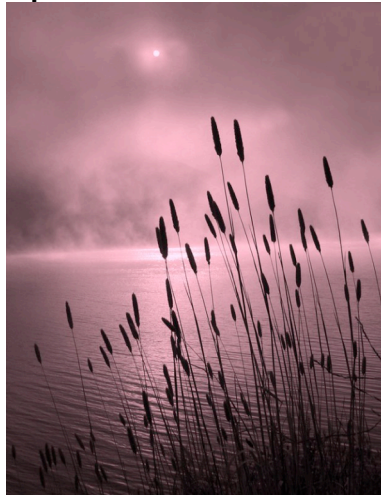


quiet waters



consultancy

Independent functional need assessment for Lammas Glandwr Pembrokeshire

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Introduction

This Report investigates the functional requirements of the varied enterprises planned for the Eco-Village site Lammas at Glandwr, Pembrokeshire.

The investigation into the functional need sets out to meet the requirements of Policy 52 - "Low Impact Development Making a Positive Contribution"; paragraph 8, criterion 7 that "The number of adult residents should be directly related to the functional requirements of the enterprise".

Policy 52 provides a context for permitting development in the open countryside for exemplars of sustainable living. Successful applicants need to demonstrate that they will provide positive benefits to the environment, economy and community as well as offering the inhabitants sufficient land based livelihoods to support at least 75% of their needs.

In common with other already existing Eco-Villages around the world, Lammas' plot-holders embrace a wide range of enterprises and land management techniques that, taken together, offer intentional symbiotic advantages across the site as a whole.

An appreciation for these cross enterprise relationships is an important factor in enabling a useful and relevant study of Lammas. In assessing the functional requirements this Report attempts to reach an understanding of the complexity of relationships both within the plots themselves and of the interplay between the 9 individual plots that make up Lammas.

The authors of this Report are cautious about using the industry standards commonly used in order to make an assessment of the hours necessary to carry out the enterprises and other land based tasks, outlined by the applicants in their plot plans. This caution is born out of study and experience of small scale horticultural and livestock systems, from research carried out at Quiet Waters Farm, from working with other small holders and from a knowledge of the diversity and complexity of established permaculture systems. Government Inspector Alan Woolnough (APP/K1128/C/06/2032148) has recently questioned the use of conventional agricultural methods of assessment in an unconventional setting. Further discussion to aid understanding of the functional requirement follows below, with reference to research carried out by leading agricultural academics – Lampkin, Morrison and Professor Jules Pretty.

Methodology

A comprehensive site visit was made on the 13th October 2008 accompanied by Paul Wimbush, one of the plot-holders at Lammas. The visit included a tour of the 9 proposed plots, the grazing and biomass fields, the leat and forested area.

Appreciative Inquiry (Elliot) techniques were used to gather information both on the tour of the site, in an initial four hour interview with Mr Wimbush and with subsequent interviews with other plot holders. Data from Year 5 was selected as the most useful to gain an understanding of the activities taking place and their functional requirement. Year 5 gives enough time for most of the systems to have grown and evolved enough to give figures that are representative of the on-going management systems.

Research focused on an analysis of the Plot Plans, followed by interviews with each of the plot-holders. The activities to be included are the land-based commercial enterprises to take place on the plots, as well as the hours spent on the land carrying out production to meet the domestic needs of each of the households. Hours for processing agricultural produce and adding value are also shown. Hours for domestic household tasks are not included. It is recognized that the distinction between the production, preservation and storage of goods for domestic household needs and actual domestic tasks may become blurred. This assessment does, however, strive to make this separation in order to show the hours are that are directly tied to the land based activities. Therefore all the hours set out in this assessment can be seen, so far as is possible, as over and above hours spent in the course of running a home that is not based on a direct relationship with its immediate surroundings. There is also no recognition of hours spent maintaining household; micro-renewable systems, processes involved in heating living and working space and of the investment in maintaining and enhancing social capital.

In order to provide a basis from which figures can be calculated it is necessary to set a datum for how many hours make up a workday and how many workdays make up a yearly labour unit. Nix's Farm Management Handbooks and Lampkin's Organic Farm Management Handbooks both set a workday at 8 hours and a yearly labour unit at 275 days. The Lammas Enterprise Hours spreadsheet groups together all the different enterprises and land based activities using these figures. Spreadsheets for all 9 plots follow, divided into; commercial tasks, domestic tasks, woodland management, environmental management, infrastructure and scientific research and analysis.

Discussion on assessment of functional requirement

The strong reliance on human labour (the oft forgotten renewable resource) in place of fossil fuel dependent alternatives - such as petro-chemical fertilizers, biocides and petroleum based combustion engines - has a direct and significant impact on labour hours. This is one of the reasons that the use of agricultural industry standards for measuring labour hours in this setting is questionable. Lampkin's Organic Farm Management Handbook shows an increase in organic farm labour of between 10 – 30%. Morrison et al's (2005) pioneering research states that organic farms in the UK provide 32% more jobs per farm when compared to petro-chemically based agriculture. It is also significant that these organic farms are on average more than 4 times larger in area than their fossil-fuel dependent counterparts, and as a consequence tend to be very heavily mechanized. The enterprises at Lammas are not heavily mechanized and are not subject to the economies of scale that reduce labour on these large-scale organic farms.

In addition to the 32% labour increase, a further 64% increase was identified as a result of the 39% of all organic farms that were involved in on-farm processing and direct marketing. These labour increases identified by Morrison's (2005) University of Essex study are especially relevant to the Lammas Project where there is a high degree of on-farm added value processing and direct marketing. Recent and emerging government policy (PPS7) actively promotes diversification into new agricultural opportunities, adding value to primary produce, adaptation to changing markets and sustainability and environmental awareness.

Lampkin (1999) identifies some of the key factors contributing to increased labour requirements:

"..the increased diversity and complexity of organic systems – additional enterprises reduce the opportunities for economies of scale and specialization... the introduction of marketing and processing activities to benefit from premium prices and add value to farm products; the introduction of labour-intensive, high-value enterprises such as field-scale vegetables"

Lammas typifies these criteria with especially high levels of diversity and complexity in its land-based activities, marketing and processing activities to add value and "labour intensive enterprises such as field-scale vegetables". Indeed, key methods of horticulture proposed at Lammas, such as highly intensive outdoor raised bed systems, are rarely used in a commercial setting precisely because of their intense labour requirements. Reliance on soil health, composting, companion planting techniques, selection of plants to attract insects to prey on pest species, green manures, use of poultry to control pests, use of pigs to clear vegetation and other natural ecological systems all have a very high labour requirement. Consequently figures for the functional requirement at Lammas reflect these factors that contribute to highly intensive human labour activities.

Lammas Total Enterprise Hours

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Totals
Commercial Livestock	415	376	490.3	408.5	387	415.5	418.5	418	432.5	540.5	509	441.5	5252.3
Commercial Horticulture	423.5	545	919.5	934	928.5	928	986	1206	1336.5	939	377.5	291.5	9815
Woodland management	747	992	1046	506	84	75	74	74	95	114	171	277	4255
Domestic Livestock	301.5	272.5	310.5	301.5	278.5	274	280.5	279.5	288	278.5	292	302.5	3459.5
Domestic Horticulture	647	422	545	715	1336	1502	1664	1864	1756	864	386	363	12064
Food foraging	32	32	0	0	0	0	0	96	100	90	8	48	406
Value addition/Crafts	435	457	320	108	90	211	210	238	306	281	338	423	3417
Courses	146	139	129	253	171	111	147	39	167	59	67	120	1548
Environmental management	720	648	216	72	144	144	72	72	144	144	216	144	2736
Infrastructure	90	99	99	45	90	90	108	108	27	27	234	234	1251
Scientific research	162	162	162	162	162	162	162	162	162	162	162	234	2016
Total Hours	4119.0	4144.5	4237.3	3505.0	3671.0	3912.5	4122.0	4556.5	4814.0	3499.0	2760.5	2878.5	46219.8
Man Days	514.9	518.1	529.7	438.1	458.9	489.1	515.3	569.6	601.8	437.4	345.1	359.8	5777.5
% Labour requirements at Lammas	124.8	125.6	128.4	106.2	111.2	118.5	124.9	138.1	145.9	106.0	83.6	87.2	1400.4 116.7 *
Labour Units													21.009

* average % Labour requirement @ 275 days / 8 hours / year

Spreadsheet analysis

The first spreadsheet shows the total number of hours spent running all the different enterprises and land-based activities on Lammas. The hours are broken down into total hours per month and total workdays per month to give a figure for the total 'Labour Unit' for the entire site of 21 Units for the 18 adults. These figures in turn give rise to percentages for each month for the labour requirement to be fulfilled. The average mean percentage between all months is 116.7%. These figures show that there is a shortfall of labour across the site as a whole over the year. This shortfall may be met through the additional labour input of resident children, volunteers, students, other family members or for paid work for members of the local community. There is an existing 'volunteer bank' and opportunities for skill sharing, training and education are likely to be attractive to a more than sufficient number of people.

