The value of the 1941-1943 National Farm Survey as a method for engagement with farmers in contemporary research

This article proposes the use of the National Farm Survey (NFS) data and maps as a resource to support interviews with farmers and their families, across a wide range of geographical topics. The paper explores the origins of the NFS and evaluates its use as a reconstructive tool. Drawing directly on its use in recent empirical research into family farm succession as an example, the paper details the associated method, including development of a Geographic Information System and the integration of the NFS data and maps into interview questions, as prompts and starting points. Using empirical data the paper evinces the benefits of deploying the NFS as a resource in this way, including improving response rate, establishment of rapport, capturing of participant interest, facilitation of detailed responses and the stimulation of new trajectories and topics. Critically, use of the NFS in the proposed way means, in contrast to its previous applications, it is unencumbered by its inherent problems and inconsistencies, and interestingly, these problems can even become a source of strength for the researcher.

Key words: *National Farm Survey, interviews, maps, historical GIS, method*

Introduction

Commissioned to assess Britain's ability to feed itself during the Second World War, the National Farm Survey (NFS) gathered information on all farms in England and Wales, over 5 acres, between 1941 and 1943. Having been available to researchers for over 20 years, studies have realised its significance in relation to issues of farm mechanization, social history and farm size and structure. For example, recent efforts have explored the NFS's value as a means of tracing changes in farm occupation (Walford 2007), as well as more broadly, landscape management (Riley and Watkins 2007), making the NFS an incredibly powerful and diverse resource for the geographer. Although these attempts have commendably utilised what is arguably an underutilised resource, and yielded some valuable insights, they have, by their own admission, achieved mixed results. Although unrivalled in cover, detail and richness, it is vital to note "the limitations of the NFS as an historical source are quite substantial" (Short *et al* 2000, 142).

Drawing on its use in recent empirical research into family farm succession as an example, this paper details an efficacious alternative use of the NFS as a tool to support and facilitate qualitative interviews. The suggested method integrates key NFS data and maps into intended interview questions, where it serves as an entry point into a wealth of topics and aids the articulation of narratives. Although presented with reference to a specific research project, this article ultimately advocates the utility of the approach in *any* research involving interviewing farmers, farm families and landowners, across a range of historical and contemporary geographical investigations.

The National Farm Survey

A product of the urgent need to increase home food production after the start of the Second World War in September 1939, 'County War Agricultural Executive Committees' (CWAECs) were established by the Minister of Agriculture and Fisheries (MAF), to which the authority to increase food production was delegated. Committees had the power to "organize land, reclamation, inspect farm businesses, instruct farmers on agricultural practice, allocate certain farm requisites, mobilize and direct gangs of workers, commission farm repairs, and where necessary, dispossess farmers in instances of especially poor land management" (Jackson 2005, 6). Despite some debate surrounding the respective merits of increasing levels of domestic production as opposed to stockpiling, CWAECs directed what became known as the plough-up campaign, which meant "land devoted to producing feedstuffs for animals would have to be diverted into production for direct human consumption" (Short *et al* 2000, 32)

To assist with the plough-up campaign, the MAF initiated the first Farm Survey in the June of 1940, expecting the investigatory work to be completed by the end of July. However, by

October 1940, the first Farm Survey had not yet been completed, and where visits had been carried out, there were concerns over the quality of completion and consistency between different counties.

In December 1940, the Ministry issued a Circular, thanking the CWAECs for their work in carrying out the survey (Short *et al* 2000). However, they continued by stating the survey would be developed in a more standardised way, as a means of assisting in the immediate food security crisis.

