

Scottish County Map Surveys, 1770s–1820s: Collating ‘New’ Evidence

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Commissioners of Supply minutes, newspapers, and other sources contain information about the context and conduct of the new trigonometrical surveys of Scottish counties in the decades around 1800. They provide details of progress, from initiation of the proposal to publication and distribution of the maps, including costs, number of subscriptions required, difficulties encountered, and the length of time to complete. A catalyst for surveys after 1790 was the need to plan road building and maintenance, and many county maps were not necessarily for commercial sale, while some had restricted circulation based on wealth and social status. Landowners were not passive subscribers but were intimately involved in all stages of the process.

‘County maps’ from new trigonometrical surveys in the late eighteenth and early nineteenth centuries are the most detailed printed maps of Britain before the Ordnance Survey, and are a key historical source. An understanding of the context and conduct of a survey is necessary to evaluate maps, and this article brings together recently uncovered evidence about Scottish county maps from newspapers, Commissioners of Supply minutes and other manuscripts, and printed works. The first part briefly considers the context of county surveying and map publishing in Britain at this period, summarises previous research on Scottish county maps, then describes the sources and research methodology for this study. The second part collates detailed evidence from these sources to develop an overview of the conduct of surveys and the process of producing a map from proposal to publication. Although the nature of the ‘new’ evidence means the focus is on maps initiated by Commissioners of Supply, principally after 1790, newspaper advertisements also provided information about other maps published by land surveyors. The content of the maps is, however, not discussed.

English county maps have been a popular subject for research by map historians. Some review the protagonists and origins of a particular map, especially to accompany a facsimile edition; others list the publication history of every printed map of a county in detailed cartobibliographies. Most published maps are copies of each other, and dates of publication may bear little relationship to the date of the information, so maps from new surveys are particularly significant. These are listed in Elizabeth Rodger’s bibliography of large-scale county maps in Britain, which also provides an overview of mapping developments, as do the bibliographies of county atlases by Donald Hodson.¹

¹ E. M. Rodger, *The Large Scale County Maps of the British Isles, 1596–1850: A Union List*, 2nd

Studies of context have considered various themes, for example: networks and patronage; instruments and methods; costs and markets; the social and intellectual environment. Matthew Edney and Charles Withers discussed patronage and scientific and social networks relating, respectively, to the Royal Society and Society of Antiquaries of Scotland.² Mary Pedley and J. B. Harley researched economic and commercial aspects, which were also emphasised in the chapter on county maps in *English Maps: A History*.³ Reference works on surveyors and engravers in Britain provide biographical details.⁴ This article describes another network, which has not previously been considered with regard to Scottish surveys and maps, the Commissioners of Supply, and also reveals the relationships between professional surveyors and landowners, and how this affected map accuracy.

Harley summarised developments in British county mapping between 1750 and 1800, focusing on three influences.⁵ He concluded that English county maps were mainly proposed and produced by entrepreneurial ‘gentlemen amateur’ surveyors. This is not the experience in Scotland where county maps were surveyed by professional land surveyors. The London map trade was central in engraving and promoting English maps, and many Scottish maps were also engraved in London, but increasingly there were engravers and printers in Scotland who could produce large map sheets: for example, George Cameron, John Ainslie and Robert Kirkwood. In 1759 the Society of Arts, recognising the importance of good quality maps for economic development, administration and national defence, introduced medals and a premium of up to £100 to encourage new geometrical surveys using triangulation, at a scale of at least one inch to a mile

rev. edn (Oxford, 1972); D. Hodson, *County Atlases of the British Isles Published after 1703: A Bibliography*, III (London, 1997).

- ² M. Edney, ‘Mathematical cosmography and the social ideology of British cartography, 1780–1820’, *Imago Mundi*, 46 (1994), 101–16, discusses ‘mathematical cosmography’, a fusion of geography, astronomy and cartography, as part of Enlightenment thought, the influence of the Royal Society’s scientific networks, social hierarchies of surveying and map-making practitioners, and the importance of state patronage in mapping endeavours; C. W. J. Withers, ‘The social nature of map making in the Scottish Enlightenment, c.1682–c.1832’, *Imago Mundi*, 54 (2002), 46–66, is based on case studies, and considers patronage, institutional networks centred on the Society of Antiquaries of Scotland, and also addresses the issue of ‘truth’ and reliability, and the perception of accuracy.
- ³ M. S. Pedley, *The Commerce of Cartography: Making and Marketing Maps in Eighteenth Century France and England* (Chicago and London, 2005); J. B. Harley, ‘The bankruptcy of Thomas Jefferys: an episode in the economic history of eighteenth century map-making’, *Imago Mundi*, 20 (1966), 27–48; C. Delano-Smith and R. J. P. Kain, *English Maps: A History* (London, 1999), 81–111.
- ⁴ (ed.) S. Bendall, *Dictionary of Land Surveyors and Local Map-makers of Great Britain and Ireland*, 2nd edn (London, 1997); L. Worms and A. Baynton-Williams, *British Map Engravers: A Dictionary of Engravers, Lithographers and their Principal Employers to 1850* (London, 2011).
- ⁵ J. B. Harley, ‘The re-mapping of England, 1750–1800’, *Imago Mundi*, 19 (1965), 56–67.

(1:63,360).⁶ The Jacobite Risings had revealed the lack of topographic knowledge of the country, and the difficulties this caused for national control and defence, hence William Roy's survey or 'military sketch' of the Scottish mainland from 1747 to 1755. From 1756 the Cassini family had begun a national survey of France, based on triangulation. Britain needed to match its rival and, in the absence of a national survey organisation, the Society of Arts' initiative aimed to provide an interim solution, where individual county maps at a common standard would gradually create a uniform national map.⁷ As well as the minimum one inch scale, and surveying methods based on trigonometry, their stipulations included accurate latitude and longitude (so that the maps could be linked), specific features to be recorded, and the map to be published within two years of the proposal.⁸ Although no Scottish map was awarded a premium, and the impact of the Society of Arts awards is disputed, its influence pervaded the quality and content of county maps in Britain for many decades.

Surveying and publishing a county map incurred considerable financial risk. Harley gives an account of the bankruptcy in 1766 of Thomas Jefferys (1719–71), Geographer to the King and a London engraver and map publisher, when the expense of several new English county surveys, which had commenced in response to the Society of Arts' initiative, overstretched his resources.⁹ With a small market, difficult economic conditions and challenging terrain, proposing county surveys in Scotland was a highly speculative undertaking, and the new research in this article contributes a Scottish dimension to the commerce of map publication.

Scottish county mapping has not been extensively researched, possibly because of the difficulty of finding original sources, which makes the 'discovery' of Commissioners of Supply involvement a breakthrough in understanding their context and conduct. The standard work on Scottish map history, especially printed maps, is *Early Maps of Scotland to 1850*. In the first volume, county maps share a chapter with estate plans, as land surveyors produced both.¹⁰ Estate plans

⁶ J. B. Harley, 'The Society of Arts and the surveys of English counties 1759–1809', *Journal of the Royal Society of Arts*, 112:5089 (December 1963), 43–6; 112:5090 (January 1964), 119–24; 112:5092 (March 1964), 269–74; 112:5095 (June 1964), 538–43. The premium was a bonus to encourage surveyors, not to pay all costs. Harley quotes a letter from Stephen McDougall, a Glasgow estate surveyor, who considered that the award was 'too little for a man to execute the survey'. He offered to move south, preferably to survey Somerset, for at least three hundred half-guinea subscriptions, paid in advance.

⁷ The Ordnance Survey was founded in 1791, with the first Scottish map published in 1847 and the first survey of all Scotland completed in 1882. Until the National Grid system was introduced in the 1940s, large-scale OS maps were conducted as separate county surveys.

⁸ Longitude was measured from a meridian at the county town, not from the Greenwich meridian. Scottish maps may have failed to qualify for the premium as a two-year timescale was unrealistic, also Roy's survey was already completed.

