

Eskdalemuir: forestry and hill farming update 2014

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Summary - Eskdalemuir 2014 update

- (i) In 2014, Confor commissioned a study² to compare the financial and employment impact of forestry and agriculture in the Eskdalemuir area. This study aims to update the financial assumptions used in the original report (2011 and 2012 data) to produce representative values for 2014. Changes in prices have been determined using publically available statistics for forestry and related industries where possible and default inflation indices where not.
- (ii) Initial findings suggest an improvement in the financial surplus generated by forestry at Eskdalemuir of +37% (+£1.115m) (before subsidy) due to delivered timber values rising faster (+15%) than surveyed costs at Eskdalemuir.
- (iii) Hill sheep farming returns on an equivalent area of land to Eskdalemuir in contrast are expected to have declined by £0.492m to a loss of £0.930m (before subsidy) due to lower sheep prices and rising costs. Agricultural subsidy payments are also expected to fall through to 2019.
- (iv) Taken together these changes significantly improve the financial performance of forestry relative to farming in the Eskdalemuir area.
- (v) The results detailed here relate only to Eskdalemuir and are not directly comparable with farming or forestry in other hill areas of Scotland due to wide variations in productivity, costs, returns, subsidy eligibility and subsidy rates.

Table 1: Eskdalemuir estimated forestry & agricultural financial returns

	Forestry			Hill sheep		
	2011 & 2012	2014 - update	Diff.	2011 & 2012	2014 - update	Diff.
Output	9,902,957	10,992,231	11%	3,085,305	2,346,515	-24%
Less Input costs	6,920,531	6,894,640	0%	3,523,651	3,277,255	-7%
Surplus/deficit	2,982,426	4,097,590	37%	-438,346	-930,740	112%
Grants &	315,134	315,134	0%	1,882,001	1,577,248	-16%

² Eskdalemuir – a comparison of forestry and hill farming; productivity and economic impact, report for Confor, SAC Consulting (2014)

Objectives

1. SAC Consulting will provide an update to 2014 of the economic impacts of forestry and hill farming at Eskdalemuir originally prepared using data up to 2012.

The work to achieve this includes:

- (a) Updating the existing Eskdalemuir study in terms of forestry financial costs and returns data to December 2014 values.
- (b) Updating the farm financial data by first using the latest available year's Farm Accounts Scheme data (2012/13). This will then be brought further up to date (December 2014) using index values for agricultural inputs and outputs
- (c) Consider and comment on as far as possible, how known changes in forest timber prices and costs, forest and farming subsidy rates and agricultural outputs and costs have influenced the current relative performance of forestry and farming in the study area.
- (d) Produce an abridged version of the original report containing the key financial data and brief explanatory commentary.
- (e) Meet with the client in Edinburgh to discuss (i) Initial data source and objectives and (ii) Final reports findings, as necessary

Forestry - methods

2. The physical forestry data used in the original report has been left unchanged. This was based on data derived from a survey of managers at Eskdalemuir for the years 2011 and 2012. This survey collected information on the quantity of timber harvested, the costs of harvesting and haulage, the area of land and costs of management such as establishment, deer control and road maintenance.
3. In the original report the underlying forestry survey data was then adjusted to reflect a "normalised 40 year rotation". This recognised the fact that harvesting activity at present was above the long term average due to the age

profile of the forest. Over time output is expected to reduce to reach a steady state as restructuring moves the forest towards an even age distribution.

4. The costs and prices in the original report have however been adjusted to reflect wider changes in the price of timber and of inputs.

Timber prices

5. Changes in the relative price of standing timber at Eskdalemuir between 2012 and 2014 were assumed to follow the same relative pattern as those recorded in the Forestry Commission Timber Price Indices. These indicate an increase in standing value of 24% between the two years to September 2012 and the year to September 2014 (the latest available data). The Forestry Commission indices are prepared solely from recorded Forestry Commission timber sales and exclude private transactions. However discussions with private forest managers confirm that a similar level of relative price increases was seen at Eskdalemuir over this period.