On the 26th of April 1941 the CWAECs received instruction from the MAF, setting out the scope and purpose of a more extensive survey, known as the National Farm Survey. Beginning in the Spring of 1941 and completed by the end of 1943, the NFS provided a wealth of data which primarily "assisted with emergency planning so that, where inefficiencies and mismanagement were seen to exist, agricultural resources could be husbanded to make a more effective contribution to the war effort" (Short *et al* 2000, 5). The survey, completed for *every* farm and holding of five acres or more, consisted of three main elements. Firstly, the annual 4 June Agricultural Census was completed by farmers as normal during the war, but in 1941 two supplementary forms were included. The first aimed "to ascertain more detail concerning small fruit and horticultural produce" (Short *et al* 2000, 5), known as the Horticultural Return. The second, entitled the Supplementary Return detailed "the motive power on the holding, rents and length of occupation" (Short *et al* 2000, 5). Secondly, the Primary Return, which "provided detailed information on tenure, the conditions of the farm, water and electricity supplies, and farm management" (Short *et al* 2000, 5), was collected during visits by CWAEC District Committee members (surveyors). The relevant 1941 4 June Census Returns were made available to the CWAEC District Committee

members prior to farm visits. The Primary Return also required the surveyor to grade the farm from A-C (with A being the best and C being the worst), and where a B or C classification was given, they were asked to select a reason why this was the case, from either *old age*, *lack of capital* and *personal failings*.

The final component of the NFS was the series of large-scale farm maps. As part of the complete individual farm record, the CWAECs were ordered to mark the boundaries of each farm on an OS map. The maps are regarded as "one of the finest and most valuable legacies of the NFS" (Short *et al* 2000, 74).

Previous uses of the NFS: a review

Although understood by many as the 'Second Domesday Book', Short *et al*'s (2000) extensive analysis revealed a range of concerns, including the proportion of farms without a Primary Return, inconsistencies in the completion of the forms, the proportion of records missing, ambiguous, illegible or incorrect and perhaps most damningly, several and significant inconsistencies within the data (Short *et al* 2000). The limitations arising from the NFS's inadequacies, errors and inconsistencies have been highlighted in a range of investigations, reviewed below.

Riley and Watkins (2007) recognise the contemporary research and policy focus on the environmental effects of farming, and resultant efforts to reverse the damage caused by agriculture since the Second World War. It is with this in mind they suggest how the NFS data may be used to gain a clearer understanding of the character and management of the "traditional landscape", describing how "the NFS may make an important contribution in giving baseline data for the extent of such features in the mid-twentieth century" (Riley and

Watkins 2007 207). They asked, firstly, can NFS data and maps be used to reconstruct land use at the field level, and secondly, does the combination of NFS data with near-contemporary aerial photographs enhance this insight? Their success is explored using the example of Castle Farm (West Sussex). Given that Castle Farm was mainly a dairy farm consisting of grassland, Riley and Watkins (2007 212) anticipated this should have made "identification of the land use of individual fields rather simple", however, they discovered "in practice this farm is very difficult to interpret", which they attribute to *significant inconsistency* between the farm area stated in the Census Return (100 acres) and the area stated in the Primary Return (121 acres). They conclude, the different areas "make it very difficult to use the data to reconstruct land use field-by-field" (Riley and Watkins 2007: 214). They suggest that the 'missing' land, could be an area liable to flooding, however, they describe this as merely 'guesswork'. Use of near-contemporary aerial photographs does help and it proved possible to identify from the photos, how the areas nearer the river had not been cut for hay, a finding that "*perhaps* backs the argument […] that this is an area of rough grazing that might have been excluded from the area of the farm in the NFS" (Riley and Watkins 2007 214). Although the aerial photograph did aid the interpretation for Castle Farm, Riley and Watkins ultimately suggest the interpretation is inconclusive.

Similarly, Taylor *et al.* (2012) focus on an entire parish, namely Hamsey, East Sussex. Unlike Riley and Watkins' aerial photographs, which were from a range of different years, Taylor *et al.* used aerial photographs taken by the Luftwaffe on 12 August 1940, only two years before much of the mapping and data collection. It was therefore "anticipated that the deployment here of a more nearly contemporary aerial-photograph might allow land use to be reconstructed with more certainty, but this proved not to be the case" (Taylor *et al.*

*2*012, 95). Aside from problems associated with the aerial photographs pre-dating much of the plough-up campaign, Taylor *et al.* (2012, 95) describe "*significant issues with the consistency* of the NFS and 4 June Census information". With specific reference to Riley and Watkins' work, Taylor *et al.* (2012, 95) claim their study "encountered similar difficulties".