⁹ Harley, 'The bankruptcy of Thomas Jefferys'.

¹⁰ (ed.) D. G. Moir, *Early Maps of Scotland to 1850*, 3rd edn (Edinburgh, 1973, 1983), I, 114–23.

are usually unique manuscripts at a large scale, showing detail such as individual fields, whereas county maps were at a smaller scale, printed in multiple copies (although some are now rare) and span an entire county on several sheets which can be joined together.¹¹ It was assumed, largely from circumstantial evidence, that an entrepreneurial surveyor, who had been involved with estate surveying in an area, might venture into publishing a printed county map using the information he had gathered, possibly supported by the patronage of a landowner. The maps contributed to geographic knowledge in the Enlightenment, and were also thought to be for use by travellers, as their production coincided with road improvements and an increase in wheeled traffic. After Dr Samuel Johnson's 1773 journeys in Scotland were published, adventurous early tourists could also be a market. While this pattern appears to apply in the 1770s and 80s, the 'new' sources described in this paper reveal a more complex picture after 1790, with most county surveys initiated by Commissioners of Supply, and only a few being the result of commercial enterprise.

Volume two of *Early Maps of Scotland* provides a cartobibliography of Scottish county maps, now in much need of revision.¹² John Moore has listed maps of Renfrewshire and East Lothian, and some local histories summarise map sources.¹³ He has also produced a bibliography of publications about Scottish cartography, which includes a section on county mapping.¹⁴ A more recent overview is *Scotland: Mapping the Nation*, but county maps are covered only briefly. They also receive passing mention in other books on Scottish mapping.¹⁵

There are few studies of individual counties. Chris Fleet researched the origins of James Stobie's 1783 map of Perth and Clackmannan, using Atholl

¹¹ Estate plans are usually supported by other documents, and have been more widely researched than county maps, particularly by I. H. Adams, and in studies of the role of land surveyors in transforming the Scottish countryside during the agricultural revolution, such as (ed.) M. Parry and T. R. Slater, *The Making of the Scottish Countryside* (London, 1980) and (ed.) G. Whittington and I. D. Whyte, *An Historical Geography of Scotland* (London, 1983). However, these works do not consider county maps.

¹² (ed.) D. G. Moir, *Early Maps of Scotland to 1850*, 3rd edn, II, 149–243.

¹³ J. N. Moore, 'Maps of the counties of Scotland: the example of Renfrewshire', *Scottish Local History*, 57 (2003), 18–26; J. N. Moore, 'The early printed maps of East Lothian, 1630–1848', *Transactions of the East Lothian Antiquarian and Field Naturalists' Society*, 18 (1984), 23–42.

¹⁴ J. N. Moore, *The Historical Cartography of Scotland: A Guide to the Literature of Scottish Maps and Mapping Prior to the Ordnance Survey*, 2nd rev. edn, O'Dell memorial monograph, 24 (Aberdeen, 1991), 53–85. *Imago Mundi* provides an annual bibliography of map history publications worldwide. After 2000, Scottish material is listed in *Cairt: The Newsletter of the Scottish Maps Forum*.

¹⁵ C. Fleet, M. Wilkes and C. W. J. Withers, *Scotland: Mapping the Nation* (Edinburgh, 2011), 128–34; J. Moore, *The Clyde: Mapping the River* (Edinburgh, 2017), 35–8; J. Moore, *Glasgow: Mapping the City* (Edinburgh, 2015), 25–7. R. Gibson's well-illustrated *The Scottish Countryside: Its Changing Face, 1700–2000* (Edinburgh, 2007) has an emphasis on manuscript plans and does not mention county maps, but does illustrate the cartographic style of some land surveyors who also made county maps.

Estate records; David Walker assessed maps of Sutherland, also using estate papers and other sources; and Diana Webster described the background to three editions of John Ainslie's Kirkcudbright county maps based on the Commissioners of Supply records.¹⁶ Ian Adams's prolific writings on land surveying and surveyors describe their role as estate surveyors in changing the face of the land through, for example, agricultural reforms, division of commonties, and transport developments. He charts the emergence of the land surveyor in Scotland in the mid-eighteenth century, from the gardener who laid out estates, the schoolmaster with knowledge of mathematics, and the imported experienced English surveyor.¹⁷ However, their role in county surveying does not receive much attention.¹⁸

The most useful contemporary sources consulted were newspapers, records of Commissioners of Supply, and the maps themselves.¹⁹ Other material provided snippets of information which together build up a fuller picture of the organisation of surveys. Scottish antiquarian George Paton (1721–1807) corresponded with English topographer Richard Gough (1735–1809) for thirty years after the latter visited Scotland in 1771, and provided much of the information about Scottish mapping for Gough's publications *British Topography* and *An essay on the rise and progress of geography in Great-Britain and Ireland*, both published in 1780.²⁰ Although not always accurate, being based sometimes on gossip and rumour, Paton's letters provide valuable contemporary insights into the progress of surveys and his perception of the quality and accuracy of maps.²¹ In his topographical and historical work, *Caledonia*, George Chalmers (1742–1825) assesses available county maps, and occasionally offers information

¹⁶ C. Fleet, 'James Stobie & his surveying of the Perthshire landscape, 1780–1804', *History Scotland*, 5:4 (July–August 2005), 40–7; D. Walker, 'The nineteenth century mapping of Sutherland', *Scottish Local History*, 101 (Autumn 2018), 27–35; D. C. F. Webster, 'Surveying the Stewartry: John Ainslie's county map of Kirkcudbright, 1791–1821', *Scottish Local History*, 104 (Autumn 2019), 3–10.

¹⁷ I. H. Adams, 'Economic process and the Scottish land surveyor', *Imago Mundi*, 27 (1975), 13–18. See note 14, Moore, *The Historical Cartography of Scotland*, for a list of Adams's publications.

¹⁸ For example, the only mention of Commissioners of Supply in (ed.) I. H. Adams, *Papers on Peter May Land Surveyor 1749–1793* (Edinburgh, 1979), 152–3, is when Peter May attended the County meeting in Elgin on behalf of his employer on 30 April 1769, and agreed to plan the route of the new road to Lossiemouth.

¹⁹ High resolution images of Scottish county maps are available on the website of the National Library of Scotland (hereafter NLS), <https://maps.nls.uk>.

²⁰ NLS, Adv.MS.29.5.6(i), Adv.MS.29.5.7(i–iv), correspondence between George Paton (1721–1807) and Richard Gough (1735–1809); R. Gough, *British Topography* (London, 1780); R. Gough, *An essay on the rise and progress of geography in Great-Britain and Ireland* (London, 1780).

²¹ D. Webster, 'From gossip to wild goose chase? Assessing Paton, Gough and Thomson as map history sources, 1771–1832', *Cairt*, 36 (January 2020), 2–3.

about individual surveys and surveyors.²² Very few subscription proposals have been found, as they are highly ephemeral.²³ The introduction to John Thomson's *Atlas of Scotland* (1832) summarises the sources used to compile the maps and gives an overview of mapping history. Thomson himself was bankrupted twice when he commissioned surveys of the northern counties which lacked county surveys, and exceeded his resources.²⁴ Parish descriptions in the *Old Statistical Account* make use of existing county maps, and the reviews of agriculture list the availability of county maps and describe road improvements at a county level, but neither give information on the progress of surveys.

The stimulus for this research was an enquiry about a letter sent in 1820 from London map engraver and publisher William Faden to John Niven, Kirkcudbright Clerk of Supply, referring to a new edition of John Ainslie's map of the Stewartry of Kirkcudbright.²⁵ The Clerk of Supply, usually a 'writer' (lawyer), was the administrator for Commissioners of Supply, so this led to minutes of the Kirkcudbright Commissioners of Supply.²⁶ These were a revelation: the Kirkcudbright map, first published in 1797, was initiated and supported financially by the Commissioners, particularly to enable road planning and maintenance. This turned on its head the previous assumption that county maps were a commercial enterprise by surveyors, intended to be used by travellers. This map was primarily a development and management tool, although it could also have other uses, and another surprise was that circulation was restricted by wealth and status. Was this example unusual, or were other Commissioners of Supply involved in surveying projects?