Percentage figures for November and December show that the activities do not require full time employment for 18 adults; being c.84% and c.87% respectively. January and February are however, heavily weighted and it is reasonable to expect that a proportion of the Woodland and Environmental Management could be carried out earlier in November and December.

Spreadsheets for each of the plots follow to show a detailed breakdown of the number of hours relating to each of the activities taking place on each of the plots.

A key to the Plot Spreadsheets offers a more comprehensive explanation of what, in practical terms the enterprises and activities at Lammas involve.

Conclusions

The functional requirement for the management of the whole site meets the target set by Policy 52 with a total need of 21 Labour Units.

As discussed above, the measurement of functional hours necessary to complete activities is a complex task and requires an in depth understanding of both the underlying principles of the scheme and of the day to day management.

In attempting to find a meaningful and realistic way to interpret agricultural systems such as Lammas, it is vital that concerted efforts are made to retrieve data relevant to such systems.

These systems cannot be accurately or reliably measured using the same techniques as are commonly used for more 'conventional' farm systems. The standardized techniques tend to focus on a quantitative assessment with a relatively small number of variants.

Systems such as Lammas, which draw heavily on symbiotic biological and ecological approaches to productivity, are characterized by a complexity of evolving relationships within the production systems as well as tending to be heavily influenced by personalised husbandry preferences. This can stretch even sophisticated multivariate approaches and would certainly leave more typical agricultural assessment techniques, used within much planning appraisal, incapable of drawing reliable or accurate conclusions.

In understanding the need for the greater labour requirement on an agricultural system that draws on its own ecological setting, it is revealing to come to an understanding of the 'hidden' labour that fossil fuel dependent agriculture relies on. These hidden labour hours are spent in factories making fertilizers, biocides, tractors and other machinery and in the time spent transporting and selling these items.

Other more recognized externalities are the UK environmental costs estimated by Pretty et al to have been in the region of £2343 million in 1996. To externalise these costs, as the industry continues to do, invalidates a genuine scientific comparison with schemes such as Lammas. Such schemes are addressing what it means to be truly sustainable, accounting for the social, environmental and economic costs within their production and living systems in order to minimize environmental impact, and to secure a long-term economic future for themselves and as an example beyond their boundaries.

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SPREADSHEETS SHOWING FUNCTIONAL NEEDS HOURS FOR ALL PLOTS 1 - 9

LAMMAS PLOT 1

Exercise to assess labour requirement and functional need within farming system at the Lammas site for Plot 1

Breakdown of typical requirement within the fully implemented management plan at Year 5

All figures shown in hours unless otherwise indicated. Work day calculated at eight hours. Labour unit calculated at 275 days/year (as per Nix)

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec		
Commercial tasks														
Livestock														
pigs														
husbandry	20.5	18.5	40.0	20.5	20.5	20.0	30.0	30.0	30.0	30.0	48.0	20.5		
processing	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	12.0	0.0		
Pigs total	28.5	18.5	40.0	20.5	20.5	20.0	30.0	30.0	30.0	42.0	60.0	20.5	360.5	
													45.1	
Chickens														
husbandry	31.0	28.0	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0	31.0		
packaging	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		
admin & sales	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Poultry subtotal	40.0	37.0	40.0	39.0	40.0	39.0	40.0	40.0	39.0	40.0	39.0	40.0	473.0	
Subtotal workdays	5.0	4.6	5.0	4.9	5.0	4.9	5.0	5.0	4.9	5.0	4.9	5.0	59.1	
Horticulture														
Strawberries														
hydroponic care	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		
pest control	4.0	4.0	4.0	4.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0		
harvesting	0.0	0.0	0.0	0.0	30.0	30.0	30.0	30.0	30.0	0.0	0.0	0.0		
admin.	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Strawberries - outdoor														
soil preparation	0.0	32.0	16.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
maintenance	0.0	8.0	32.0	32.0	16.0	8.0	8.0	8.0	8.0	0.0	0.0	0.0		
harvesting	0.0	0.0	0.0	0.0	0.0	0.0	16.0	36.0	16.0	0.0	0.0	0.0		
Asparagus														
soil preparation	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
maintenance	0.0	16.0	16.0	16.0	16.0	16.0	24.0	8.0	8.0	0.0	0.0	0.0		
harvesting	0.0	0.0	0.0	0.0	0.0	30.0	60.0	60.0	30.0	0.0	0.0	0.0		
Apples														
weeding and pruning	16.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	0.0	0.0	8.0		
harvesting	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	16.0	16.0	0.0	0.0		
Salad crop														
soil preparation	16.0	32.0	32.0	8.0	8.0	0.0	0.0	0.0	16.0	8.0	0.0	0.0		

crop managemnet	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
biomass handling	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0		
Woodland management total	62.0	91.0	104.0	54.0	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	411.0	
Subtotal workdays	7.8	11.4	13.0	6.8	1.3	1.3	1.3	1.3	1.9	1.9	1.9	1.9	51.4	

ENVIRONMENTAL MANAGEMENT

Soil improvement	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	0.0		
composting	24.0	24.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		
mineral application	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0		
Hedgebank maintenance	8.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	8.0	8.0		
Hedge planting/laying	40.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Headland and margin management	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	0.0		
Biodiverstiy - beetle banks ponds	8.0	0.0	8.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Environmental management total	80.0	72.0	24.0	8.0	16.0	16.0	8.0	8.0	16.0	16.0	24.0	16.0	304.0	
Subtotal workdays	10.0	9.0	3.0	1.0	2.0	2.0	1.0	1.0	2.0	2.0	3.0	2.0	38.0	

INFRASTRUCTURE

track maintenance	2.0	8.0	8.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	4.0	4.0		
footpath maintenace	1.0	1.0	1.0	1.0	8.0	8.0	8.0	8.0	1.0	1.0	1.0	1.0		
water networks & leat	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	20.0	20.0		
electrical networks	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Infrastructure total	10.0	11.0	11.0	5.0	10.0	10.0	12.0	12.0	3.0	3.0	26.0	26.0	139.0	
subtotal workdays	1.3	1.4	1.4	0.6	1.3	1.3	1.5	1.5	0.4	0.4	3.3	3.3	17.4	

SCIENTIFIC RESEARCH ANALYSIS AND RECORDING

75% test	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0		
ecological footprint asses	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
plot observation & review	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0		
Scientific research total	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	26.0	224.0	
Subtotal workdays	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	3.3	28.0	

TOTAL HOURS FOR HOLDING PLOT 1	374.5	461.5	474.0	395.5	467.5	532.0	621.0	695.0	624.0	357.0	269.0	228.5	5499.5
TOTAL WORKDAYS HOLDING PLOT 1	46.8	57.7	59.3	49.4	58.4	66.5	77.6	86.9	78.0	44.6	33.6	28.6	687.4

TOTAL LABOUR UNITS FOR HOLDING PLOT 1													2.5
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LAMMAS PLOT 2

Exercise to assess labour requirement and functional need within farming system at the Lammas site

Breakdown of typical requirement within the fully implemented management plan at year 5

All figures shown in hours unless otherwise indicated. Work day calculated at eight hours. Labour unit calculated at 275 days/year (as per Nix)