Walford (2007) used the NFS, combined with electoral registers, to reconstruct changes in farm occupancy over time. Although Walford (2007 212) is able to draw some interesting conclusions about the survival rates of family farms over time, which he attributes to NFS classification, suggesting that "farmers might have been more prone to become 'non-survivors' if they were classified as B or C", he also warn of "some uncertainty over the explanation" inherent in using a combination of historical documentary sources.

In contrast to the above, Jackson (2005) used the NFS simply as 'a window' into farming in the parish of Powderham, Devon, in his descriptive micro-study. Although using the NFS to simply "shed light on the character of agrarian economy and society at a particular point in time", Jackson (2005, 19) *still* expressed some concern over the 'inconsistency' and 'bias' of the NFS and suggests that 'some reservation' is needed when interpreting NFS data.

More recently, drawing on data from his earlier, larger research project (Walford 2007), Walford (2013) used NFS data and maps to explore the extent of the plough-up campaign on landscape change in the South Downs. Although he recognised 'certain deficiencies' with the NFS data, including the difference in coverage (attributable to the varying diligence of the different CWAEC surveyors), Walford (2013) was able to confidently calculate, and spatially demonstrate using GIS, the impact of the plough-up campaign on the total area of cereals on farms in the West Sussex and East Sussex parishes, as well as the percentage of

farmland ploughed-up at the individual farm level. Walford's (2013: 42) evaluation of the potential of the NFS as a source for reconstruction of the past summarises the varying successes of its previous applications:

> "Provided that a certain level of caution is exercised, the NFS can be regarded as providing a reasonably comprehensive and consistent survey […] where individual farms and farmers can be identified so that connections to subsequent sample surveys and to earlier, contemporary and later publicly available documents can be carried out. Nevertheless it remains impossible to compensate for missing or inaccurate information."

Although strong, the warnings emerging from the above mentioned research are normal words of caution associated with using any vast historical resource for such purposes. Therefore, it is not the intention of this paper to discredit its previous uses, nor deny the wealth of data and the unparalleled level of detail offered by the NFS. Instead, it is *alongside* its "enormous potential […] to provide a rich and informative social and environmental geography and history of mid-twentieth century agriculture" (Riley and Watkins 2007: 215) its use as an interview tool for contemporary research is proposed. Before evidencing the potential of the NFS, the ensuing section sets out in a detailed and technical manner, the associated method.

Obtaining NFS data

NFS documents (MAF 32), including the Primary Return, Census Return and Supplementary Form, and 6-inch maps (MAF 73) for the parishes of Hatherleigh, Iddesleigh, Monkokehampton, Broadwoodkelly and Winkleigh, in mid-Devon (Figure 1), were photographed using a high resolution digital camera, during a visit to the National Archive,

Kew. Difficulties with gathering data in this way were generally associated ensuring the camera was in focus to ensure writing was legible.

FIGURE 1. Location of the parishes in Devon

An integral part of the method involved the creation of a Geographic Information System (GIS) to allow historical farms to be 'created' as individual shapefiles. A modern-day OS map of the same area at the 1:25,000 scale was imported into ArcGIS. The 96 individual photographed NFS maps were georeferenced, or 'matched up' to real world points or Ground Control Points (GCPs), such as road intersections or building corners, identified on the modern-day OS maps. A total of 15 GCPs were identified for each of the 96 (pictures of the) NFS maps. How well the image appeared to fit with the referent OS map was the only assessment criteria. Georeferenced (pictures of) NFS maps were merged into one distinct layer. This method differs to that of Walford's (2013) who used near-contemporary OS maps as a base layer from which to digitise the 1940s[1] farms. Here, instead, the use of a modern-day base layer from which to georeference the 1940s maps was chosen to ensure the digitised historical boundary could be presented to the farmer in relation to/projected on top of, modern day reference points and thus be easily identifiable to the farmer being interviewed. There were some minor difficulties matching the images of the digitally photographed NFS maps to the modern OS map, although Walford (2013) also recalled experiencing similar difficulties using near-contemporary OS maps. Overall, the method proved sufficiently accurate for the desired representative purposes and allowed farmers to identify the historical boundary of their farm in relation to modern-day buildings, road intersections and so on.