Commissioners of Supply were instituted in 1667 to assess and to collect the National Land Tax (Cess Tax). With a permanent official and a bureaucratic structure to handle finance, in Scotland they gradually acquired other functions, becoming the de facto county government until county councils were created in the 1880s.²⁷ Counties were a late development in Scotland, and are not shown on maps of the whole country until the early eighteenth century, for example

²² G. Chalmers, *Caledonia: or, An Account, Historical and Topographic, of North Britain ...*, I–III (London, 1807–24); enlarged edition, I–VIII (1837).

²³ Proposals identified to date include: Stirling & Clackmannan (1776), NLS, Adv.MS.29.5.7(ii), f. 104; Aberdeen (1771), National Records of Scotland (hereafter NRS), GD345/911; Aberdeen and Banff (c.1792, 1806, 1810), Aberdeen City and Aberdeenshire Archives (hereafter ACAA), AC/9/8/1/4, AC/9/81/14, AC/1/1; Ayr (1801), Worms and Baynton-Williams, *British Map Engravers*, 10; Ross (1833), NRS, GD296/199. Please inform the author about any other subscription proposals.

²⁴ J. Thomson, *Atlas of Scotland* (Edinburgh, 1832), iv–vii.

²⁵ This letter, formerly in private hands, has now been lodged in Dumfries and Galloway Archives (hereafter DGA). It is illustrated in Webster, 'Surveying the Stewartry', 8.

²⁶ DGA, K1/1/3 (1786–96); K1/1/4 (1797–1806); K1/1/6 (1814–16); K1/1/7 (1817–19); K1/1/8 (1819–27), Kirkcudbright Commissioners of Supply, minutes.

²⁷ A. E. Whetstone, *Scottish County Government in the Eighteenth and Nineteenth Centuries* (Edinburgh, 1981).

Herman Moll's small map *Scotland divided into its shires* (1725). Earlier maps portray sheriffdoms, fiefdoms, and names derived from geographical features (Atholl, Moray, Strathearn, Lauderdale). Most of the new bodies adopted names based on the principal town where meetings were held (for example, County of Lanark or Lanarkshire). Titles of the earliest county maps often had both the former name and the county name, suggesting that the old names were still in use.²⁸ Commissioners of Supply were the principal conduit for information within a county, between counties, and with the national government. Anyone owning land generating an annual income of over £100 (excluding peers) could be a Commissioner of Supply, so this was an inclusive body for this level of society.²⁹

Survival of Commissioners of Supply minutes in the late eighteenth century is patchy: the Scottish Archives Network (SCAN) union catalogue lists Commissioners of Supply holdings in archives throughout Scotland and indicates the dates covered.³⁰ Unfortunately several counties, which have county maps, do not have surviving minutes for the period of study, notably the Border counties and Linlithgow (West Lothian). The structure of minutes is common throughout Scotland, recording the place and date of the meeting, and attendees, followed by the selection of the Preses or Chair, usually the senior landowner. Petitions relating to land valuation were first considered, for example transfers of land parcels between owners. This research covered the period from 1770 to about 1820, and in the early years most minutes concentrated on this prime purpose of taxation assessment and collection. Gradually matters of community interest were added, and specialist subcommittees were introduced. Only the minutes of the biannual General Meetings, where major decisions were made, have been consulted for this research, as the quantity of subcommittee material was too great for pan-Scotland coverage. Where there was not a separate Highways Committee, the next agenda item would be requests for repayment of road and bridge repairs undertaken by landowners. By the 1790s, other topics emerge in the General Minutes – rural schools, a fox hunter to deal with vermin, food provision during famine, raising militia for the wars with France, the problem of Irish migrants in Galloway, building a jail in Portree, consideration of an anti-slavery petition – and surveying a county map. Occasionally many pages are taken up with a pledge of allegiance to the monarch. As the subjects under consideration proliferated, some Clerks of Supply began to make marginal headings, which make the volumes easier to search for a particular topic.

Content is variable: some record only decisions about expenditure, others include extensive discussion details. Minutes of the counties of Aberdeen, Dumfries and Kirkcudbright are particularly informative. Others which

²⁸ For example, W. Edgar, *The shire of Peebles or Tweeddale* (1741); J. Laurie, *A plan of the county of Mid-lothian or shire of Edinburgh* (1763); M. Stobie, *A map of Roxburghshire or Tiviotdale* [sic] (1770); J. Ainslie, *A map of Selkirkshire or Ettrick Forrest* (1773).

²⁹ In England Justices of the Peace, from similar landed classes, evolved to become the county administration, and in Ireland the Grand Juries fulfilled this function.

³⁰ SCAN, <http://www.scan.org.uk>.

supported successful surveys are Banff, Forfar, Lanark, Linlithgow, Perth and Stirling. Even the support of Commissioners failed to deliver a county map in Ayr, Inverness, Ross and Cromarty. As well as county surveys, other mapping involvement is recorded. For example, when the Commission of Highland Roads and Bridges required a map of Scotland, at four miles to an inch, to plan their work, the map-maker Aaron Arrowsmith based it on Roy's manuscript, updated with more recent information from county maps. There were no large-scale maps of the northern counties, so in 1806 Alexander Nimmo was instructed to 'perambulate' the boundaries of Caithness, Sutherland, Inverness, Ross and Cromarty to establish their positions.³¹ Commissioners of Supply were asked to assist, with mixed results. Nimmo's diary expresses some dissatisfaction with the speed of response. In Perth, for example, because of the absence of the senior proprietor, the Duke of Atholl, landowners postponed meeting Nimmo. Sutherland Commissioners failed to help, but in Moray and Nairn, committees of local gentlemen were appointed to assist Nimmo.³² Overall, evidence has been found that Commissioners of Supply were involved in surveying proposals, in some capacity, in over half of the thirty-three counties.

The initial research was to establish if other county maps had been sponsored by Commissioners of Supply. Which of the counties should be searched first; could the maps provide clues? Kirkcudbright's map was dedicated to 'to the Nobility and Gentry' so the counties that had maps with this dedication were the first explored in archives. This clue was not infallible – Wigton's dedication was not matched by an entry in the Commissioners' minutes, and a few maps published by the counties were dedicated to an important person – but there was some correlation, and identified quickly that Kirkcudbright's involvement with county surveys was not unique. Later, when newspaper advertisements indicated some failed proposals by Commissioners of Supply, all surviving minutes were searched, even when there is no county map.³³ Kirkcudbright's map was proposed in 1791 and published in 1797, so at first a span of ten years before a publication date was inspected, but when it emerged that the gestation period for some maps was much longer, this was expanded to up to thirty years.

Newspaper advertisements for subscriptions helped to refine dates to be searched, and also revealed a large number of unsuccessful proposals. These deserve further study, and are not included in this paper which considers only the published maps. The online British Newspaper Archive enabled information from several newspapers to be easily retrieved, although the search facility is not

³¹ (ed.) N. P. Wilkins, *Alexander Nimmo's Inverness Survey and Journal, 1806* (Dublin, 2011). He was surprised to find a remote shepherd had a copy of Langlands's Argyll map.

³² Highland Archives (hereafter HA), CN/1/1/1, Nairn Commissioners of Supply, minutes, 30 April 1806, 88–9; MC/1/1/1, Elgin (Moray) Commissioners of Supply, minutes, 4 October 1805 and 29 May 1806. It is interesting to note that a prominent local surveyor, George Brown of Linkwood, near Elgin, was appointed to the Elgin committee.

