Integrated Land Management Plan

PREPARED FOR

| BRN | 191612 |
|---|--|
| Business Name | Professor R and Mrs J Middleton |
| Farm name | Lochhill Farm |
| Address | Crossmichael Castle Douglas DG7 3BE |
| | |
| | |
| PREPARED BY | |
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Part 1: Vision Statement

Having farmed Lochhill in-hand and then in a share farming agreement, Richard and Jane are now looking to step back from day-to-day farm management and are looking at new ways to manage the farm that further promotes nature and contributes to a sustainable future for the local community. The businesses vision for the farm is to:

- Maximise ecological diversity.
- Support sustainable livelihoods.
- Be a place for education and learning.

Part 2: Objectives of the plan

The farm was destocked in 2024 to allow the land to rest and recover while the business entered into an agreement with <u>Propagate</u> led by Abi Mordin to work through how the farm could best be taken forward to meet the businesses vision.

The first step taken was to carry out extensive baselining of the farm for soil health and function, biodiversity and public goods.

A roundtable event was then held with farmers from the South West Scotland Regenerative Farming Network to brainstorm farm enterprises that could contribute to future resilience and meet the businesses vision for the farm. Invited experts on holistic management, regenerative grazing, cow with calf dairy, market gardening, pastured poultry, and education programmes have contributed to discussions and farm visits to explore the viability and feasibility of these enterprises in more depth and have provided written advice and costings. This work is still on-going.

The objective of this plan is to collate all baseline data and enterprise analysis to date to aid interpretation, identify next steps for the project and begin to ascertain the best means forward for the farm.

Part 3: Summary of actions

| Action | Objective (aligned to part 2) | Responsibility | Target Completion Date | Completed (√) |
|--|----------------------------------|---|------------------------------|------------------|
| Land and soil review: Land use and soil classification. Soil fertility. Soil biology. Soil health. | Baseline. | Daniel Stout Abi Mordin Business | November 2024. | ✓ |
| Biodiversity and conservation review: Bird survey. Species diversity survey. Wildlife sightings. Conservation advice. | Baseline. | Daniel Stout Abi Mordin Business | November 2024. | ✓ |
| Public goods review:Public goods tool.Carbon audit. | Baseline. | Daniel Stout Abi Mordin Business | November 2024. | \checkmark |
| Enterprise options appraisal - Summarise enterprise analysis carried out to date and next steps: • Micro-dairy and beef herd. • Free range broilers. • Market garden. • Wildflower seed. • Education venue. | Enterprise analysis. | Daniel Stout Abi Mordin Rob Drummond | December 2024. | ✓ |

Part 4: Business and natural resource review

4.1. Business structure

Detailed in the table below, the business is run as a partnership. Lochhill Farm, extending to 26.77 (66.15ac) of pastures and woodland, being owned by the partners.

Business structure

| Business name | Professor R and Mrs J Middleton |
|---------------|---------------------------------|
| Business type | Partnership |
| Partners | Richard and Jane Middleton |

4.2. Enterprise history

Timeline:

- 2011: Richard and Jane Middleton purchased Lochhill which had previously been run conventionally with low pasture diversity and few trees or hedges.
- 2011-2018/19: Farmed in-hand based on organic principles with a pedigree Shorthorn herd. Extensive woodland and hedge planting (which has continued to date).
- 2019–2022: Managed in a share farming agreement with cattle and sheep.
- 2023: Let out for grazing on a seasonal let.
- 2024: Destocked.

4.3 Land, soil and nutrient management review

4.3.1 Land use and soil classification

The entire farm is classified by the Macaulay Land Research Institute as land class 4.1 – Land capable of producing a narrow range of crops, primarily grassland with short arable breaks of forage crops and cereal.

According to the national soil map of Scotland, the entire farm is brown earths with noncalcareous gleys. Brown soils being moderately acid soils with brown mineral topsoil's and brown of yellowish subsoils. Gleys being soils that are periodically or permanently water logged.

Farm map is shown in Appendix 1 with land use detailed by field in Appendix 2 and summarised in the table below. 0.86 km of hedgerows have also been established.

Land use

| Land use | Area (ha) |
|----------|-----------|
| Pasture | 19.18 |
| Woodland | 6.40 |
| Marsh | 1.19 |
| Total | 26.77 |

The farm has excellent infrastructure in terms of fencing, gates and water troughs and extensive planting has meant that large fields have been subdivided to improve grazing management. Further sub-division can now be carried out using electric fencing.