[1] In the issue of brevity '1940s' represents the time of the 1941-1943 National Farm Survey

As recognised by Short *et al.* (2000, 155) “many maps display some form of annotation or marking in the margins of the sheets” as well as other “printed marginalia such as dates or scales”. As well as this, the maps in the sample were never perfectly rectangular. To allow for the images to be joined as a contiguous map in the GIS, the border and associated marginalia had to be cropped out of the photograph to produce a perfectly rectangular image. This was done simply in Microsoft Office, using the cropping tool. Images were added to the geodatabase. This sometimes resulted in the loss of small parts of the map and meant the maps did not join perfectly. However, the resulting gaps (Figure 2) merely present an aesthetic problem.

FIGURE 2. Joining the georeferenced NFS maps

Having created a new feature class entitled ‘1940s Farm Boundaries’ and opened it for editing, polygons for *every* farm within each of the five parishes were created by tracing around the georeferenced (pictures of the) NFS maps as a visual guide for positional reference, using the ‘Create Features’ tool. This created ‘digitised’ or ‘computerised’ (outlines of) the 1940s farms, based on the boundaries marked on the NFS maps (Figure 3), to which attributes could be added.

FIGURE 3. Digitised farm boundary (red) digitally traced over 1940’s boundary

Following this, a select number of farm attributes were added to each individual digitised 1940s holding. These attributes, including the farmer’s name, size of the holding, tenure and the number of workers, were chosen to build a picture of what each 1940s farm was like at this time which could later be presented to farmers participating in the research. Adding

these attributes in this way proved a useful way of storing, organising and searching the farm data, and enabled an instantaneous construction of a historical snapshot of the farm.

The NFS as a interview tool: an example

Having collected and checked the selected farm attributes, they were used explicitly to design and personalise semi-structured interview questions for individual farms participating in the above-mentioned research project. Generic questions, such as 'how long have your family been farming here?', were supplemented with data from the NFS to be more specific, referring to the owner of the farm at the time of the NFS. Similarly, the 'snapshots' of participating holdings were used to create 'farm portfolios', containing the farm map and key attributes of the farm at the time of the NFS (listed above). Farm portfolios were presented at the start of, and available for reference throughout the interviews.

The following discussion elucidates the use of the NFS as an interview tool. The discussion draws significantly on interview narratives from the research project, with the sole purpose of evidencing the merit of using the NFS in the proposed way. It is hoped by drawing on interview dialogue so extensively, it will authentically demonstrate the value of utilising the NFS in this way.

The NFS data was used to 'open' each of the interviews. Introduction of the NFS immediately aroused the interest of the participants and in many cases, respondents expressed their excitement at the prospect of access to the data. Introduction of the NFS served as a means by which to 'break the ice' and thus, created a positive atmosphere and immediately established rapport between the interviewer and the respondent. Reflecting

on their own interviews with business owners and managers, including those in farming, Healey and Rawlinson (1993) suggest that starting an interview on the right note is paramount, with implications for participant openness throughout the interview. All farmers initially commented on their interest in the NFS data and maps, and critically, this interest was evident in their subsequent engagement.