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec	
Commercial tasks													
Pembrokeshire Willow													
weeding & maintenance	4.0	4.0	0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	0.0	0.0	
cutting & transportation	20.0	20.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	
soaking & preparation	8.0	12.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	
marketing & sales	8.0	8.0	4.0	4.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
transporting & direct sales	8.0	8.0	8.0	8.0	4.0	4.0	4.0	4.0	4.0	4.0	8.0	24.0	
baskets	24.0	24.0	24.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	24.0	24.0	
climbers	10.0	20.0	20.0	20.0	10.0	0.0	0.0	0.0	0.0	20.0	20.0	10.0	
living kits	45.0	45.0	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
decorations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.0	60.0	
craft bundles	4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	
administration	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
Willow total	139.0	153.0	130.0	56.0	44.0	35.0	34.0	34.0	35.0	54.0	111.0	161.0	986.0
subtotal workdays	17.4	19.1	16.3	7.0	5.5	4.4	4.3	4.3	4.4	6.8	13.9	20.1	123.3
Horticulture													
Wild natives													
bed preparation	32.0	32.0	64.0	16.0	0.0	0.0	0.0	0.0	0.0	32.0	32.0	0.0	
seedlings	0.0	0.0	32.0	96.0	72.0	32.0	0.0	0.0	0.0	0.0	0.0	0.0	
planting	0.0	0.0	0.0	48.0	48.0	32.0	0.0	0.0	0.0	0.0	0.0	0.0	
watering	0.0	0.0	15.5	30.0	31.0	30.0	31.0	31.0	0.0	0.0	0.0	0.0	
mulching	0.0	0.0	20.0	20.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
pest control	0.0	0.0	0.0	8.0	15.5	6.0	6.0	6.0	6.0	0.0	0.0	0.0	
weeding	0.0	0.0	8.0	16.0	32.0	30.0	31.0	31.0	15.0	0.0	0.0	0.0	
mowing	0.0	0.0	0.0	2.0	6.0	6.0	6.0	6.0	4.0	2.0	0.0	0.0	
fencing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	
harvesting	0.0	0.0	0.0	8.0	8.0	16.0	32.0	32.0	32.0	16.0	0.0	0.0	
saving seed	8.0	8.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	6.0	8.0	0.0	
packaging	0.0	0.0	0.0	0.0	2.0	2.0	4.0	4.0	4.0	2.0	2.0	0.0	
marketing	8.0	8.0	0.0	0.0	0.0	4.0	4.0	4.0	0.0	0.0	0.0	0.0	
admin.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Wild Natives total	52.0	52.0	143.5	248.0	228.5	162.0	118.0	122.0	69.0	62.0	46.0	36.0	1339.0
subtotal workdays	6.5	6.5	17.9	31.0	28.6	20.3	14.8	15.3	8.6	7.8	5.8	4.5	167.4

Headland and margin management	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	0.0	
Biodiverstiy - beetle banks ponds	8.0	0.0	8.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Environmental management total	80.0	72.0	24.0	8.0	16.0	16.0	8.0	8.0	16.0	16.0	24.0	16.0	304.0
Subtotal workdays	10.0	9.0	3.0	1.0	2.0	2.0	1.0	1.0	2.0	2.0	3.0	2.0	38.0

INFRASTRUCTURE

track maintenance	2.0	8.0	8.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	4.0	4.0	
footpath maintenace	1.0	1.0	1.0	1.0	8.0	8.0	8.0	8.0	1.0	1.0	1.0	1.0	
water networks & leat	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	20.0	20.0	
electrical networks	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Infrastructure total	10.0	11.0	11.0	5.0	10.0	10.0	12.0	12.0	3.0	3.0	26.0	26.0	139.0
subtotal workdays	1.3	1.4	1.4	0.6	1.3	1.3	1.5	1.5	0.4	0.4	3.3	3.3	17.4

SCIENTIFIC RESEARCH ANALYSIS AND RECORDING

75% test 8 hours	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	
ecological footprint asses 24 hours	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
plot observation & review	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	
Scientific research total	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	26.0	224.0
Subtotal workdays	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	3.3	28.0

TOTAL HOURS FOR HOLDING PLOT 2	433.0	443.0	476.5	438.0	420.5	359.0	320.0	340.0	306.0	249.0	298.0	328.0	4411.0
TOTAL WORKDAYS HOLDING PLOT 2	54.1	55.4	59.6	54.8	52.6	44.9	40.0	42.5	38.3	31.1	37.3	41.0	551.4

TOTAL LABOUR UNITS FOR HOLDING PLOT 2													2.0
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LAMMAS PLOT 3

Exercise to assess labour requirement and functional need within farming system at the Lammas site for Plot 3

Breakdown of Typical requirement within the fully implemented management plan at Year 5

All figures shown in hours unless otherwise indicated. Work day calculated at eight hours. Labour unit calculated at 275 days/year (as per Nix)

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec	
Commercial tasks													
Flax													
soil preparation	16.0	32.0	32.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
drilling	0.0	0.0	16.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
weeding	32.0	0.0	32.0	16.0	32.0	32.0	32.0	32.0	32.0	0.0	0.0	0.0	0.0
dessication	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	0.0	0.0	0.0	0.0	0.0
retting	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	0.0	0.0	0.0	0.0
harvest	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	0.0	0.0	0.0
research	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	0.0	0.0
cloth preparation *													
weaving *													
product design *													
admin	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Flax	48.0	32.0	80.0	32.0	32.0	32.0	64.0	112.0	80.0	80.0	0.0	0.0	592.0
subtotal workdays	6.0	4.0	10.0	4.0	4.0	4.0	8.0	14.0	10.0	10.0	0.0	0.0	74.0
Chickens													
husbandry	31.0	28.0	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0	31.0	31.0
packaging	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
admin & sales	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Total poultry	40.0	37.0	40.0	39.0	40.0	39.0	40.0	40.0	39.0	40.0	39.0	40.0	473.0
Subtotal workdays	5.0	4.6	5.0	4.9	5.0	4.9	5.0	5.0	4.9	5.0	4.9	5.0	59.1
Fruit													
soft fruit													
growing	0.0	0.0	24.0	24.0	24.0	24.0	32.0	32.0	32.0	16.0	0.0	0.0	
adding value	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	24.0	24.0	0.0	0.0	
top fruit													
growing	16.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	16.0	16.0	8.0	0.0	
adding value	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	24.0	8.0	0.0	
Salad													
soil preparation	0.0	16.0	32.0	32.0	16.0	16.0	0.0	16.0	16.0	8.0	0.0	0.0	
seedlings	0.0	0.0	40.0	40.0	32.0	16.0	16.0	16.0	16.0	16.0	16.0	0.0	
weeding / pests	0.0	4.0	8.0	4.0	4.0	8.0	8.0	4.0	4.0	4.0	0.0	0.0	

Total fruit & salad	16.0	20.0	104.0	100.0	76.0	64.0	56.0	100.0	132.0	108.0	32.0	0.0	808.0
Subtotal workdays	2.0	2.5	13.0	12.5	9.5	8.0	7.0	12.5	16.5	13.5	4.0	0.0	101.0
Baskets & garlands													
foraging	16.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	32.0	
weaving	24.0	24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	40.0	
Total baskets & garlands	40.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	72.0	192.0
Subtotal workdays													24.0
Domestic Horticulture													
vegetables / greens	32.0	32.0	50.0	60.0	140.0	140.0	140.0	140.0	140.0	70.0	32.0	32.0	
soft fruit	24.0	4.0	4.0	4.0	4.0	16.0	24.0	20.0	16.0	4.0	4.0	4.0	
top fruit	8.0	2.0	2.0	2.0	2.0	2.0	8.0	16.0	8.0	2.0	2.0	2.0	
processing produce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	32.0	24.0	0.0	0.0	
Horticulture total	64.0	38.0	56.0	66.0	146.0	158.0	172.0	184.0	196.0	100.0	38.0	38.0	1256.0
subtotal workdays	8.0	4.8	7.0	8.3	18.3	19.8	21.5	23.0	24.5	12.5	4.8	4.8	157.0
Food foraging	3.0	3.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	10.0	0.0	4.0	40.0
													5.0
Woodland management													
hardwood													
felling / cutting	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
transportation	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
coppice													
felling / cutting	0.0	35.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
management	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
transportation	0.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fuel													
SRC willow													
felling / cutting	25.0	25.0	25.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
management	4.0	4.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
transportation	8.0	8.0	8.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Miscanthus													
crop managemnet	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
biomass handling	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	
Woodland management total	62.0	91.0	104.0	54.0	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	411.0
Subtotal workdays	7.8	11.4	13.0	6.8	1.3	1.3	1.3	1.3	1.9	1.9	1.9	1.9	51.4