4.3.2 Soil fertility

Soil sampling was carried out on the six largest pasture fields in September 2023 with analysis results shown below. Fields 18 and 11 are found to have optimal pH but low in phosphate (P). The other four fields meanwhile have very low pH of 5–5.3 which will be limiting nutrient availability and pasture productivity. These fields however have good P and potash (K) indices with two fields in fact high for K. Soil carbon levels (LOI%) are high at 10–12%.

Should the business wish to promote pasture productivity, yields and stocking potential then lime application should be considered for fields 4, 10, 20 and 25. This may however go against its vision of maximising ecological diversity with lime altering pasture species diversity in favour of more productive species.

No fertiliser inputs are to be used, and limited farm yard manure produced with cattle being outwintered. Removal of nutrients (nutrient off take) through hay should be considered to avoid further depletion of P and K indices should this conserved forage be fed in another fields. One option to alleviate this is through bale grazing to return nutrients and organic matter back to the soil.

| Field | Map counter | рН | Lime (t/ha) | Ρ | К | Mg | Ca | Na | LOI (%) |
|------------------|----------------|-----|----------------|----|----|-----|------|-------|---------|
| Far Drumlin | 18 | 6.3 | 0 | L | M- | 81 | 1600 | 24.37 | 12.15 |
| Near Drumlin | 11 | 6.3 | 0 | L | M- | 80 | 1700 | 18.97 | 9.97 |
| Round Field | 25 | 5.3 | 5.3 | M- | Η | 85 | 570 | 28.46 | 10.95 |
| Far Lochside | 10 | 5.3 | 5.3 | M- | Η | 124 | 680 | 26.98 | 11.8 |
| Near Lochside | 4 | 5.3 | 5.4 | M- | M- | 111 | 680 | 29.83 | 10.85 |
| Meadow | 20 | 5 | 7.8 | M+ | M+ | 101 | 460 | 34.8 | 11.48 |

Soil analysis

4.3.3 Soil biology – Soil Food Web

Four samples were taken from two locations in both field 10 and 20 for soil microbial life by Colin Russel using Soil Food Web analysis. Results and recommendations that where provided are summarised below.

Summary of results

Overall, there was a lack of good biology present in all samples. Fungal numbers were very low across the samples and there was presence of beneficial nematodes. Although protozoa numbers were shown as adequate in most samples, the standard deviation was high indicating the lack of protozoa leading to sporadic results.

Root feeding nematodes were present in two of the samples which is of concern as these attack plant roots causing harm to plants. Oomycetes were also present in three of the samples. Although these are undesirable if sufficient levels of beneficial fungi are present then these are kept in check and generally not a problem. Applications of beneficial fungi will help to keep the pathogenic fungi under control.

It is noted that these results are common in agricultural soils.

Remediation

It is recommended that applications of beneficial organism are applied to the sites to help boost populations of beneficial microorganisms. This should be carried out in conjunction with good farming practices that minimise the use chemicals (including chemicals used on animals such as de-wormers), synthetic fertiliser and soil disturbance (tillage, ploughing etc) as well as good rotational grazing management if grazing animals are present.

4.3.4 Soil health - SoilMentor

Four samples were taken from two locations in both field 10 and 20, in the same locations as the soil biology analysis, for soil health metrics using <u>Soilmentor</u>.

The following tests in the table below were carried out. Further information on each test can be found on the SoilMentor website above.

| Soil | Mentor | tests |
|------|--------|-------|
|------|--------|-------|

| Test | Description |
|--|--|
| Infiltration | Time (seconds) taken for water to fully infiltrate in to the soil. |
| Earthworms | Number of adult earthworms. |
| Visual Evaluation of Soil Structure (VESS) | Assessment of soil structure from 1–5 |
| Rhizosheaths | Root covering 1-2 score. |

Results are shown in the table below. In summary:

- Infiltration is a reflection of top soil structure. Both fields had a sample site where water was
 infiltrated quickly through the soil suggesting good soil structure, stable aggregates and limited
 compaction providing effective capture of rainwater and good percolation through the soil
 profile. Both fields, however, also had a sample site where infiltration was slow (20+ seconds)
 suggesting compaction, although Field 20 North was noted as being impeded by a rock.
- Earthworms were present in all samples ranging from 7–15 in a 20 x 20 x 20cm spade of soil.
- VESS scoring of soil structure is carried out by assessing soil aggregate size and angularity. Scores indicate acceptable soil structure in most cases but with room for improvement with scores 2 (intact), 3 (firm) and 4 (compact).
- Rhizosheaths, coatings of soil particles that cling to plant roots, are a sign of biological/microbial activity in the root zone. Test are all positive ranging between score 1 (some roots coasted, some roots partial or fully coating) to 2 (Most or all roots coated. Most roots are fully coated).

Soil Mentor results

| Soil health metric | Field 20 - North | Field 20 - South | Field 10 - 1 | Field 10 – 2 |
|--------------------|------------------|------------------|--------------|--------------|
| Infiltration | 20+ | 7 | 20+ | 15 |
| Earthworms | 7 | 15 | 10 | 10 |
| VESS | 3-4 | 2-3 | 3 | 2-3 |
| Rhizosheaths | 1 | 2 | 1.5 | 1.5 |

4.3.5 Pollution prevention and minimising risk

The business must be sure to comply with Good Agricultural Environmental Conditions (GAEC) regulations – <u>Rural Payments – GAECS</u>.

Pollution risk to water courses from spreading lime, inorganic and organic fertiliser can be mitigated with appropriate spreading practices. All watercourses at Lochill are now fenced off. This reduces nutrient pollution into waterways from livestock as well as creating habitat areas.

4.4 Biodiversity and conservation review

The below biodiversity review has been carried out through RSPB bird survey in 2012, iNaturalist sessions in 2024 and data trawl of wildlife sightings from the South West Scotland Environmental Information Centre (SWSEIC). This acts as a baseline on which to continue to record biodiversity, identify opportunities for further conservation measures and to track the impact of farming enterprises and practices which are set to change going forward.

4.4.1 Bird survey - RSPB 2012

The RSPB Volunteer and Farmer Alliance carried out a bird species survey at Lochhill in 2012. Of the 22 species recorded, 11 where 'Birds of Conservation Concern' (Red and amber) and of these, three are UK Biodiversity Action Plan priority species (*).

| Red | Amber | Green |
|----------|----------------|---------------|
| Lapwing* | Dunnock* | Blackbird |
| | House martin | Blue tit |
| | Meadow pipit | Buzzard |
| | Red kite | Chaffinch |
| | Reed bunting* | Goldfinch |
| | Snipe | Great tit |
| | Swallow | Moorhen |
| | Swift | Mute swan |
| | Wheatear | Pied wagtail |
| | Willow Warbler | Sedge warbler |
| | | Wren |

4.4.2 Species diversity survey - iNaturalist 2024

Species diversity was recorded at Lochhill using the iNaturalist app - <u>A Community for Naturalists</u> · <u>iNaturalist</u> – over 6 days from May to August 2024. This data was then requested from the site and is summarised below.

Total species observations by taxom

| Taxom | Number of species |
|----------|-------------------|
| Fungi | 1 |
| Insecta | 40 |
| Mammalia | 2 |
| Mollusca | 2 |
| Plantae | 60 |
| Total | 105 |

Filtered out for repeat observations for Insecta – 6 ringlet butterflies, 3 butterflies and moths, 3 meadow plant bug, 3 orange spotted plant bug, 2 green dock beetle and 2 meadow brown and for Planta – 5 Yorkshire fog, 4 yellow rattle, 3 ribwort plantain, 3 common sorrel, 2 orchard grass and 2 hogweed – this bring total species observed to 79, summarised below.

The results for plant species would suggest fairly diverse pasture swards compared to many more intensively management grasslands.

| Taxom | Number of species |
|----------|-------------------|
| Fungi | 1 |
| Insecta | 27 |
| Mammalia | 2 |
| Mollusca | 2 |
| Plantae | 47 |
| Total | 79 |

Species observations by taxom

4.4.3 Wildlife sightings - SWSEIC

A data enquiry was requested from the South West Scotland Environmental Information Centre (SWSEIC). The centre maintains a database of wildlife sightings throughout the region.