³³ Archive visits were made from Shetland to Dumfries. The only archive not visited was Argyll, but they supplied a detailed index to the Commissioners of Supply minutes.

ideal, and some manual searching was necessary for newspapers not included: the *Edinburgh Advertiser* proved to be particularly useful.³⁴ Even where minutes do not survive, advertisements reveal Commissioners of Supply involvement in Berwick and Linlithgow (West Lothian). Publicity for John Blackadder’s 1797 Berwickshire map shows three sources of support:

This work has met with the countenance of the County in its public capacity, as well as of a great number of its respectable inhabitants, and the patronage of John Lumsden, Esq; of Blanerne, to whom it is inscribed.³⁵

‘County in its public capacity’ implies the Berwick Commissioners of Supply; Blackadder was Lumsden’s tenant on the Blanerne estate. Linlithgow Commissioners placed an advertisement in 1814 inviting tenders from surveyors, and the county map was surveyed by William Forrest (fl.1799–1832) and published in 1818.³⁶

Advertisements reveal how long it took for a proposal to gather sufficient subscribers, to complete the survey, and to engrave and print the map. They also indicate the price of the subscription and any optional additional costs for colour or mounting. For example, a sequence of advertisements beginning in 1787 shows the progress of George Langlands’s survey of Argyll which the surveyor commenced under his own initiative. Langlands (fl.1771–1810) had been brought from England as the Duke of Argyll’s surveyor, and had surveyed much of the county while preparing estate plans for the Duke.

December 1787: George Langlands proposes to survey and publish a MAP of ARGYLESIRE, to show roads, distances, gentlemen’s seats, sea coasts, harbours, lakes, ports, ruins, islands, &c. provided he is encouraged to do so by a sufficient number of subscribers. The price of the Map on paper to be 2*l*.12*s*.6*d* and on canvas, 2*l*.18*s*.6*d*.³⁷ Subscription papers are left with the booksellers in Edinburgh and Glasgow, and Noblemen and Gentlemen in the country may send their names to him at Campbeltown.

October 1792: ... before he [Langlands] can venture to put it into the hands of the Engraver, it will be necessary that about sixty more copies be subscribed for.

February 1798: ... will, in a few months have his MAP of ARGYLLSHIRE ready for the plate.

August 1799: George LANGLANDS, Land Surveyor, having now finished the Survey of Argyllshire, preparatory to his publishing an accurate and extensive

³⁴ British Newspaper Archive, <http://www.britishnewspaperarchive.co.uk>. Thanks to Douglas Lockhart for sharing his newspaper research on surveyors and surveying.

³⁵ *Edinburgh Advertiser*, 8–12 December 1797, 371.

³⁶ *Edinburgh Advertiser*, 31 May 1814, 337.

³⁷ £2 12*s*. 6*d*., i.e. two pounds twelve shillings and six pence = £2.62½, worth about £200 in today’s money (using <http://www.nationalarchives.gov.uk/currency-converter/>); £2 18*s*. 6*d*. = £2.87½.

Map of that county, requests of those gentlemen who have been so obliging as to take charge of Subscription Papers, for encouraging that work, that they would be pleased as soon as possible, to transmit to Mr Donald McLean, Postmaster at Inverary, lists of the subscriptions procured by them, in order that the work may be finished with all possible dispatch.

June 1800: The Map of Argyllshire is put into the hands of an eminent Engraver in London, Mr. J. Niele [i.e. S. J. Neele] appointed by Mr William Faden, Engraver to the King and the Prince of Wales. GEORGE LANGLANDS attended the Engraver five weeks in London, so that he might attend to the accuracy in spelling the names of places, &c. And will be delivered to the subscribers as soon as finished.³⁸

August 1801: Published as the Act directs, August 1st 1801, by George Langlands and Son, Campbeltown. Sold by William Faden ... London.³⁹

February 1802: Mr Langlands takes the opportunity of returning his most grateful thanks to the Nobility and Gentry who have honoured him with their patronage. The Maps are published and will be delivered to subscribers without loss of time.⁴⁰

George Langlands's enterprise was not a commercial success. John Thomson reported:

Langlands published, in 1801, a Map of the County of Argyle, on four sheets. The sale of this map was much under the calculated number, so the result was a considerable loss to the undertakers.⁴¹

From first advertisement to publication took about thirteen years. Such timescales were not unusual: John Ainslie's Renfrewshire map was first mooted before January 1784, but was not surveyed until 1796, and published in 1800.⁴²

³⁸ *Caledonian Mercury*, 10 December 1787, 1 and 30 October–6 November 1792, 1; *Glasgow Advertiser*, 26 February 1798, 1; *Edinburgh Advertiser*, 9–13 August 1799, 97; *Glasgow Advertiser*, 27 June 1800, 399.

³⁹ Date from imprint on: *This Map of Argyllshire Taken from Actual Survey Is most humbly dedicated To His Grace John Duke of Argyll &c &c &c, by His Graces most Obliged, & most humble Servants, George Langlands & Son, Land Surveyors.*

⁴⁰ *Caledonian Mercury*, 4 February 1802, 1.

⁴¹ Thomson, *Atlas*, iv.

⁴² NRS, E728/54/3(1), Petition to the Commissioners of the annexed Estates, by John Ainslie, 1784: 'He has issued out proposals by particular desire of the principal Landholders in the Countys of Renfrew and Cunningham to make an actual survey of that part of Scotland to include the Firth of Clyde and engrave and publish a map thereof to be protracted from a scale of two inches to one Mile being double the scale of any survey that has been published. The price of each map to be £1.1. and will be printed on six sheets but the subscription is still so small that the Pet^r dare not venture upon the work till he is offered other encouragement.' J. Ainslie, *Map of the County of Renfrew surveyed in 1796* (Edinburgh, 1800).

Much of the information discovered is brief, just one or two sentences, but collating the material puts these extracts in context and contributes to the following general overview of the progress of surveys and the process of map publishing.

Initiating a survey

Were county maps commercially driven, proposed by entrepreneurial surveyors? Or were they initiated by landowners? Evidence is limited before 1790, and is ambiguous. Phrases in advertisements or dedications to ‘the Nobility and Gentry’, such as ‘survey’d by their order’ or ‘survey’d at their desire’, suggest that some impetus for county mapping originated with landowners, but these words could reflect individual subscriptions, or could be promotional wording to lend authority and status to the maps.⁴³ A surge of county mapping in the 1770s, possibly encouraged by the Society of Arts scheme, was not entirely profitable, and interest in surveying Scottish counties subsided in the 1780s. Economic circumstances were not favourable, with a slump following loss of trade during the American Revolution (1776–82), and several years of bad weather and poor harvests. Opportunities for land surveyors declined, their numbers falling between 1770 and 1790, and only three county maps were published between 1780 and 1783.⁴⁴

John Ainslie (1745–1828) was Scotland’s most prolific county map-maker, publishing six maps of seven counties, engraving Blackadder’s Berwickshire (1797), and proposing many more.⁴⁵ Unusually he trained both as a surveyor and as an engraver, and had participated in several English county surveys during his apprenticeship with Thomas Jefferys. Financing county surveys was precarious with marginal profitability, if any, and in January 1784 Ainslie applied for assistance to the Forfeited Estates Commission, claiming that he:

had been induced by the desire of the Nobility and Gentry of the Countys aftermentioned to take actual surveys of these counties and engrave and publish them at a very considerable expence.

⁴³ Mathew Stobie’s dedication in 1770 ‘to the Nobility and Gentry of the County of Roxburgh this map, survey’d by their order’ is similar to that on Ainslie’s 1773 map of Selkirkshire, ‘this map survey’d at their desire’. *Caledonian Mercury*, 2 March 1774, 3: ‘Mr Ross proposes, at the desire of several noblemen and gentlemen to publish by subscription maps of the counties of Dumbarton and Renfrewshire’. Charles Ross (1722–1806) was a factor, nurseryman and surveyor based near Glasgow and published several one inch county maps of counties around Glasgow.