Input costs

6. To reflect recent changes in input costs recorded in the survey of forest managers covering 2011 and 2012 estimates of price inflation have been applied. These have been sourced from official sources particularly the Office of National Statistic and additional feed back from the forestry industry. Full details are given in Appendix 1.
7. Obtaining relevant official price indices applicable to all categories of forestry activity has not been possible. Where possible, cost categories have been further broken down to provide a more accurate estimate. The most relevant cost or price indices relevant to forestry have been used where available. Where not other relevant sources from related sectors such as agriculture or more general cost indices such as the Consumer Price Index (CPI) have been used. Forest mangers have also provided guidance on cost trends.
8. For harvesting, cost levels were adjusted following discussion with forest managers. The harvesting costs recorded in the 2011/2012 survey were higher than normally the case for Eskdalemuir because thy included a large tonnage from inaccessible sites. These sites recorded above average forwarding costs and were not typical of the forest as a whole. Therefore

estimated average current costs from more representative sites were obtained from forest managers at Eskdalemuir. These revised harvesting costs are lower than previously recorded though underlying inflation in like-for-like costs is expected to have occurred during this period.

9. Restocking cost increases were considered to have risen substantially above inflation due to higher mounding costs as reported by forest managers.

10. The following table details estimated cost changes by category of input costs and provides an estimate of the overall change in forestry input costs at Eskdalemuir. Due to changes in the harvesting methods assumed overall costs are almost unchanged to slightly lower since the last survey. This result reflects the rebasing of the harvesting methods rather than underlying inflation which has been rising over the period for all cost categories.

Table 2: Eskdalemuir estimated input cost changes

Activity	2014 vs 2011 & 2012 relative value %	2011 & 2012 survey	2014 - estimate
INPUT COSTS			
Restocking	113.0%	818,605	925,024
Establishment	105.5%	231,873	244,626
Deer and pest control	105.5%	101,054	106,636
Harvesting	87.0%	2,641,262	2,297,898
Haulage	106.7%	1,965,208	2,096,877
Roading	105.9%	431,126	456,493
Management & professional	104.2%	351,403	366,097
Notional land rent	105.5%	380,000	400,989
Total	99.6%	6,920,531	6,894,640

Grants and subsidies

11. Currently it is assumed that previous levels of forestry grants had been maintained through 2014 at historic levels. In reality there was a degree of flux during 2014 as the previous SRDP scheme was wound down in anticipation of the new scheme starting in 2015.

Total delivered value of timber produced

12. In order to determine the total value of timber produced at Eskdalemuir it is necessary to calculate estimates on a delivered processor basis. This has been achieved using data prepared in previous sections as follows:

- Standing timber price
- *Plus* harvesting costs
- *Plus* haulage costs

13. The results of this analysis are detailed in the following table and indicate a delivered value of £57.13/t, which represents an increase of 11% in total timber value between 2011 & 2012 and 2014. This figure is an estimate only and may not reflect the final market price for delivered timber which includes a number of additional factors such as commission, measurement and management charges and the effects of market forces.

Table 3: Estimated timber prices and costs

	2011 & 2012 (£/t)	2014 (£/t)	Change (£/t)	Change (%)
Standing timber price	27.54	34.23	6.69	24%
Harvesting	13.73	12.00	-1.73	-13%
Haulage	10.21	10.90	0.68	7%
Estimated delivered cost* (£/t)	51.48	57.13	5.65	11%

Note - * excludes commission, measurement & management charges

Forestry – results

14. The net effect of increasing delivered timber output by 11% (+£1.089m) and almost static costs (relative to the previous survey but not in the industry) results in an estimated 37% (£1.115m) increase in the forestry surplus at Eskdalemuir as Table 4 (overleaf) illustrates. These results are also expressed per hectare and per employee based on the estimated average staff numbers obtained from the survey for the 2011 and 2012 period.

Table 4: Changes in Eskdalemuir forestry cost and return estimates

Forestry				
2011 & 2012 2014 - update				
	£ Total	£ Total	Change (£)	%
Output	9,902,957	10,992,231	1,089,274	11%
Less Input costs	6,920,531	6,894,640	-25,891	0%
Surplus/deficit	2,982,426	4,097,590	1,115,164	37%
Grants and subsidies	315,134	315,134	0	0

	£ per ha	£ per ha	Change (£)	%
Output	495.15	549.61	54.46	11%
Less Input costs	346.03	344.73	-1.29	0%
Surplus/deficit	149.12	204.88	55.76	37%
Grants and subsidies	15.76	15.76	0.00	0%

	£ per employee*	£ per employee*	Change (£)	%
Output	119,978	133,175	13,197	11%
Less Input costs	83,845	83,531	-314	0%
Surplus/deficit	36,133	49,644	13,511	37%
Grants and subsidies	3,818	3,818	0	0%