ENVIRONMENTAL MANAGEMENT

Soil improvement	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	0.0	
composting	24.0	24.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
mineral application	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	
hedgebank maintenance	8.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	8.0	8.0	
hedge planting/laying	40.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
headland and margin management	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	0.0	
biodiversity - beetle banks ponds	8.0	0.0	8.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Environmental management total	80.0	72.0	24.0	8.0	16.0	16.0	8.0	8.0	16.0	16.0	24.0	16.0	304.0
Subtotal workdays	10.0	9.0	3.0	1.0	2.0	2.0	1.0	1.0	2.0	2.0	3.0	2.0	38.0

INFRASTRUCTURE

track maintenance	2.0	8.0	8.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	4.0	4.0	
footpath maintenance	1.0	1.0	1.0	1.0	8.0	8.0	8.0	8.0	1.0	1.0	1.0	1.0	
water networks & leat	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	20.0	20.0	
electrical networks	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Infrastructure total	10.0	11.0	11.0	5.0	10.0	10.0	12.0	12.0	3.0	3.0	26.0	26.0	139.0
Subtotal workdays	1.3	1.4	1.4	0.6	1.3	1.3	1.5	1.5	0.4	0.4	3.3	3.3	17.4

SCIENTIFIC RESEARCH ANALYSIS AND RECORDING

75% test 8 hours	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	
ecological footprint asses 24 hours	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
plot observation & review	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	
Scientific research total	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	26.0	224.0
Subtotal workdays	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	3.3	28.0

TOTAL HOURS FOR HOLDING PLOT 3	381.0	362.0	437.0	322.0	348.0	347.0	380.0	494.0	509.0	390.0	232.0	237.0	4439.0
TOTAL WORKDAYS HOLDING PLOT 3	47.6	45.3	54.6	40.3	43.5	43.4	47.5	61.8	63.6	48.8	29.0	29.6	554.9

TOTAL LABOUR UNITS FOR HOLDING PLOT 3													2.0
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- no figures available – cloth preparation, weaving and product design

LAMMAS PLOT 4

Exercise to assess labour requirement and functional need within farming system at the Lammas site for Plot 4

Breakdown of typical requirement within the fully implemented management plan at Year 5

All figures shown in hours unless otherwise indicated. Work day calculated at eight hours. Labour unit calculated at 275 days/year (as per Nix)

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec		
Commercial tasks														
Vermiculture														
bin preparation		8.0	8.0	10.0	8.0	8.0	10.0	8.0	8.0	10.0	8.0	8.0	10.0	
waste collection		36.0	36.0	45.0	36.0	36.0	45.0	36.0	36.0	45.0	36.0	36.0	45.0	
unloading		24.0	24.0	30.0	24.0	24.0	30.0	24.0	24.0	30.0	24.0	24.0	30.0	
sorting		6.0	6.0	7.5	6.0	6.0	7.5	6.0	6.0	7.5	6.0	6.0	7.5	
management		14.0	14.0	17.5	14.0	14.5	17.5	14.0	14.0	17.5	14.0	14.0	17.5	
hand harvesting		16.0	16.0	20.0	16.0	16.0	20.0	16.0	16.0	20.0	16.0	16.0	20.0	
bagging up		16.0	16.0	20.0	16.0	16.0	20.0	16.0	16.0	20.0	16.0	16.0	20.0	
waste preparation		3.5	3.5	4.5	3.5	3.4	4.5	3.5	3.5	4.5	3.5	3.5	4.5	
storage		4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	
admin. & sales		4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	
Total vermiculture		131.5	131.5	164.5	131.5	131.9	164.5	131.5	131.5	164.5	131.5	131.5	164.5	1710.4
subtotal workdays		16.4	16.4	20.6	16.4	16.5	20.6	16.4	16.4	20.6	16.4	16.4	20.6	213.8
Horticulture														
garlic														
soil preparation		16.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	32.0	16.0	8.0	
planting		8.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	8.0	8.0	4.0	
weeding		48.0	48.0	60.0	48.0	48.0	60.0	48.0	48.0	60.0	48.0	48.0	60.0	
harvest		0.0	0.0	0.0	0.0	32.0	40.0	32.0	32.0	40.0	0.0	0.0	0.0	
Chilli														
soil preparation		0.0	0.0	16.0	0.0	0.0	8.0	8.0	0.0	0.0	0.0	0.0	0.0	
planting		0.0	0.0	8.0	8.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	0.0	
weeding		8.0	0.0	10.0	10.0	8.0	8.0	8.0	8.0	8.0	0.0	0.0	0.0	
harvest		0.0	0.0	0.0	0.0	4.0	12.0	12.0	12.0	12.0	12.0	4.0	0.0	
Green leaves														
soil preparation		16.0	32.0	16.0	0.0	0.0	8.0	0.0	0.0	16.0	32.0	16.0	0.0	
planting		0.0	8.0	16.0	16.0	0.0	8.0	0.0	0.0	8.0	16.0	8.0	0.0	
weeding		0.0	0.0	8.0	12.0	16.0	16.0	16.0	16.0	16.0	8.0	4.0	0.0	
harvest		4.0	4.0	2.0	2.0	8.0	12.0	16.0	20.0	20.0	4.0	2.0	2.0	
admin & sales		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
adding value		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	32.0	32.0	16.0	

Environmental management total	80.0	72.0	24.0	8.0	16.0	16.0	8.0	8.0	16.0	16.0	24.0	16.0	304.0
Subtotal workdays	10.0	9.0	3.0	1.0	2.0	2.0	1.0	1.0	2.0	2.0	3.0	2.0	38.0

INFRASTRUCTURE

track maintenance	2.0	8.0	8.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	4.0	4.0	
footpath maintenace	1.0	1.0	1.0	1.0	8.0	8.0	8.0	8.0	1.0	1.0	1.0	1.0	
water networks & leat	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	20.0	20.0	
electrical networks	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Infrastructure total	10.0	11.0	11.0	5.0	10.0	10.0	12.0	12.0	3.0	3.0	26.0	26.0	139.0
Subtotal workdays	1.3	1.4	1.4	0.6	1.3	1.3	1.5	1.5	0.4	0.4	3.3	3.3	17.4

SCIENTIFIC RESEARCH ANALYSIS AND RECORDING

75% test 8 hours	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	
ecological footprint asses 24 hours	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
plot observation & review	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	
Scientific research total	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	26.0	224.0
Subtotal workdays	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	3.3	28.0

TOTAL HOURS FOR HOLDING PLOT 4	470.5	482.5	515.5	380.5	449.9	550.5	497.5	519.5	664.5	491.5	392.5	381.5	5796.4
TOTAL WORKDAYS HOLDING PLOT 4	58.8	60.3	64.4	47.6	56.2	68.8	62.2	64.9	83.1	61.4	49.1	47.7	724.6

TOTAL LABOUR UNITS FOR HOLDING PLOT 4													2.6
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LAMMAS PLOT 5

Exercise to assess labour requirement and functional need within farming system at Lammas on Plot 5

Breakdown of typical requirement within the fully implemented management plan at Year 5

All figures shown in hours unless otherwise indicated. Work day calculated at eight hours. Labour unit calculated at 275 days/year (as per Nix)