⁴⁴ Adams, ‘Economic process’, 13–18. County maps published in the 1780s (but initiated in the 1770s) were C. Ross, *Stirlingshire* (1780); J. Ainslie, *Wigtonshire* (1782); J. Stobie, *Perth & Clackmannan* (1783).

⁴⁵ Thomson, *Atlas*, v–vii. Ainslie surveyed and engraved *Selkirk* (1773); *Fife and Kinross* (1775), *Wigton* [sic] (1982), *Renfrew* (1800). Two surveys were supported by Commissioners of Supply: *Forfar* (1794), *Kirkcudbright* (1797). Failed proposals include Peebles (c.1774), Stirling & Clackmannan (1776), Perth (c.1777–78), Ayr (1801), Aberdeen (1806).

These maps were all published by subscription and although the Petir had reason to expect before entering upon them that he might have cleared something by them yet he is sorry to say that he has always been disappointed partly owing to his having sold few or none of his maps but to subscribers and partly owing to some of his subscribers having upon various pretences departed from their subscriptions and promises.⁴⁶

Although ‘induced’ could be carefully chosen language designed to influence the Board into supporting someone who had been let down by their social class, Ainslie’s petition shows the significance of landowners in promoting surveys, and also that the market for maps was limited in Scotland.

From the late 1780s the national government removed financial support for ‘Parliamentary’ and military roads, devolving responsibility for repair and maintenance to counties. This led to more applications to Parliament for Turnpike Acts, which required maps of the roads, and from 1790 to about 1820 several county surveys were initiated and financed by Commissioners of Supply, principally to enable road developments and planning. On 11 October 1791 Kirkcudbright Commissioners of Supply:

therefore proposed that a subscription shall be set of it on foot for a survey, or to make an accurate map, and instruction given to the person to be employed to make a survey of the different roads leading thro’ the Stewartry to ascertain the different levels, so as whatever roads are to be made may be carried in the most possible direction, both in point of levelness and in point of connecting with each other. Mr J Ainslie Surveyor in Edin^r will be a proper person to make such survey.⁴⁷

The military road, completed in 1786 to take troops to Ireland, passed through Dumfries and Galloway, and it was imperative that Kirkcudbright apply for a Turnpike Act, so that travellers paying tolls, not the taxpayer, would finance road maintenance.

There is well-documented evidence of landowners in Aberdeen initiating surveys. In March 1769 the Aberdeenshire Club advertised for a surveyor ‘to make a survey of the whole county of Aberdeen’. An applicant had to provide ‘certificates both of his ability in measuring grounds, and his understanding of different soils; likewise, his proposals for the expence [*sic*] of the above survey’.⁴⁸ This select dining club, whose formal name was The Honourable The County Club of Aberdeen, supported good causes such as the orphan asylum or pensions for indigent gentlewomen: the county survey was another such good cause.⁴⁹ They abandoned the project after hearing a rumour that

⁴⁶ NRS, E728/54/3(1), Petition to the Commissioners of the annexed Estates, by John Ainslie, 1784.

⁴⁷ DGA, K1/1/3, Kirkcudbright Commissioners of Supply, minutes; Webster, ‘Surveying the Stewartry’, 3–10.

⁴⁸ *Caledonian Mercury*, 13 March 1769, 3.

⁴⁹ Aberdeen University Library Special Collections, MS 2188, minutes of the County Club of Aberdeen; published in *The Journals of the County Club of Aberdeen, 1718–1876*

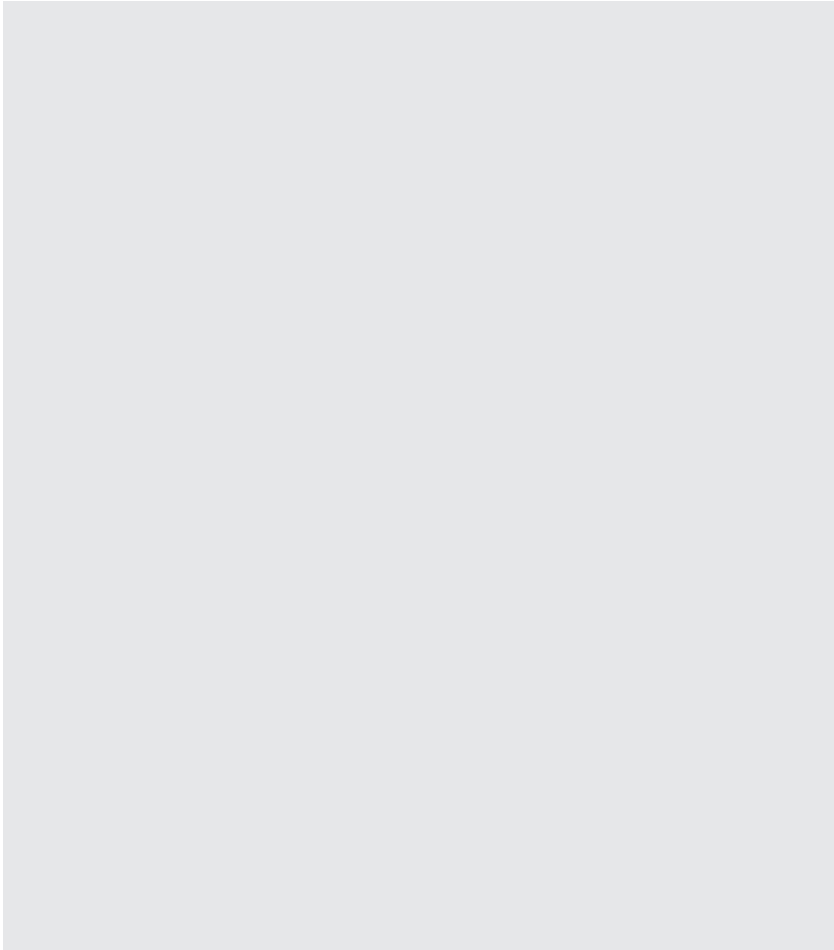


Plate 1 John Ainslie, *Map of the County of Forfar or Shire of Angus* (1794), north-east sheet (of four). Ainslie was the surveyor and also the engraver. The title reflects the duplication of names with the old name Angus, as well as the newer County of Forfar. 'County' was the official form, but 'shire' was used interchangeably. Reproduced by permission of the National Library of Scotland, EMS.s.356.

William Roy's military survey of Scotland (1747–55) was to be published. Roy's map remained unpublished, so there were further attempts to initiate surveys in 1792, then again in 1802–03, when the Club accepted that a larger body needed to be involved, and passed a resolution about the county map to the Aberdeen Commissioners of Supply at their meeting in October 1805. The Commissioners appointed John Ainslie in 1806, but he withdrew a few months later because of ill-health.⁵⁰

Commissioners of Supply held two general meetings a year in county towns, usually around 30 April and 1 October. These might coincide with meetings of other bodies such as Heritors or Freeholders, Justices of the Peace, and Highways Committees. Lively and sociable dinners were enjoyed, often paid from county funds, where community issues could be raised informally. This seems to have occurred in Forfar where the minutes of 5 October 1790 refer to a proposal to survey the county which had been drawn up after a previous meeting on 30 September 1788.⁵¹ In the interim Ainslie had been chosen as surveyor and several subscriptions had been collected. The Commissioners agreed to pay for printing the proposal and an advertisement, and to 'send circular letters of application in their name to such Noblemen and Gentlemen as are connected with the county'.⁵² Two hundred subscriptions at £1 11s. 6d., totalling about £315, were quickly gathered, and ten months later George Paton wrote on 12 August 1791: 'An acquaintance is gone a week or two ago to the shire of Angus to make a survey there at the County's expence.' Paton provided an update on 21 April 1794: 'Mr Jo. Ainslie informs me that his Map of Angus will be published this summer'.⁵³ The map was published, dated 20 August 1794, and advertised in December 1794.⁵⁴ This is the earliest map identified in this research to be initiated by Commissioners of Supply (Plate 1).