> *Interviewer:* I spent some time last summer at the National Archive in Kew
>
> *Farmer 1:* Oh yeah
>
> *Interviewer:* I was collecting the 1940s National Farm Survey data for all the farms across the 5 parishes, so I've got the data here, the basics, such as who owned the farm, who worked here, the size of the farm and so on
>
> *Farmer 1:* Okay, *that sounds really good*
>
> *Interviewer:* I went up to the National Archive in Kew, and looked at some historical data for the farms down here from the 1940s National Farm Survey and I've got some facts and figures about the farm as it was, which I'll go through
>
> *Farmer 2:* Oh great, when was this?
>
> *Interviewer:* In the 1940s
>
> *Farmer 2:* Oh wow, we'd like a copy of this
>
> *Interviewer:* Of course, I've already done a copy for you
>
> *Farmer 2: This should be interesting*, wow, thanks, that's great

The idea that the interview would be mutually beneficial ameliorated the power balance and undoubtedly heightened interest in the interview process. Interestingly, in one case, a

respondent recalled how another participant had recommended partaking in the study to him because of his likely interest in the NFS data.

> *Interviewer:* I've got some old records here, the National Farm Survey
>
> *Farmer 4:* Oh yeah Bill mentioned some old documents. He said I'd find them interesting
>
> *Interviewer:* Great
>
> *Farmer 4:* Is that the old farm accounts or …?
>
> *Interviewer:* It's the National Farm Survey. It was done in the early 1940s, so it contains some really interesting stuff about the farm
>
> *Farmer 4:* Oh that does sound good, we'd be really interested in having a copy of this
>
> *Interviewer:* I've already done you a copy for you to hang on to if you want
>
> *Farmer 4:* That's great

The NFS documents were integrated into the opening question. The name of the previous owner, as recorded in the NFS, was used to ask how farmers had come to be at their farm. Parenthetically, rather than being just 'another participant' answering a set of standardised questions, personalisation of the questions using the NFS prioritises and empowers the farmer, something Mishler (1991, 181) suggests 'unsurprisingly' results in more detailed, narrative accounts. Questions based on *their* farm (and in many cases, *their* family) naturally elicited farmer interest, with demonstrable implications for participant engagement evident in the detailed nature of the narratives. This phenomenon was observed elsewhere by Harper (2002 23) who used historical and aerial farm photographs during interviews with dairy farmers in upstate New York; he aptly states such artefacts "mine deeper shafts into a

different part of human consciousness than do words-alone interviews" which "leads to deep and interesting talk". Furthermore, just as Harper (2002 23) noted how the introduction of aerial and historical farm photographs to interviews, in a similar vein to the championed use of the NFS, meant "suddenly previously taciturn farmers had a great deal to say", farmers in this case, were similarly engaged.

In most cases introduction of the previous owner, as recorded in the NFS, acted as a 'scaffold' for further questions.

> *Interviewer:* The National Farm Survey suggests it was a Mr Smith farming here in 1942. Was Mr Smith related to you?
>
> *Farmer 5:* No, no, not at all
>
> *Interviewer:* That's fine, so how did you come to be farming here, how did that transpire?
>
> *Farmer 5:* We lived at Eastwood Farm, which is quarter mile up the road really, and most of the land adjoins, um and that's the family farm and I suspect the 1970s, maybe 1977 or 1978 that we had the opportunity to buy Townsend Farm
>
> *Interviewer:* Okay, that's great ... was the farm bought to kind of incorporate into one big farm, or …?
>
> *Farmer 5:* Well, it was more because there was me and my brother, James, and it gave us both the opportunity to farm and stay around here, so I think it was more with that in mind really

However, in the case of Farmer 7, the interviewer didn't even need to pose a further question; introduction of the information alone prompted a sufficient response.