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec	
Commercial tasks													
Field-scale vegetables & fruit	64.0	64.0	130.0	176.0	176.0	176.0	176.0	176.0	174.0	136.0	76.0	68.0	1592.0
subtotal workdays	8.0	8.0	16.3	22.0	22.0	22.0	22.0	22.0	26.0	17.0	9.5	8.5	203.3
herbs & pot plants	24.0	24.0	30.0	40.0	40.0	40.0	40.0	40.0	32.0	24.0	12.0	12.0	358.0
													44.8
woodcrafts	16.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	48.0
													6.0
mushrooms	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	8.0	8.0	8.0	32.0
													4.0
Livestock													
goats husbandry	31.0	28.0	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0	31.0	
Poultry													
geese husbandry	20.5	18.5	20.5	20.0	20.5	20.0	20.5	20.5	20.0	20.5	20.0	40.0	
chickens & ducks husbandry	20.5	18.5	20.5	20.5	20.5	20.0	20.5	20.5	20.0	20.5	20.0	20.5	
packing eggs	2.0	2.0	4.0	5.0	4.0	4.0	5.0	4.0	5.0	4.0	3.0	2.0	
Livestock total	74.0	67.0	76.0	75.5	76.0	74.0	77.0	76.0	75.0	76.0	73.0	93.5	913.0
subtotal workdays	9.3	8.4	9.5	9.4	9.5	9.3	9.6	9.5	9.4	9.5	9.1	11.7	114.1
Domestic Horticulture													
vegetables & herbs	32.0	32.0	50.0	60.0	140.0	140.0	140.0	140.0	140.0	70.0	32.0	32.0	
soft fruit	24.0	4.0	4.0	4.0	4.0	16.0	24.0	20.0	16.0	4.0	4.0	4.0	
top fruit	8.0	2.0	2.0	2.0	2.0	2.0	8.0	16.0	8.0	2.0	2.0	2.0	

Infrastructure total	10.0	11.0	11.0	5.0	10.0	10.0	12.0	12.0	3.0	3.0	26.0	26.0	139.0
subtotal workdays	1.3	1.4	1.4	0.6	1.3	1.3	1.5	1.5	0.4	0.4	3.3	3.3	17.4

SCIENTIFIC RESEARCH ANALYSIS AND RECORDING

75% test 8 hours	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	
ecological footprint asses 24 hours	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
plot observation & review	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	
Scientific research total	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	26.0	224.0
Subtotal workdays	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	3.3	28.0

TOTAL HOURS FOR HOLDING PLOT 5	431.0	409.0	446.0	447.5	483.0	493.0	507.0	524.0	504.0	368.0	276.0	308.5	5197.0
TOTAL WORKDAYS HOLDING PLOT 5	53.9	51.1	55.8	55.9	60.4	61.6	63.4	65.5	63.0	46.0	34.5	38.6	649.6

TOTAL LABOUR UNITS FOR HOLDING PLOT 5													2.4
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living in stillness	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	
living off the land	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	
low-impact settlements	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	
low-impact architecture	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	
Courses total	0.0	0.0	0.0	60.0	60.0	60.0	120.0	0.0	60.0	0.0	0.0	0.0	360.0
subtotal workdays	0.0	0.0	0.0	7.5	7.5	7.5	15.0	0.0	7.5	0.0	0.0	0.0	45.0

Domestic tasks

Livestock

cows													
milking	31.0	28.0	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0	31.0	
husbandry	31.0	28.0	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0	31.0	

Poultry

geese													
husbandry	20.5	18.5	20.5	20.0	20.5	20.0	20.5	20.5	20.0	20.5	20.0	20.5	

chickens & ducks													
husbandry	20.5	18.5	20.5	20.5	20.5	20.0	20.5	20.5	20.0	20.5	20.0	20.5	

Bees	5.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0	
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Livestock total	108.0	97.0	107.0	105.5	107.0	104.0	108.0	107.0	104.0	108.0	104.0	107.0	1266.5
subtotal workdays	13.5	12.1	13.4	13.2	13.4	13.0	13.5	13.4	13.0	13.5	13.0	13.4	158.3

Domestic Horticulture

vegetables	32.0	32.0	50.0	60.0	140.0	140.0	140.0	140.0	140.0	70.0	32.0	32.0	
soft fruit	24.0	4.0	4.0	4.0	4.0	16.0	24.0	20.0	16.0	4.0	4.0	4.0	
top fruit	8.0	2.0	2.0	2.0	2.0	2.0	8.0	16.0	8.0	2.0	2.0	2.0	
nuts	4.0	1.0	1.0	1.0	1.0	1.0	4.0	8.0	4.0	1.0	1.0	1.0	

Horticulture total	68.0	39.0	57.0	67.0	147.0	159.0	176.0	184.0	168.0	77.0	39.0	39.0	1220.0
subtotal workdays	8.5	4.9	7.1	8.4	18.4	19.9	22.0	23.0	21.0	9.6	4.9	4.9	152.5

Food foraging	3.0	3.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	10.0	0.0	4.0	40.0
													5.0

WOODLAND MANAGEMENT

Scientific research total	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	26.0	224.0
Subtotal workdays	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	3.3	28.0

TOTAL HOURS FOR HOLDING PLOT 6	445.0	431.0	401.0	321.5	366.0	375.0	581.0	594.0	757.5	470.0	211.0	218.0	5171.0
TOTAL WORKDAYS HOLDING PLOT 6	55.6	53.9	50.1	40.2	45.8	46.9	72.6	74.3	94.7	58.8	26.4	27.3	646.4

TOTAL LABOUR UNITS FOR HOLDING PLOT 6														2.4
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LAMMAS PLOT 7

Exercise to assess labour requirement and functional need within farming system at the Lammas site Plot 7

Breakdown of typical requirement within the fully implemented management plan at year 5

All figures shown in hours unless otherwise indicated. Work day calculated at eight hours. Labour unit calculated at 275 days/year (as per Nix)

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec	
Commercial Tasks													
Gourmet Organics													
soil preparation	22.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	22.0	
growing	0.0	0.0	90.0	80.0	80.0	80.0	0.0	0.0	0.0	0.0	0.0	0.0	
box preparation	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	
marketing & admin	8.5	8.0	7.0	7.0	7.0	7.0	0.0	0.0	0.0	0.0	8.5	8.5	
Gourmet Organics total	40.5	38.0	97.0	87.0	87.0	87.0	0.0	0.0	0.0	0.0	14.5	40.5	491.5
subtotal workdays	5.1	4.8	12.1	10.9	10.9	10.9	0.0	0.0	0.0	0.0	1.8	5.1	61.4
Forestry													
management & transport	103.0	96.0	4.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	104.0	
green woodwork	0.0	0.0	52.0	52.0	52.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
charcoal	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Forestry total	103.0	96.0	86.0	54.0	52.0	0.0	0.0	0.0	0.0	0.0	24.0	104.0	519.0
subtotal workdays													64.9
Wood Workshop													
joinery	0.0	0.0	0.0	0.0	0.0	130.0	130.0	130.0	173.0	173.0	173.0	0.0	909.0
													113.6
Livestock													
Sheep													
husbandry	15.5	14	31	19	15	23	15.5	15.5	15	23.5	15	15.5	
fodder	8	8	8	8	0	0	0	0	0	8	8	8	
ducks													
husbandry	31.0	28.0	31.0	30.0	15.0	15.0	15.5	15.5	15.0	15.5	30.0	31.0	
fodder	0.0	0.0	4.0	4.0	5.0	5.0	5.0	5.0	8.0	4.0	0.0	0.0	
Livestock total	54.5	50.0	74.0	61.0	35.0	43.0	36.0	36.0	38.0	51.0	53.0	54.5	586.0
													73.3
COURSES													
Permaculture													