There is, however, a previous example of support: in 1779 James Stobie (fl.1775–1804) was offered £70 to draft a special manuscript map for the use of the Perth Highways Committee when planning roads, which he prepared when supervising the engraving of his map of Perth and Clackmannan in London, published in 1783. A successful survey needed an enthusiastic patron to drive the project forward, preferably with scientific or technical knowledge, and Stobie was introduced to the Highways Committee by the influential and

(Edinburgh, 1878), 100–2, 178–80, 223–4; *Aberdeen Journal*, 13 February 1792, 1 and 22 October 1792, 3.

⁵⁰ ACAA, AC1/1/11, Aberdeen Commissioners of Supply, minutes, 7 October 1807, 308.

⁵¹ Angus Archives, ACC1/1/2, Forfar Commissioners of Supply, minutes, 5 October 1790. The survey proposal was not recorded in the 1788 minutes: Forfar is one of the counties where minutes focus on resolutions about expenditure.

⁵² *Edinburgh Advertiser*, 9–12 November 1790, 311.

⁵³ NLS, Adv.MS.29.5.7(iv), f. 172v; 12 August 1791 and f. 195, 21 April 1794, correspondence of George Paton to Richard Gough.

⁵⁴ *Edinburgh Evening Courant*, 4 December 1794, 1; J. Ainslie, *Map of the County of Forfar or Shire of Angus* (1794).

well-connected Thomas Graham of Balgowan (1748–1843), brother-in-law of the Duke of Atholl. Unusually, Stobie’s map has two dedications, one ‘to the Nobility and Gentry’, the other to Thomas Graham ‘replete with gratitude from a sense of your goodness, in recommending me to your friends in the Counties of Perth & Clackmannan, I beg that you will accept of my thanks’.⁵⁵

Appointing a surveyor

Some minutes reveal how surveyors were selected. The Dumfries Commissioners of Supply initiated their survey in April 1792 soon after Kirkcudbright:

Considering there is no Map or Plan of this County which has been attended with many disadvantages to the public, particularly in the case of laying out new lines of road, the meeting are of opinion that if a plan can be obtained on moderate terms it would be a most desirable object, and as His Grace the Duke of Buccleuch has recommended employing Mr Crawford, Surveyor near Dalkeith as a fit person for undertaking this work ... a committee is appointed to correspond with Mr Crawford.⁵⁶

The Duke was the principal landowner and William Crawford senior (fl.1774–1828) was his estate surveyor, so had already surveyed parts of the county. Some twenty years earlier he had proposed a county survey of Forfar, but failing to raise sufficient subscriptions, he was able to publish only a plan of Dundee in 1776.⁵⁷ Crawford attended the meeting in October 1792, and submitted proposals, but after no apparent progress, an advertisement appeared in 1795 asking surveyors to tender for the work.⁵⁸ As well as Crawford, the list of applicants reveals those who aspired to become county map surveyors. Joseph Udney was a nurseryman at Linlithgow, Moffat and Dumfries, and an experienced land surveyor, employed by the Earl of Hopetoun. John Blackadder of Blanterne was undertaking a survey of his home county, Berwick (published 1797). Captain Walter Riddell was acting as a spokesman for the elderly James Tait, who was from a well-known local surveying family and had been collecting material for a county map throughout his career; a sketch map was offered.⁵⁹ John Bell of Edinburgh had recently surveyed Kinross (published 1796). Finally, a John Johnston submitted a

⁵⁵ Extracts from the minutes of the Perth Highways Commissioners are available on SCAN’s Virtual Vault, including an account of Stobie’s meeting: https://www.scan.org.uk/VirtualVault/Perth_Council/page306.htm. Quoted in D. Webster, ‘Discovering a new edition of James Stobie’s *Map of the counties of Perth and Clackmannan* (1783)’, *Cairt*, 30 (January 2017), 6–7.

⁵⁶ DGA, D1/1/4, Dumfries Commissioners of Supply, minutes, 30 December 1795; extracts from Dumfries Commissioners of Supply minutes are transcribed in J. Robertson, *The Public Roads and Bridges in Dumfriesshire 1650–1820* (Wigtown, 1993), 105–11.

⁵⁷ A. C. Lamb, *Dundee its Quaint and Historic buildings* (Dundee, 1895, reprint 2005), plate 3.

⁵⁸ *Dumfries Weekly Journal*, 20 October 1795, 4.

⁵⁹ *Dumfries Weekly Journal*, 10 January 1797, 1. James Tait’s possessions, papers and instruments were advertised after his death in 1796; thanks to Graham Roberts for this information.

tender, but with several surveyors of that name, it is not clear who had applied. In November 1795 the Commissioners of Supply opted to appoint William Crawford, according to the original agreement: presumably the Duke's influence was not to be ignored and Crawford would prioritise the county map.

The many attempts to survey Aberdeen and Banff show not only the struggle to raise subscriptions, but also the difficulty in finding a surveyor. After John Ainslie withdrew, the next candidate was Alexander Sutherland, a young surveyor who had previously prepared a canal plan near Perth, but as he had little experience, Banff Commissioners insisted his competence should be assessed by Professor Patrick Copland of Aberdeen University.⁶⁰ He met with approval but had 'left the country' by the time they decided to appoint him. Similar discussions about a young untried surveyor occurred in Stirling in 1812 after the death of Charles Graham, the original surveyor, who had been appointed by the Stirling Commissioners of Supply a year earlier. Although inexperienced, locally born John Grassom was eventually selected after some discussion, mainly because he had been apprenticed to a surveyor of good repute, John Bell.⁶¹

Financing a survey

Subscriptions raised capital to carry out the survey, engraving and printing, and the number and cost of subscriptions varied according to the size of the county and the terrain. Perth and Clackmannan (1783) and Argyll (1801) required five hundred subscriptions, and Forfar (1794) two hundred. Kirkcudbright aimed at four hundred to cover Ainslie's £350 fee, but the Commissioners agreed to support any shortfall from public funds. In 1820 they ordered one hundred copies of a third revised edition from William Faden, the London engraver and map publisher who had bought the copperplates from Ainslie. The re-engraving damaged a plate, but the Commissioners agreed to absorb the additional repair cost.⁶² Dumfries originally aimed at four hundred subscriptions, but as the survey had been delayed, they decided that, to save the time and effort in collecting subscriptions, they would pay the entire costs from county funds by raising a levy on all landowners, who would receive a free map. The cost eventually amounted to £858.⁶³ Subscribers were usually offered a preferential rate: a subscription for John Ainslie's survey of Fife and Kinross was one guinea, half paid in advance, the remainder when the finished map was received. On publication in 1775 the cost had risen to one-and-a-half guineas for non-subscribers for sheets, and £2

⁶⁰ ACAA, BCC1/1/4, Banff Commissioners of Supply, minutes, 28 June 1808, 148–53.

⁶¹ Stirling Archives, SCM/1/5, Stirling Commissioners of Supply, minutes, 30 April 1811, 282, 30 April 1812, 323 and 30 April 1814, 402.

⁶² DGA, Acc. 1535, Correspondence between William Faden, London, and John Niven, Clerk of Supply, Kirkcudbright; D. Webster, 'Map detective: on the trail of the revised map of the Stewartry', *Cairt*, 8 (January 2006), 7–8.

⁶³ DGA, D1/1/4, Dumfries Commissioners of Supply, minutes, 29 April 1806: William Crawford submitted a memorial for £858, of which £670 had already been paid leaving a balance of £188.

mounted on cloth with rollers. A year later the cost rose again, to two guineas.⁶⁴ Estimates of costs to survey the county of Aberdeen rose between 1771 and 1810 from £450 to £2,100.