> *Interviewer:* I had a look at some old records, the National Farm Survey to be exact and from what I can tell in the early 1940s, the farm here was owned and being farmed by a Mr J Card
>
> *Farmer 7:* Well, it's gone through four generations, my great-Granddad, he was John Card, I'm not sure what year he come here, but I think he bought it in 1911, from the estate, for a few hundred pounds I think, then my Granddad, he was John Card, and then my Dad, he was R J Card, he took it on, and then me
>
> *Interviewer:* Okay
>
> *Farmer 7:* We've got 175 acres here now, but it was just a much smaller farm then and we've just build it up ever since

As demonstrated here, use of the NFS as a starting point acts to 'open up' the interview process, facilitating detailed dialogue with very little interviewer input. In the following dialogue, the interviewer simply seeks to confirm the previous owner of the farm. However, in response to this simple fact, *several* other trajectories to the discussion evolved, including how and when the farm had passed through successive generations, and tellingly hinted at the difficulty Farmer 8 experienced in obtaining managerial control of the farm whilst his father was alive.

> *Interviewer:* From what I can tell, the farm was owned by a Mr J Richards in the 1940s, would that be right?

> *Farmer 8:* Yeah, that would have been my Granddad, […] and then he passed it onto my Father, and then I inherited it from me Father, in 97. He died in 2007, he still remained the head of it, headed it up, like, or you know, 'the farmer, but then he died in 2007 so I've been on my own since then. He passed the farm over to me, you know on paper, but he was very much still 'the farmer'

This mode of questioning prompted the respondent and gave them significant freedom to respond. It also reduced the need for interviewer input, reducing the risk of leading questions.

Perhaps the most appealing feature of using the NFS in this way is the irrelevance of NFS inconsistency. As evident in the ensuing example, the apparent error[2] in the 1940s acreage of the farm merely formed a natural deviation in the conversation. In having to correct the error, the respondent felt it necessary to justify why this would not have been the case, and in doing so, offered further information, that may not have been volunteered without the error. Just as Riley and Harvey (2007, 398) observed how "artefacts may take the narrative into less immediately obvious directions", in this case, the participant introduces a new dimension, by referring to his Grandson's involvement in the business. In contrast to its previous applications, the NFS's inherent problems can arguably become a source of strength.

[2] Although errors with the acreage recorded were amongst the most common types of errors with the NFS (Short *et al*, 2000) this apparent mismatch between the acreage proposed by the NFS data and the farmer's understanding, could be a case of the additional 57.5 acres of land being in another parish, or, the farmer could simply be wrong or confused. Either way, the accuracy of the acreage is almost irrelevant here – the point to convey is how, where they do exist (which they commonly do), discrepancies with the NFS can become a source of further thought and discussion.

Interviewer: Okay and just some questions about the farm. So in the 1940s, it appears to be around 82.5 acres, would that have been about right?

Farmer 10: No, I don't think so. This was probably around the 140 mark, maybe a bit more then

Interviewer: And how big is it now?

Farmer 10: It's 138 now … we got rid of a little bit of it, since we bought it, just a few acres on the end, sold it to some neighbours who wanted to enlarge their garden, wasn't the best bit of land and gave us some cash to buy a few things when Mark, my Grandson came into the business

Interviewer 10: So since um, your Grandson has expressed an interest in farming, is there anything you've done on the farm to kind of accommodate him working here or ...?

Farmer 10: Well yeah, we have built up the cows a bit more. We've tried to go from 60 up to 90, to accommodate a little bit more towards what he wanted to do, what he's interested in and yeah some odd bits of machinery to make life easier for us all, that Mark's suggested. He went to a local college and part of his course, he worked at different farms so yeah he's been able to recommend stuff that they've been doing

Having been introduced, the portfolios were left 'between' the interviewer and the participant (often the kitchen table) to be referred to at will. Although with specific reference to photos, Carlsson (2001, 127) notes how their inclusion in the interview process means "the focus of attention is kept on something concrete and visible […] as something to 'hold on to' and share experiences around". In several incidences, farmers used the maps, to

demonstrate or emphasise their point. These incidences, were noted down during the course of the interview, and proved to be a very useful additional source during the analysis of the interview data.

The NFS as an interview tool: some conclusions

Although used here in an investigation into family farm succession, the preceding discussion has demonstrated the NFS's value as a resource in interviews to encourage participant engagement and facilitate discussion.