preparation	0.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	0.0		
workshop days	0.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	0.0		
schools														
preparation	8.0	8.0	8.0	16.0	16.0	8.0	0.0	0.0	0.0	16.0	8.0	8.0		
visits	8.0	8.0	8.0	16.0	16.0	16.0	0.0	0.0	0.0	16.0	8.0	8.0		
Courses total	16.0	16.0	16.0	112.0	32.0	24.0	0.0	0.0	80.0	32.0	16.0	16.0	360.0	45.0
Domestic tasks														
Horticulture														
vegetables & grains	35.0	30.0	35.0	130.0	130.0	140.0	140.0	140.0	140.0	60.0	50.0	35.0		
Forest garden														
soft fruit	24.0	4.0	4.0	4.0	4.0	16.0	32.0	48.0	48.0	24.0	10.0	2.0		
top fruit incl. pruning, care, harvest	8.0	2.0	2.0	2.0	2.0	2.0	24.0	24.0	16.0	8.0	2.0	2.0		
nuts	4.0	1.0	1.0	1.0	1.0	1.0	4.0	8.0	24.0	32.0	1.0	1.0		
cheese	0.0	0.0	0.0	0.0	0.0	13.0	13.0	13.0	0.0	0.0	0.0	0.0		
bottling & storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	4.5	4.5	0.0		
Food foraging	8.0	8.0	0.0	0.0	0.0	0.0	0.0	16.0	20.0	10.0	8.0	16.0		
subtotal domestic	79.0	45.0	42.0	137.0	137.0	172.0	213.0	249.0	252.5	138.5	75.5	56.0	1596.5	
subtotal workdays domestic	9.9	5.6	5.3	17.1	17.1	21.5	26.6	31.1	31.6	17.3	9.4	7.0	199.6	
WOODLAND MANAGEMENT														
hardwood														
felling / cutting	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
transportation	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Coppice														
felling / cutting	0.0	35.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
management	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
transportation	0.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Fuel														
felling / cutting	40.0	40.0	40.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
management	6.0	6.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
transportation	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Woodland management total	74.0	95.0	100.0	58.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	327.0	
Subtotal workdays	9.3	11.9	12.5	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.9	
ENVIRONMENTAL MANAGEMENT														

soil improvement	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	0.0	
composting	24.0	24.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
mineral application	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	
hedgebank maintenance	8.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	8.0	8.0	
hedge planting/laying	40.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
headland and margin management	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	0.0	
biodiverstiy - beetle banks ponds	8.0	0.0	8.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total environmental management	80.0	72.0	24.0	8.0	16.0	16.0	8.0	8.0	16.0	16.0	24.0	16.0	304.0
Subtotal workdays	10.0	9.0	3.0	1.0	2.0	2.0	1.0	1.0	2.0	2.0	3.0	2.0	38.0

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track maintenance	2.0	8.0	8.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	4.0	4.0	
footpath maintenace	1.0	1.0	1.0	1.0	8.0	8.0	8.0	8.0	1.0	1.0	1.0	1.0	
water networks & leat	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	20.0	20.0	
electrical networks	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Infrastructure total	10.0	11.0	11.0	5.0	10.0	10.0	12.0	12.0	3.0	3.0	26.0	26.0	139.0
subtotal workdays	1.3	1.4	1.4	0.6	1.3	1.3	1.5	1.5	0.4	0.4	3.3	3.3	17.4

SCIENTIFIC RESEARCH ANALYSIS AND RECORDING

75% test 8 hours	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	
ecological footprint asses 24 hours	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
plot observation & review	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	
Subtotal scientific research etc	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	26.0	224.0
Subtotal work days scientific research etc	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	3.3	28.0

TOTAL HOURS FOR HOLDING PLOT 7	475.0	441.0	468.0	540.0	387.0	500.0	417.0	453.0	580.5	431.5	424.0	339.0	5456.0
TOTAL WORKDAYS FOR HOLDING PLOT 7	59.4	55.1	58.5	67.5	48.4	62.5	52.1	56.6	72.6	53.9	53.0	42.4	682.0

TOTAL LABOUR UNITS FOR HOLDING PLOT 7													2.5
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LAMMAS PLOT 8

Exercise to assess labour requirement and functional need within farming system at the Lammas site for Plot 8

Breakdown of typical requirement within the fully implemented management plan at Year 5

All figures shown in hours unless otherwise indicated. Work day calculated at eight hours. Labour unit calculated at 275 days/year (as per Nix)

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec	
Commercial Tasks													
Willow													
cutting	40.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	
grading	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	
tying & transportation	0.0	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Willow totals	60.0	80.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	220.0 27.5
Courses													
Learning Disabled Services													
workshop days	8.0	8.0	8.0	8.0	8.0	8.0	8.0	16.0	8.0	8.0	8.0	0.0	
preparation	4.0	4.0	4.0	4.0	4.0	4.0	4.0	8.0	4.0	4.0	4.0	0.0	
Craft - willow & wool													
workshop days	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	0.0	
preparation	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	0.0	
Course totals	27.0	27.0	27.0	27.0	27.0	27.0	27.0	39.0	27.0	27.0	27.0	0.0	309.0 38.6
Livestock													
Sheep													
husbandry	15.5	14.0	23.3	19.0	15.0	23.0	15.5	15.5	15.0	23.5	15.0	15.5	
collecting dyes	0.0	0.0	0.0	0.0	0.0	0.0	8.0	16.0	8.0	0.0	0.0	0.0	
wool scouring	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	
preparing felting packs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	
Bees													
care / hive maintenance, management	2.5	2.5	2.5	2.5	8.0	2.5	2.5	3.0	4.0	2.5	2.5	2.5	
preparation of honey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	0.0	0.0	
preparation of mead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	
Livestock total	18.0	16.5	25.8	21.5	23.0	25.5	34.0	34.5	27.0	82.0	17.5	18.0	343.3 42.9
Other commercial													

ENVIRONMENTAL MANAGEMENT

soil improvement	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	0.0	
composting	24.0	24.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
mineral application	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0
hedgebank maintenance	8.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	8.0	8.0
hedge planting/laying	40.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
headland and margin management	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0
biodiverstiy - beetle banks ponds	8.0	0.0	8.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total environmental management	80.0	72.0	24.0	8.0	16.0	16.0	8.0	8.0	16.0	16.0	24.0	16.0	304.0
Subtotal workdays	10.0	9.0	3.0	1.0	2.0	2.0	1.0	1.0	2.0	2.0	3.0	2.0	38.0

INFRASTRUCTURE

track maintenance	2.0	8.0	8.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	4.0	4.0	
footpath maintenace	1.0	1.0	1.0	1.0	8.0	8.0	8.0	8.0	1.0	1.0	1.0	1.0	
water networks & leat	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	20.0	20.0	
electrical networks	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Infrastructure total	10.0	11.0	11.0	5.0	10.0	10.0	12.0	12.0	3.0	3.0	26.0	26.0	139
subtotal workdays	1.3	1.4	1.4	0.6	1.25	1.25	1.5	1.5	0.4	0.4	3.3	3.3	17.4

SCIENTIFIC RESEARCH ANALYSIS AND RECORDING

75% test 8 hours	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	
ecological footprint asses 24 hours	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
plot observation & review	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	
Scientific research total	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	26.0	224.0
Subtotal workdays	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	3.3	28.0

TOTAL HOURS FOR HOLDING PLOT 8	456.0	447.5	376.8	304.5	305.0	319.5	299.0	406.5	391.0	352.0	211.5	251.0	4120.3
TOTAL WORKDAYS HOLDING PLOT 8	57.0	55.9	47.1	38.1	38.1	39.9	37.4	50.8	48.9	44.0	26.4	31.4	515.0

TOTAL LABOUR UNITS FOR HOLDING PLOT 8													1.9
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LAMMAS PLOT 9

Exercise to assess labour requirement and functional need within farming system at Plot 9 Lammas

Breakdown of typical requirement within the fully implemented management plan at Year 5

All figures shown in hours unless otherwise indicated. Work day calculated at eight hours. Labour unit calculated at 275 days/year (as per Nix)