County maps were usually priced in pounds sterling, the official currency, but based on multiples or parts of one guinea (£1 1s.). The older guinea was still used by the aristocracy and professionals, for example horses were priced in guineas, as were legal fees, hence the apparently odd subscription amounts, such as £2 12s. 6d. for Langlands's Argyll map, equivalent to 2½ guineas. Surveyors' fees in guineas confirmed their professional status, and signalled that maps were an exclusive product, aimed at an upper-class market.

There are several sources for subscriber information. Ainslie engraved names of subscribers in two of his maps. Wigton had fifty-four named subscribers, purchasing 189 subscriptions. It was common for the principal landowners to buy multiple copies to support the venture and, in this case, the Earl of Galloway bought twenty copies, and the Earl of Selkirk ten. Ainslie's Renfrew map had 270 subscriptions, from 116 individuals, with ten copies each ordered by the Duke of Hamilton, Earl of Glasgow and Lord Blantyre. Other notable subscribers included antiquarian George Chalmers, author of *Caledonia* and based in London at the time, and George Langlands, the Argyll land surveyor.⁶⁵ Aberdeenshire subscribers may be traced from the subscription papers in Aberdeen Archives. The Kirkcudbright minute-book lists over fifty purchasers of the third edition, and shows that the local reading room acquired the second copy after Lord Glenlee.⁶⁶

Managing a survey

There were two management models for county surveys supported by Commissioners of Supply. Some Commissioners were involved only in advertising for tenders from surveyors, appointing the surveyor, then handing over the organisation of the survey to the successful candidate, who carried the risk of gathering subscriptions. Others held the reins tightly and managed the whole project, supervising each stage closely, usually with a small subcommittee. Kirkcudbright's subcommittee was led by Basil William Douglas, Lord Daer (1763–94), who was the heir of the 4th Earl of Selkirk, principal landowner in the Stewartry, and had particular expertise in road engineering. For surveyors,

⁶⁴ *Caledonian Mercury*, 1 August 1772, 4; 12 August 1775, 3; 20 August 1776, 3: 'As there was only a few copies thrown off more than what was to serve the subscribers, J. Ainslie thinks it a duty he owes the public to acquaint them that no copy after this will be sold for less than Two Guineas in sheets.'

⁶⁵ George Langlands's name is last on the subscribers' list in the copy held by Glasgow University Library (hereafter GUL). His name does not appear on NLS's copy, where faint guidelines can be seen at the end of the list to allow additional names to be added at the last minute, suggesting this is a proof copy. The guidelines have been burnished out on the GUL copy.

⁶⁶ DGA, K1/1/8, Dumfries Commissioners of Supply, minutes, 1819–27.

management by the Commissioners was more secure, as they worked for a fixed fee, paid in stages, and the County carried the risk.

Roads were not the only concern of the proprietors: two maps were delayed by the interest in mineral exploitation of Lieutenant-General Alexander Dirom (1757–1830). He moved to his wife's estate, Mount Annan in Dumfries, after his marriage in 1793. By 1800 the Dumfries map was almost finished, but Dirom's late suggestion, that a mineral survey should be added, delayed publication for three or four years.⁶⁷ The first edition of the map has a diagram of the mines at Leadhills glued onto the map, which suggests the map had already been printed; a later edition combined the map and diagram. George Chalmers commented:

The owners of land in Dumfries-shire are not unconscious of the value of what belongs to them, below the surface of the soil. They have recently caused a survey to be made of the internal structure of the country by mineralogists. They have thus discovered the bowels of the mountains, to be opulent in ores, rich in minerals, and salubrious in springs. And, Dumfries-shire has been, in this manner, found, to be more valuable than had been conceived by ignorance, and more important, than has been estimated by inattention.⁶⁸

As Dirom's birthplace was Banff, he was also asked by the County Club of Aberdeen in 1802 to advise on the proposed map of Aberdeen and Banff, but his recommendation of a mineral survey to accompany the topographic survey overstretched a Club of thirty-five members, hence the transfer of the project to the Commissioners of Supply.

The surveyor could be taken to task by the Commissioners if he took too long. William Forrest was slow in delivering his survey of Lanark, originally advertised in 1806, and in April 1811 the Lanark Commissioners threatened to withdraw his contract if he did not produce a completed draft by 1 January 1812, demanding repayment, with interest, of the sums already advanced. He must have been given some leeway as, unusually, his printed map states precisely: 'N.B. The Survey of the County was finished the 27th August 1813.' His difficulties were not over, as the original subscription of two guineas proved inadequate to pay for the engraving and printing. Rather than facing the ire of the Commissioners personally, he sent his lawyer to speak for him and to negotiate an additional subscription to complete the work, which was finally published in 1816.⁶⁹ James Knox, whose *Map of the Shire of Edinburgh or County of Midlothian* was published in the same year, also found that costs rose during the Napoleonic Wars, with rampant inflation and a shortage of rags for paper manufacture.⁷⁰ He had undertaken the survey between 1804 and 1810, probably

⁶⁷ R. Jameson, *A Mineralogical Description of the County of Dumfries* (Edinburgh, 1805).

⁶⁸ Chalmers, *Caledonia*, III (1824 edn), 57.

⁶⁹ *Glasgow Herald*, 7 November 1806, 3; Glasgow City Archives, CO1/1/9, Lanark Commissioners of Supply, minutes, 30 April 1811, 469–70; CO1/1/10, 30 April 1816, 413–14; W. Forrest, *The County of Lanark from Actual Survey* (Edinburgh, 1816).

⁷⁰ (ed.) B. Bell, *The Edinburgh History of the Book in Scotland*, 3 (Edinburgh, 2007), 11.

in spare time between other employment, apparently independently (there is no mention in the Commissioners' minutes). The original subscription of one guinea, was raised to two guineas in 1812, but this did not resolve the difficulties, and Knox had to sell his copyright to two Edinburgh merchants, who brought on board a committee of gentlemen to assess the accuracy of the map.⁷¹

Subscribers naturally took a keen interest in the quality of the work, and many finished drafts were checked by committees of landowners, either before being sent to an engraver, or when a proof copy was available, thus attesting to the accuracy of the content of the map; mathematical accuracy would not necessarily have been assessed. John Ainslie is considered Scotland's premier map-maker of the period, so it is surprising that the Kirkcudbright Commissioners were dissatisfied with the draft he presented in 1796. He was summoned to appear before them and instructed to correct the areas 'which he had not visited'.⁷² Local landowners would accompany him. These errors had arisen because of the standard method of producing a county map, described in Ainslie's *Comprehensive Treatise on Land Surveying*.⁷³ After measuring a baseline, the surveyor took bearings from the ends of the baseline to prominent points, then further angles from these points, establishing a network of triangles. If there were existing estate plans he filled in the detail from these plans, within the triangulation framework. New surveys were made only where there were no suitable plans. Many county maps are therefore a compilation of old and new surveys, and if the old surveys are inadequate, out of date or the copying is misaligned, the county map will have errors.

Misunderstandings arose if those commissioning the survey did not understand these methods. When the Aberdeen Commissioners employed James Robertson to survey the county in 1809, they believed he was to produce a new survey. They became suspicious when he asked to borrow estate plans, and then discovered he had consulted earlier maps in the Royal Collection. The map was several years late and many of the four hundred subscribers could not be found, so the income was less than the £2,100 Robertson claimed he was promised by the Commissioners. They disagreed with his assertion that they had contracted to pay the full amount, and they were already dissatisfied because the map contained errors and was not from original survey as anticipated. Robertson sued the Commissioners for full payment and the court case dragged on until Robertson's death in 1829. The result is a remarkable collection of documents about the survey.⁷⁴

⁷¹ J. Knox, *Map of the Shire of Edinburgh or County of Midlothian from actual survey ... 1812* (Edinburgh, 1816); *Edinburgh Advertiser*, 7 April 1812, 217; 2 April 1813, 209; 15 October 1816, 247.