Agriculture - methods

15. The agricultural physical and financial data used in the original report was derived from the 2011/12 Farm Accounts Scheme for Scotland; subset from the south of Scotland. The farm type was specialist LFA sheep farms.
16. This data was then updated using the 2012/13 Farm Accounts Scheme survey and brought further up to date (December 2014) using DEFRA UK Agricultural Price Indices.
17. Single Farm Payment levels for 2011/12 and 2012/13 were determined using actual figures from the Farm Account Scheme. SFP values for 2013 and 2014 were calculated using the baseline figures from 2011/12 and updating them to take account of changes to modulation, financial discipline and exchange rates. Future payments from 2015 onwards under CAP reforms were calculated using the latest details of CAP implementation incorporated in SAC Consulting's CAP calculator tool. These are early projections and remain subject to changes in exchange rate and subsidy scheme conditions.
18. Less Favoured Agricultural Support Scheme (LFASS) payments are based on a four year average of the period 2009/10 to 2012/13. While the other subsidy payment category is bought forward from the 2012/13 FAS data set without adjustment.

Agriculture - results

19. The net effect of reducing agricultural output by an estimated 24% (-£0.738m) and input costs falling by 7% (-£0.246m) is an estimated 112% (£0.492m) increase in the agricultural deficit before subsidy on an area of comparable land to Eskdalemuir as Table 5 (overleaf) illustrates. Agricultural subsidies are also expected to have declined by 16% (-£0.304m). These results are also expressed per hectare and per employee based on the estimated average staff numbers obtained from the farm Accounts Survey data for 2012/13.

Table 5: Agricultural cost and return estimates

Hill sheep					
		2011 & 2012	2014 - update		
	£ Total	£ Total	Change (£)	%	
Output	3,085,305	2,346,515	-738,790	-24%	
Less Input costs	3,523,651	3,277,255	-246,396	-7%	
Surplus/deficit	(438,346)	(930,740)	(492,394)	112%	
Grants and subsidies	1,882,001	1,577,248	-304,753	0	

	£ per ha	£ per ha	Change (£)	%	
Output	154.27	117.33	-36.94	-24%	
Less Input costs	176.18	163.86	-12.32	-7%	
Surplus/deficit	(21.92)	(46.54)	-24.62	112%	
Grants and subsidies	94.10	78.86	-15.24	-16%	

	£ per employee*	£ per employee*	Change (£)	%	
Output	37,110	28,224	-8,886	-24%	
Less Input costs	42,382	39,419	-2,963	-7%	
Surplus/deficit	(5,272)	(11,195)	-5,923	112%	
Grants and subsidies	22,637	18,971	-3,666	-16%	

Further information on agricultural estimates

20. The agricultural figures used in the original Eskdalemuir report covered the period 2011/12. This turned out to be a relatively good period for hill sheep production given benign weather, high sheep prices and low input costs. During 2012/13 and 2013/14 sheep incomes were considerably lower due to poor physical performance related to bad weather and weakened prices. 2014/15 sees a return to better physical output combined with relatively good sheep prices but nonetheless down from the levels seen in 2011/12, see Appendix 4 for full details.

CAP direct payment changes in Eskdalemuir region

21. From 1 January 2015 under CAP reform, the way in which direct subsidy payments are determined is undergoing significant change. The main impact has been to move from a historic payment rate unique to each holding based on previous subsidy claims to a flat rate area payment common. Under this process agricultural land has been classified into one of three Regions³ for the purpose of determining direct payment (Basic Payment Scheme (BPS)) rates per ha.
22. In the Eskdalemuir region and across most of the southern uplands of Scotland hill grazing land is mainly designated as Region 2, with any improved in-bye land falling into Category 1. The impact of the changes varies widely across Scotland, by farm type and from farm to farm. In general hill sheep farms have fared relatively well amongst the different farm types.
23. In addition to direct payments hill sheep farms generally qualify for additional area payments under the Less Favoured Area Support Scheme (LFASS). Currently payment rates are to continue little changed though the possibility of more significant reform from 2018 remains under EU proposals.
24. To illustrate the expected impact of these changes on subsidy payments to hill sheep farming on an areas of hill land equivalent to 20,000 ha in the

³ Under CAP reform, agricultural land has been designated as one of the three following categories for the purpose of determining direct payment (Basic Payment Scheme (BPS)) rates per ha.

- Region 1: Arable/Temporary Grass/Permanent Grass
- Region 2: Rough Grazing designated as LFA grazing categories B, C and D, or non-LFA
- Region 3: Rough Grazing designated as LFA grazing category A

Eskdalemuir area estimates have been prepared and are detailed in the table below. As can be seen these changes represent a potential decrease of 38% (or £38/ha or £0.76m in total) in direct subsidy payments by 2019 (subject to currency changes).