In the case of this research, farmer responses to the introduction of the NFS during semi-structured interviews were overwhelmingly positive. Introduction of the NFS aided recruitment of participants, establishment of rapport and captured the interest of participants. Perhaps most significantly given the difficulties faced by previous applications, the use of the NFS in this way was not encumbered by its inconsistencies and as demonstrated, such problems even become a source of strength.

The method proposed here offers an invaluable tool for geographers, applicable for those seeking to engage farmers, farm families, landowners and so on, regardless of topic. Its use has potential to further encourage and enable researchers to move beyond 'interrogation' methods, towards a more conversational approach, facilitating a dialogue in which the thoughts and experiences of respondents can be expressed in their *own* words. Fundamentally, the simple and yet efficacious method offers opportunity to enrich and deepen the quality of resulting testimonies, which is likely to further enhance our understanding of a vast number of topics being investigated.

Figure 1 Location of the parishes in Devon

Figure 2 Joining the georeferenced NFS maps (*Source:* NFS maps from The National Archive MAF 73/10/52 - reproduced by permission)

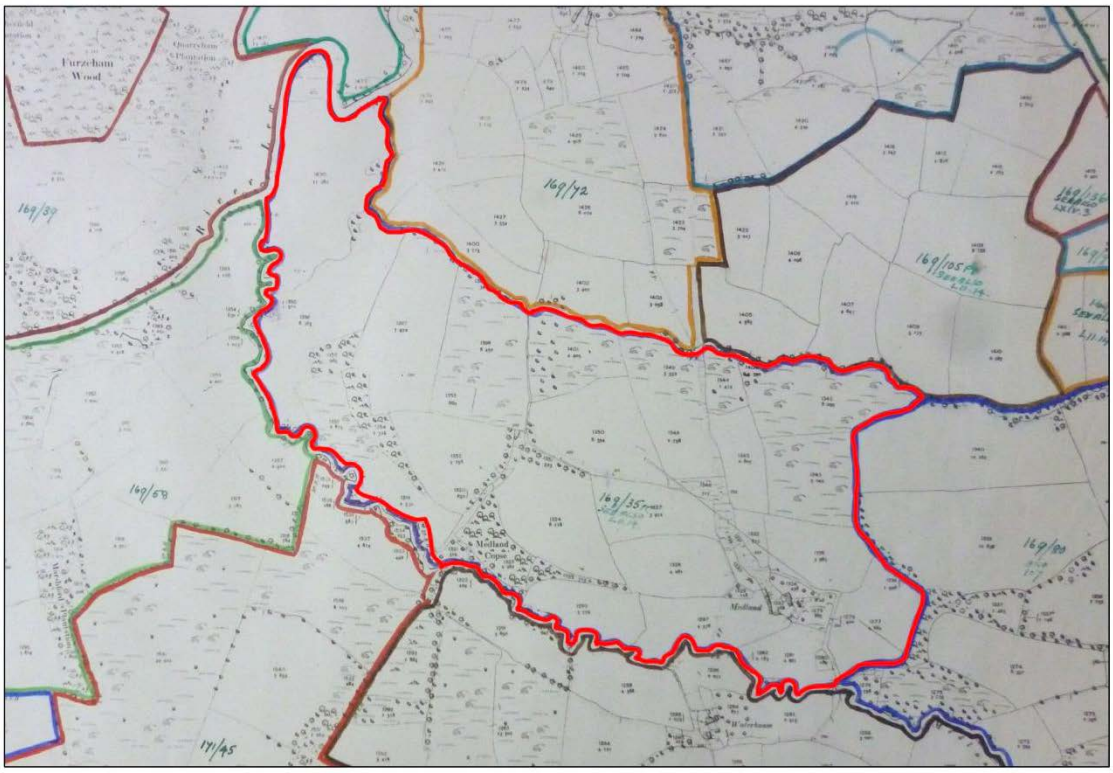

Figure 3 Digitised farm boundary digitally traced over 1940's boundary (*Source:* NFS map from The National Archive MAF 73/10/52 - reproduced by permission)

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