Commercial tasks	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec	
Livestock													
pigs													
husbandry	20.5	18.5	40.0	20.5	20.5	20.0	30.0	30.0	30.0	30.0	48.0	20.5	
processing	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0	48.0	0.0	
Pigs total	28.5	18.5	40.0	20.5	20.5	20.0	30.0	30.0	30.0	78.0	96.0	20.5	432.5
													54.1
Wood workshop													
furniture	160.0	160.0	120.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	140.0	
admin.	8.0	8.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	
Workshop total	168.0	168.0	128.0	16.0	16.0	0.0	0.0	0.0	0.0	16.0	16.0	156.0	684.0
													85.5
Domestic tasks													
Livestock													
goats													
milking	31.0	28.0	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0	31.0	
husbandry	31.0	28.0	31.0	30.0	31.0	30.0	31.0	31.0	30.0	31.0	30.0	31.0	
Poultry													
geese													
husbandry	20.5	18.5	20.5	20.0	20.5	20.0	20.5	20.5	20.0	20.5	20.0	20.5	
ducks													
husbandry	20.5	18.5	20.5	20.0	20.5	20.0	20.5	20.5	20.0	20.5	20.0	20.5	
chickens													
husbandry	20.5	18.5	20.5	20.0	20.5	20.0	20.5	20.5	20.0	20.5	20.0	20.5	
Livestock total	82.5	74.5	82.5	80.0	82.5	80.0	103.0	82.5	80.0	82.5	80.0	82.5	992.5
subtotal workdays	10.3	9.3	10.3	10.0	10.3	10.0	12.9	10.3	10.0	10.3	10.0	10.3	124.1

Domestic Horticulture

vegetables / greens	32.0	32.0	50.0	60.0	140.0	140.0	140.0	140.0	140.0	70.0	32.0	32.0
soft fruit	24.0	4.0	4.0	4.0	4.0	16.0	24.0	20.0	16.0	4.0	4.0	4.0
top fruit	8.0	2.0	2.0	2.0	2.0	2.0	8.0	16.0	8.0	2.0	2.0	2.0
field scale vegetables	8.0	24.0	24.0	24.0	36.0	60.0	60.0	100.0	48.0	8.0	8.0	8.0
processing produce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	32.0	24.0	0.0	0.0

Horticulture total	72.0	62.0	80.0	90.0	182.0	218.0	232.0	284.0	244.0	108.0	46.0	46.0	1664.0
subtotal workdays	9.0	7.8	10.0	11.3	22.8	27.3	29.0	35.5	30.5	13.5	5.8	5.8	208.0

Food foraging	3.0	3.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	10.0	0.0	4.0	40.0
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5.0

WOODLAND MANAGEMENT

hardwood													
felling / cutting	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
transportation	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
coppice													
felling / cutting	0.0	35.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
management	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
transportation	0.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Fuel													
felling / cutting	40.0	40.0	40.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
management	6.0	6.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
transportation	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Woodland management total	74.0	95.0	100.0	58.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	327.0
Subtotal workdays	9.3	11.9	12.5	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.9

ENVIRONMENTAL MANAGEMENT

Soil improvement	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0
composting	24.0	24.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
mineral application	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0
Hedgebank maintenance	8.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	8.0	8.0	0.0
Hedge planting/laying	40.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Headland and margin management	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0
Biodiversity - beetle banks ponds	8.0	0.0	8.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Environmental management total	80.0	72.0	24.0	8.0	16.0	16.0	8.0	8.0	16.0	16.0	24.0	16.0	304.0
Subtotal workdays	10.0	9.0	3.0	1.0	2.0	2.0	1.0	1.0	2.0	2.0	3.0	2.0	38.0

INFRASTRUCTURE

track maintenance	2.0	8.0	8.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	4.0	4.0
footpath maintenace	1.0	1.0	1.0	1.0	8.0	8.0	8.0	8.0	1.0	1.0	1.0	1.0
water networks & leat	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	20.0	20.0
electrical networks	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Infrastructure total

10.0	11.0	11.0	5.0	10.0	10.0	12.0	12.0	3.0	3.0	26.0	26.0
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139.0

Subtotal workdays

1.3	1.4	1.4	0.6	1.3	1.3	1.5	1.5	0.4	0.4	3.3	3.3
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17.4

SCIENTIFIC RESEARCH ANALYSIS AND RECORDING

75% test 8 hours	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
ecological footprint asses 24 hours	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
plot observation & review	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0

Scientific research total

18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	26.0
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224.0

Subtotal workdays

2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	3.3
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28.0

TOTAL HOURS FOR HOLDING PLOT 9

536.0	522.0	483.5	295.5	345.0	362.0	403.0	444.5	401.0	331.5	306.0	377.0
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4807.0

TOTAL WORKDAYS HOLDING PLOT 9

67.0	65.3	60.4	36.9	43.1	45.3	50.4	55.6	50.1	41.4	38.3	47.1
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600.9

TOTAL LABOUR UNITS FOR HOLDING PLOT 9

2.2

KEY

Explanatory notes for enterprises and land based activities at Lammas

PIGS

Feeding Sows/Boar	Based on daily rounds to pens.
Feeding Growers	Based on daily rounds to growing enclosure and pens.
Feeding Farrowing/Farrowed sow	Based on feeding within 'maternity' pen.
Harvesting/collecting Feed/Bedding crops	Based on harvesting of proportion of main Arable/Root break, windfall orchard collection and all suitable horticultural waste/thinnings.
Sowing Feed/Bedding crops	Broadcast sowing of main Arable/Root breaks, understory forage mix in forest gardens and summer forage in Orchard areas.
Management of pens/moving pigs	Based on folding and movement of between pens and other feeding areas.
General maintenance	Based on running repairs to pens, gates and gateways, undermined areas, troughs and hut mending.
Fencing	Setting up and moving of electric fencing systems for folding/strip grazing etc.
Farrowing management	Based on daily checks pre and post farrowing, movement of young, health and injury tasks, bedding down.
General stock checking	Based on daily welfare checks from first thing until dark.
Health and Vet work	Occasional treatment of minor illness and injury, herbal supplement provision and treatments/oils for lice, mites, sunburn, mange etc.
Loading/Transportation	Based on loading on slaughter day and delivery/pick up of meat
Processing/Admin	Filling in of pig movement licences, tattooing, farm DEFRA records and FSA forms.
Meat preparation/Packing (pre butchered)	Organising of cuts, vacuum packing, weighing and labelling. Dry curing of hams and sausages.
Cold store maintenance	Based on monthly defrosting of chiller unit and humidimeter and thermometer checks and full washdown procedures.

POULTRY

Feeding Layers	Based on daily rounds within pasture/forage fields to fill hoppers.
Feeding Growers	Based on daily rounds within pasture/forage fields to fill hoppers.
Egg Collecting	Based on midday round to collect and clean eggs for market sale.
Harvesting/collecting Feed/Bedding crops	Based on harvesting of proportion of main Arable/Root break and collection of all suitable horticultural waste/thinnings.
Sowing feed/bedding crops	Broadcast sowing of main pasture forage 'drifts' and pasture based forage and seed/fruit bearing crops.
Management of pens/moving arks	Based on mowing of 'rides', protection of seed bearing 'drifts' and moving of laying and growing houses and arks.
General maintenance	Running repairs to houses, nest boxes, hovers, runs etc.
Fencing	Setting up and moving of electric fencing systems for folding/strip grazing etc.
Washing down/Mucking out	Based on routine cleansing of incubators, hovers, nests, cleaning of roosts and floor meshes and manure removal.
General stock checking	Based on daily welfare checks from first thing until dark.
Health and Vet work	Occasional treatment of minor illness and injury, herbal supplement provision and treatments/oils for lice, mites, sunburn, mange etc.
Loading/Transportation	Based on weekly egg lay and local delivery to customers
Processing/Admin	Contacting customers, accounting
Egg and Meat preparation/Packing	Packing of meat produce and eggs, weighing and labelling
Cold store maintenance	Based on monthly defrosting condenser/chiller unit and humidimeter and thermometer maintenance and washdown procedures.