25. It is important to understand these estimates are specific to the south of Scotland and may not apply elsewhere. The south of Scotland is a relatively productive agricultural area with higher than average stocking densities even in hill areas. The move from historical subsidy payments based on previous livestock numbers to a flat rate payment per hectare is expected to favour lower stocked hill areas in the Highlands at the expense of other more intensively stocked areas such as the south of Scotland.

26. The introduction of coupled payments for sheep production (see following section) will also mainly benefit poorer hill areas situated mainly in the Highlands and not those in southern Scotland adding further to the discrepancy.

Table 6: Eskdalemuir agricultural subsidy payment estimates

	£ per ha							
	2012	2013	2014	2015	2016	2017	2018	2019
SFP/historic	70.3	65.6	55.3	38.3	29.1	19.7	8.2	0.0
Area based	0.0	0.0	0.0	9.6	19.4	29.5	32.8	41.1
Total	70.3	65.6	55.3	47.8	48.5	49.2	41.0	41.1
LFASS	25.2	19.9	19.9	19.9	19.9	19.9	19.9	19.9
Other	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Total	99.2	85.6	75.2	67.8	68.5	69.2	61.0	61.0
								£ m
Total on 20kha (£m)	1.98	1.71	1.50	1.36	1.37	1.38	1.22	1.22
							-	
<i>Change on 2012</i>		-14%	-24%	-32%	-31%	-30%	39%	-38%

CAP coupled sheep payments (potential impact)

27. Under CAP reform the Scottish Government has also introduced additional coupled support (linked to production) for hill sheep producers termed Voluntary Coupled Support (VCS). If the farm business has more than 80% of their land in Region 3² (Rough Grazing Designated as LFASS grazing

category A) then they are eligible for sheep support payments. These payments will be made at a rate of approximately €100 per ewe hogg at a maximum stocking density of 1 ewe hogg per 4 hectares. This equates to payment that is roughly €25 per ewe as these ewe hoggs account for approximately a quarter of flocks. The stocking density limits also mean that payments are limited to a maximum of €25 per hectare. As a result hill sheep farms that qualify for VCS could see a substantial increase in subsidy.

28. For illustration if all the farm businesses in the theoretical Eskdalemuir region were to qualify for this payment the additional income could total in the region of €500,000 based on the assumed stocking levels. This would equate to a sterling payment of somewhere in the region of £365,000 (this depends on the exchange rate currently at €1 = £0.73). In which case subsidy payments to these farms would be increased by an estimated 23%.
29. However, it appears from land classification maps that little if any of the land at Eskdalemuir would fall in to the eligible Region 3. Classification of land as region 3 is dependent on historic stocking densities. Using average livestock numbers derived from the Farm Accounts Scheme and Quality Meat Scotland Costings data and converted to livestock units using the Farm Management Handbook figures, the average stocking density across Eskdalemuir was calculated to be 0.21 Livestock Units⁴ (LU) /Ha. Taking the area as one entity this would place Eskdalemuir in the grazing category B (0.20-0.39 LU/Ha) designation for the LFASS scheme. As such this would mean that the area is not eligible for the Voluntary Coupled Support (VCS) sheep payment which requires that 80% of land be designated as category A rough grazing. However, within the area some units may still be eligible however overall the number of farms capable of meeting this eligibility would most likely be low.
30. Therefore in this comparison a significant rise in subsidy through the VCS for the sheep sector is not likely at Eskdalemuir. It is however important to be aware of the scale of support under the VCS when comparing the results of the Eskdalemuir study with other regions of Scotland, particularly the Highlands where large areas or extensive hill grazing will qualify for this additional support payment.

⁴ Livestock Units (LU) are defined on the basis of feed requirement. For illustration Livestock Unit values for key livestock classes are detailed as follows; ewe and ewe replacement - range from 0.06 to 0.11 depending on weight, beef cows 0.75 LU, dairy cows 1LU. Source; SAC Farm Management Handbook, 2014/15

