24

⁸ Richard Oliver, *Ordnance Survey maps, a concise guide for historians*, second edition, Charles Close Society, 2005, ISBN 1 870598 24 5