OTHER STOCK

Feeding cows	daily rounds down to meadows/winter pens.
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Milking cows daily milking routine
Rearing calves calving and care of young animals
Feeding goats daily rounds down to meadows/winter pens.
Milking goats daily milking routine
Moving goats leading goats to grazing areas when necessary
Rearing goats breeding and care of kids at birth and beyond
Harvesting/collecting Feed/Bedding crops harvesting of proportion of main Arable/Root break and collection of all suitable horticultural waste/thinnings.
Sowing feed/bedding crops sowing of Winter cover crops and understory forage mix in woodland pens and summer forage in Orchard areas.
General maintenance running repairs to pens, hedgebanks, gateways, periodic pond weed removal etc.
Fencing general repairs to main boundary fences and the setting up and movement of electric systems within the pasture shared with poultry.

General stock checking Based on daily welfare checks from first thing until dark.
Health and Vet work Occasional treatment of minor illness and injury, herbal supplement provision and treatments/oils.

Loading/Transportation Based on collection of waste for compost, transport of produce on and off site
Processing/Admin Filling in of all relevant livestock movement licences, leg banding, tattooing, ear tagging, farm DEFRA records and FSA forms.
Meat preparation/Packing Organising of cuts, vacuum packing, weighing and labelling.
Cold store maintenance Based on monthly defrosting freezer unit and humidimeter and thermometer maintenance and washing out procedures.

Flax Labour requirements for flax are predominantly by hand tool without the use of artificial fertilizers and biocides
soil preparation Ploughing 1 month before cultivation, plough again immediately before cultivation, option to power harrow, application of compost
drilling Application of seed to prepared soil bed
weeding High labour requirement for weeding before drilling and throughout growing period and after desiccation
desiccation Application of desiccant to crop
retting Ensuring that crop does not fall over - may need tying and staking
harvest Cutting with mower and baling stalks
research Carrying out trial areas for best practise, liaising with other growers and University depts
Cloth preparation Removal of fibres from shive, dyeing etc
weaving Process of manufacture on a loom
product design Cutting and sewing of cloth for final product
course Teaching the process of flax cultivation, history of flax, weaving, dyeing etc
admin Contacting customers

Food foraging Collection of berries, leaves, stalks, bulbs, hips, nuts, fruits, fungi, fish and mammals from the wild

Vermiculture

bin preparation cleaning out static bins on site
waste collection picking up supplies of organic waste products in locality
unloading removing collected waste from float & emptying
sorting removing unsuitable items in collected waste
management maintaining temperature and humidity of worms
hand harvesting picking out and separating worms for sale from compost
bagging up packaging produce for sale
waste preparation shredding of waste to encourage uniform compost, turning compost, loading into bins
storage transporting and storing bags ready for sale
admin. & sales promoting produce, managing CIC & website

Forestry

management & transport Felling of timber for construction purposes / joinery, recording and selecting forest management plan, transport, storing & stacking
green woodwork Bodging, timber for chairs, thatching spars, kitchen utensils etc
charcoal Based on the cutting of sticks, packing of burners and the monitoring and management of burns, bagging of charcoal, transport and sales.

HORTICULTURE

Misting systems maintenance/operation checking and setting of automated systems in greenhouse and polytunnels and the need to be available in case of disruption or failure

Lighting systems maintenance/operation	servicing, checking and setting of automated grow light systems in greenhouses and the need to be available in case of disruption or failure
Compost gathering and handling	gathering of all biologically suitable organic matter and any shredding and chipping needed to fill main compost pits
Compost making/turning	turning of all compost pit contents, from the outside in, and the watering and creation of airways within the heaps
Poly tunnel maintenance/operation	up keep of the twin layer covers and the repair and fitting/dismantling of the end panels as required
Irrigation system maintenance	checking and setting of automated sprinkler and saturation watering and foliar feeding systems in greenhouse, polytunnels and field scale beds
Irrigating/Watering beds	bed specific, watering of particular crops within cold frames and cloches, in the tree and bush fruit area and the field scale bed
Weed Control	labour required to hoe individual beds and the general strimming and flamethrower suppression of annual and perennial weed growth.
Pest Control	labour required to carry out manual pest control works, at night and day, setting of traps and the maintenance of the natural predator systems
Cultivation work	rotavation of individual beds, rolling, and the raking of seed beds
Manure/compost application	spreading of manure within the plant growing areas and the application of compost layers within the horticultural areas, including polytunnels
Cover crop sowing/mowing	under sowing and ground cover sowing of low leguminous mixtures to suppress weeds, fix additional nitrogen and build up humus content
Green manure crop management	sowing cutting and incorporation of bulk crops of green manures such as sweet clover, mustard, chicory and vetches
Crop management	overall preparation of rotated beds, clearing of cover crops and wastes, staking, supporting and stringing as required, cloching and fleecing
Harvesting crops/produce	labour required for the entire, four seasons, harvest of all grown produce including tree & bush fruit, winter indoor crops, main crop vegetables as requir.
Pruning works	main tree, bush and cane pruning throughout the winter, plus the seasonal pruning of fruiting crops to ensure maximum yields
Processing/Packing	preparation and weighing, packing, bagging and boxing of produce for market, ready for collection/despatch to customers/market.
Transportation	weekly delivery for vegetable and fruit boxes
Greenhouse/Tunnel/Cold frame maintenance	periodic repairs to built systems and their annual overhauling/treatment, cleaning and sterilisation
Storage maintenance	repair, cleaning and maintenance of boxes, trays, trolleys used for the collection, stowage and transport of produce around Lammas .
General maintenance	overall labour required for tool, site and plant maintenance throughout the horticultural side such as paths, tractor/rotavators, hand tools, water tanks etc
Seed management	collection, indexing and recording of all seed supplies and the filing of specific variants for future use within the rotation.
Administration of rotation/bed system	constant up dating of rotation to ensure the limitation of disease, maximisation of fertility needs and the matching of available space to yield requirements

WOODLAND MANAGEMENT

Felling hardwoods	harvesting plot holders' allocated 0.71 cubic meters of hardwood
Coppicing work	plot holders' harvesting allocated number of coppice stools
Brush clearance	the clearance of main undergrowth in order to effectively carry out coppicing and the chipping of all waste.
Mushroom Log management	the soaking and plugging of logs throughout the lower woods for the production of oyster, chanterelle, chestnut and shitake mushrooms
Withy and pole harvesting	the cutting of willow withies from the osier beds and other areas, for basket making and the harvesting of half grown poles from coppice, for hurdle making
Transportation	moving cut timber from harvest site to storage facilities and time spent storing

FUEL

SRC Short rotation coppice willow - felling / cutting	Based on cutting managed willow for cooking and heating
transportation	Based on moving cut timber from harvest site to storage facilities and time spent storing
Miscanthus management	Planting, weeding, re-stocking, cutting, baling, transporting, produce from field to storage
Biomass handling	Moving bales from storage – service area, shredding, feeding into boiler

ENVIRONMENTAL MANAGEMENT

Soil improvement	Aerating, raising beds, drainage, crop selection
composting	transporting thinnings/ cuttings / household waste to compost areas - transport and application to soil
mineral application	Contracted and own labour for addition of limes and rock dust to soils
Hedgebank maintenance	Re-building of soil banks / walls - management of undergrowth
Hedge planting/laying	Based on the labour required for the cutting and laying of all boundaries as part of a 5 year cycle.

INFRASTRUCTURE

track maintenance	Maintaining surface, keeping culverts clear, weeding and gravelling track edge, keeping hedgerow clear at entrance
footpath maintenace	Cutting vegetation low, making and maintaining signing, maintaining surface, keeping culverts clear
water networks & leat	Maintaining pumps and pipes, service of ditch, pond, spring water networks, keeping leat banks sound, vegetation and fallen trees out of leat, rainwater harvest
electrical networks	Maintaining shared/community solar pv systems, external lights, safety of underground wiring systems, service hydro-electric turbine, generator & dump systems

SCIENTIFIC RESEARCH ANALYSIS AND RECORDING

75% test
ecological footprint assessment
plot observation & review

Annual Monitoring Report for the LPA recording percentage calculation of household needs met through the land based activities
Recording of households environmental impact especially relating to tons of CO2
The time spent recording, viewing and understanding the evolving systems within and between the range of enterprises
The after working hours study of trialled or other specific items to ensure data for onsite use and wider dissemination is accurate
The writing and reporting of results and explanation of systems design and results findings within agro/environmental community