⁷² DGA, K1/1/4, Dumfries Commissioners of Supply, minutes, 1 May 1797; 13 June 1797.

⁷³ J. Ainslie, 'County surveying', in *A Comprehensive Treatise on Land Surveying* (Edinburgh, 1812), 219–27.

⁷⁴ ACAA, AC/9/8, contains almost 250 documents relating to the Aberdeen and Banff map proposals.

Advertisements listed where the maps could be collected, and also gave prices for non-subscribers, but the scope for additional sales was small. Ainslie supplemented his fee by selling the copperplates to William Faden in London, who issued second editions of several of his county maps a few years later. Some Commissioners of Supply restricted sales to their members or by wealth and status: the Kirkcudbright Clerk of Supply was instructed to distribute free copies of the first edition to Commissioners, then offer them for sale to other landowners for six shillings, with priority for road trustees. Sales of the third edition of the Kirkcudbright map (1820) at £1 1s. were also limited to landowners with £100 income; three years later, sales were opened to smaller landowners who together could meet the £100 qualification and buy a copy to share!⁷⁵

Some surveyors delivered the maps personally, which must have been very time-consuming, but they could maintain contacts and tout for business. The poor returns and financial risks beg the question, why were surveyors so keen to bid for county map contracts? Publishing a county map raised the profile of a surveyor, and his appointment by a respected and informed body such as Commissioners of Supply confirmed his credentials. Thus a county survey could generate further work, and might be worth the risk.

Conclusion

Producing a county map required collaboration between the landed classes and the surveying profession. Surveyors provided measuring and drafting skills, understood land management, road engineering, and had other practical knowledge. The nobility and gentry may or may not have initiated the projects, but their support was essential. They provided the funding, individually through subscriptions, or collectively via Commissioners of Supply. Some Commissioners of Supply also managed the projects, supervising the surveyor, providing staged payments and ensuring quality. Their social and scientific networks provided contacts to extend the market and sometimes they actively acted as agents for the surveyor, taking in subscriptions. Their local knowledge was invaluable, and their time and interest were needed to check the drafts and to improve the accuracy of the maps. Between 1770 and 1783 thirteen one inch maps covering seventeen counties were published as a result of new surveys initiated by surveyors, with or without support from a patron.⁷⁶ After 1790, the picture is more complex (Plate 2). Road developments required mapping for planning roads, so the initial purpose of many county maps was as a development tool, not a route map for travelling, although they could also fulfil that use. At least thirteen Commissioners of Supply were involved in survey proposals, succeeding

⁷⁵ DGA, K1/1/8, Dumfries Commissioners of Supply, minutes, 13 April 1821.

⁷⁶ M. Stobie, *Roxburghshire* (1770); A. & M. J. Armstrong, *Berwickshire* (1771); J. Ainslie, *Selkirkshire* (1773); A. & M. J. Armstrong, *Three Lothians* (1773); C. Ross, *Lanark* (1773); J. Ainslie, *Fife and Kinross* (1775); A. & M. J. Armstrong, *Ayrshire* (1775); M. J. Armstrong, *Peebles* (1775); W. Garden, *Kincairdine* (1776); C. Ross, *Dunbarton* (1777); C. Ross, *Stirlingshire* (1780); J. Ainslie, *Wigton* (1782); J. Stobie, *Perth and Clackmannan* (1783).

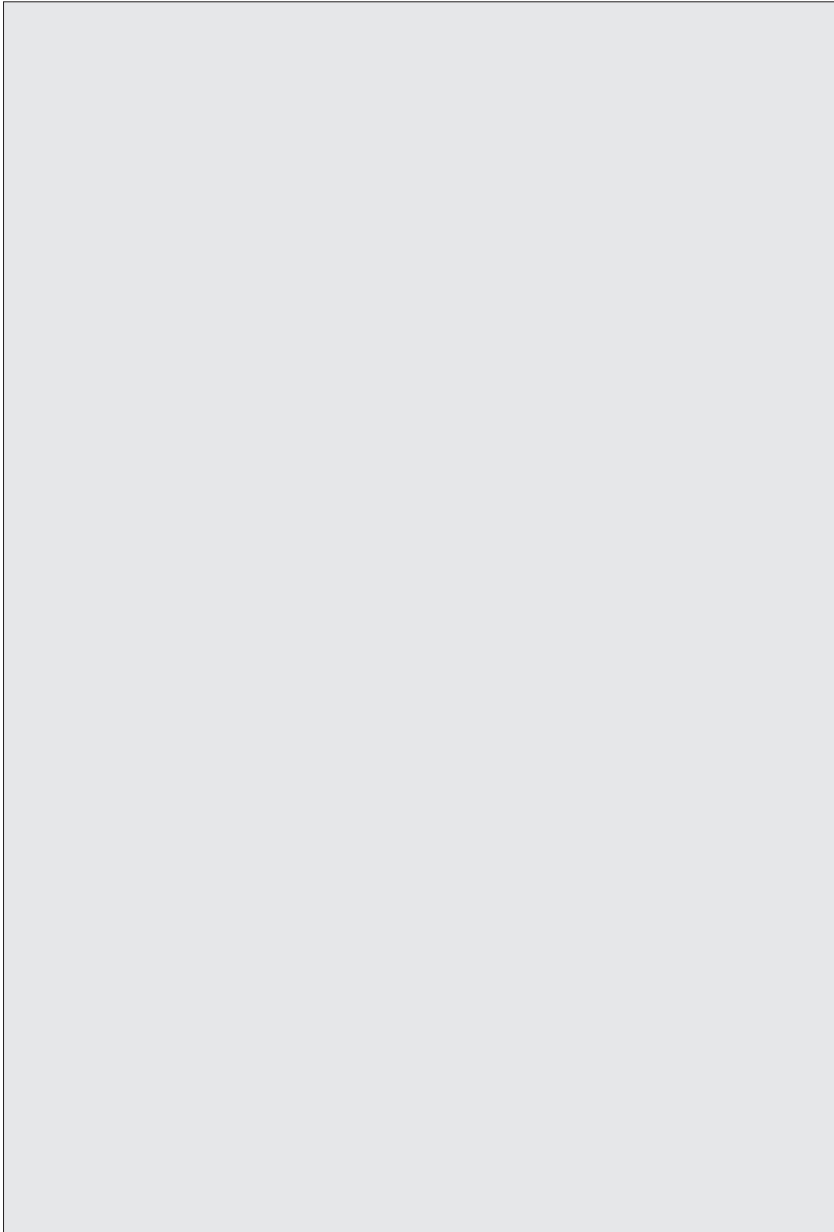


Plate 2 Map of Scotland showing Commissioners of Supply involvement in surveying projects, 1770s–1820s.

in publishing eight maps.⁷⁷ Subsidies from taxation and restricted circulation based on wealth and status indicate that commercial sales were not necessarily the principal reason for their production, although a few surveyors, particularly trying to establish their careers, undertook surveys at their own risk.⁷⁸

It is hoped that the discovery of this 'new' material will stimulate other county map research, and that further documentary evidence remains to be discovered, perhaps in collections of private papers.

⁷⁷ Maps sponsored by Commissioners of Supply: J. Ainslie, *Forfar* (1794); *Kirkcudbright* (1797); J. Blackadder, *Berwickshire* (1797); W. Crawford, *Dumfries* (c.1804); W. Forrest, *Lanark* (1816); *Linlithgow* (1818); J. Grassom, *Stirling* (1818), J. Robertson, *Aberdeen and Banff* (1822). Unsuccessful: Inverness, Ross, Cromarty, Ayr.

⁷⁸ Private enterprise examples: G. Langlands, *Argyll* (1801); J. Ainslie, *Renfrew* (1800); W. Forrest, *Haddingtonshire* (1802); J. Knox, *Edinburghshire* (1816).