Comparison of forestry and agriculture

Table 7: Financial comparison of forestry and hill sheep at Eskdalemuir

	2011 & 2012		2014 - update	
	Forestry	Hill sheep	Forestry	Hill sheep
		£ Total		£ Total
Output	9,902,957	3,085,305	10,992,231	2,346,515
Less Input costs	6,920,531	3,523,651	6,894,640	3,277,255
Surplus/deficit	2,982,426	-438,346	4,097,590	-930,740
<i>Grants and subsidies</i>	315,134	1,882,001	315,134	1,577,248
		£ per ha		£ per ha
Output	495.15	154.27	549.61	117.33
Less Input costs	346.03	176.18	344.73	163.86
Surplus/deficit	149.12	-21.91	204.88	-46.54
<i>Grants and subsidies</i>	15.76	94.10	15.76	78.86
		£ per employee*		£ per employee*
Output	119,978	37,110	133,175	28,224
Less Input costs	83,845	42,382	83,531	39,419
Surplus/deficit	36,133	-5,272	49,644	-11,195
<i>Grants and subsidies</i>	3,818	22,637	3,818	18,971

Appendix 1 – Forestry cost inflation assumptions and data sources

FORESTRY Activity	2014 vs 2012 relative value %	Source & notes
OUTPUT		
Standing timber price	124.31%	Forestry Commission - Timber Price Indices - Coniferous Standing Sales Price Index
INPUT COSTS		
Restocking	113.00%	Forest industry estimates
Establishment	105.52%	ONS - Consumer Price Index between (2011 & 2012) and 2015
Deer and pest control	105.52%	ONS - Consumer Price Index between (2011 & 2012) and 2016
Harvesting	87.00%	Forest industry estimates - due to rebasing of harvesting method for Eskdalemuir area, not underlying costs
Haulage	106.70%	AHDB - HGCA, Road haulage survey, GB average haulage rates
Roading	105.88%	ONS - Index of Agricultural Input Prices, - average relative increase between (2011 & 2012) and 2014 for the cost of "Other (engineering and soil improvement"
Management and professional	104.18%	ONS - Not Seasonally Adjusted Average Weekly Wages - Agriculture, Forestry and Fisheries, ONS, difference between (2011 & 2012) and 2014 annual averages
Notional land rent	105.52%	ONS - Consumer Price Index between (2011 & 2012) and 2014

Appendix 2 - Agriculture cost inflation assumptions and data sources

Activity	2014 vs 2012 relative value %	Source & notes
OUTPUT		
Crops, Cattle and Sheep output	75%	Derived from Farm Account Scheme, Total Income From Farming from Scottish Government and DEFRA Index of Producer Prices of Agricultural Products data.
Other income and Non-farm income	85%	A four year average of figures from the Farm Account Scheme for the years 09/10 to 12/13 was used as this figure (NB 2011/12 figure was higher than others)
Total Output	76%	Note. 2011/12 was a year of record sheep farm incomes. Since this point output has declined as prices have not reached these levels again
GRANTS AND SUBSIDIES		
LFASS	96%	A four year average of figures from the Farm Account Scheme for the years 09/10 to 12/13 was used as this figure.
Single Farm Payment (Basic Payment Scheme)	79%	Derived using historic actual data from Farm Accounts Scheme and projections using SAC/SRUC modelling to estimate latest payments
Other	112%	Figure for 2012/13 carried over into latest years without adjustment
INPUT COSTS	93%	Input figures taken as a whole, individual components not calculated but taken into account in calculation. Actual figures from Farm Account Scheme data. Estimates and forecasts being derived from Farm Account Scheme data as a base then adjusted based on other Farm Business Survey datasets (Wales) and Total Income From Farming from Scottish Government and DEFRA Index of Producer Prices of Agricultural Products data.

Appendix 4 - Detailed agricultural estimates

Hill area equivalent to 20,000ha at Eskdalemuir	Unit	2011/12	2012/13	2013/14 estimate	2014/15 forecast
FINANCIAL OUTPUT		£			
Total Crops	(£)	23,822	30,164	26,243	20,994
Cattle	(£)	318,387	250,551	263,078	257,816
Sheep	(£)	2,300,120	1,631,798	1,550,208	1,689,727
Other income	(£)	-7,666	-2,722	-3,272	-3,272
Non farm income	(£)	450,642	116,239	381,249	381,249
Total Output (before subsidies)	(£)	3,085,305	2,026,030	2,217,506	2,346,515
Total Grants & Subsidies	(£)	1,882,001	1,984,432	1,784,048	1,577,248
Of which:		-			
LFASS	(£)	416,007	504,876	398,855	398,855
Single Farm Payment	(£)	1,400,952	1,406,963	1,312,600	1,105,800
Other	(£)	65,042	72,593	72,593	72,593
Total Inputs	(£)	3,523,651	3,317,060	3,449,742	3,277,255
Total Output	(£)	4,967,306	4,010,462	4,001,554	3,923,763
	0	-			
FARM BUSINESS INCOME: ***Published***	(£)	1,494,732	693,402	551,812	646,507