Results within 2km of Lochhill

2460 records from 25 taxonomic groups covering 618 taxa were found for within 2km of Lochhill. Results are summarised below. It should be noted that a large proportion of sightings are within 100m of Lochhill. The large number of species that fall within a designation is notable.

Number of records by year



Spatial precision of records supplied



Number of taxa recorded by designation type



Summary of records by taxonomic group

| Taxon group | No. of taxa | No. of records |
|-----------------------------------|-------------|----------------|
| Amphibian | 1 | 29 |
| Bird | 129 | 1131 |
| Bony fish (Actinopterygii) | 1 | 1 |
| Conifer | 3 | 3 |
| Crustacean | 3 | 12 |
| Fern | 2 | 6 |
| Flatworm (Turbellaria) | 1 | 1 |
| Flowering plant | 27 | 28 |
| Fungus | 8 | 8 |
| Hornwort | 1 | 1 |
| Insect - beetle (Coleoptera) | 74 | 275 |
| Insect - butterfly | 17 | 189 |
| Insect - caddis fly (Trichoptera) | 31 | 58 |
| Insect - dragonfly (Odonata) | 8 | 33 |
| Insect - hymenopteran | 11 | 40 |
| Insect - moth | 106 | 164 |
| Insect - orthopteran | 2 | 9 |
| Insect - true bug (Hemiptera) | 20 | 47 |
| Insect - true fly (Diptera) | 6 | 6 |
| Lichen | 95 | 117 |
| Mollusc | 17 | 56 |
| Moss | 4 | 4 |
| Reptile | 2 | 5 |
| Spider (Araneae) | 27 | 105 |
| Terrestrial mammal | 22 | 132 |
| Total | 618 | 2460 |

At Lochhill

Review of the data by specified location finds that a survey was carried out at Lochill on 20/07/2023. Shown in the table below, 30 observations were made. With 4 observations of common frogs, this provides 27 different species.

Species observed at Lochhill

| Taxon Group | Scientific Name | Common Name | Abundance |
|-------------------------------|----------------------------------|-------------------------------|------------------|
| Spider (Araneae) | Araniella | spider (Araneae) | 1 adult(s) |
| Insect - beetle (Coleoptera) | Coccinella septempunctata | 7-spot Ladybird | 1 adult(s) |
| Insect - true fly (Diptera) | Scathophaga stercoraria | insect - true fly (Diptera) | 6-20 adult(s) |
| Insect - true fly (Diptera) | Eriothrix rufomaculata | insect - true fly (Diptera) | 3 adult(s) |
| Insect - true bug (Hemiptera) | Philaenus spumarius | Cuckoo-Spit Insect | 1 adult(s) |
| Insect - true bug (Hemiptera) | Cicadella viridis | insect - true bug (Hemiptera) | 21-100 adult(s) |
| Insect - true bug (Hemiptera) | Zicrona caerulea | Blue Shieldbug | 1 adult(s) |
| Insect - hymenopteran | Bombus pascuorum | Common Carder Bee | 3 adult(s) |
| Insect - butterfly | Pieris napi sabellicae | Green-veined White | 3 adult(s) |
| Insect - butterfly | Aglais urticae | Small Tortoiseshell | 1 adult(s) |
| Insect - butterfly | Aphantopus hyperantus | Ringlet | 4 adult(s) |
| Insect - butterfly | Maniola jurtina | Meadow Brown | 1 adult(s) |
| Insect - moth | Agriphila straminella | Straw Grass-veneer | 21-100 adult(s) |
| Insect - moth | Chrysoteuchia culmella | Garden Grass-veneer | 2-5 adult(s) |
| Insect - moth | Arctia caja | Garden Tiger | 1 adult(s) |
| Insect - moth | Noctua pronuba | Large Yellow Underwing | 2 adult(s) |
| Insect - moth | Autographa gamma | Silver Y | 2 adult(s) |
| Insect - orthopteran | Omocestus viridulus | Common Green Grasshopper | 5 adult(s) |
| Amphibian | Rana temporaria | Common Frog | 2 pre- adult(s) |
| Amphibian | Rana temporaria | Common Frog | 2 pre- adult(s) |
| Amphibian | Rana temporaria | Common Frog | 1 adult(s) |
| Amphibian | Rana temporaria | Common Frog | 1 adult(s) |
| Bird | Emberiza schoeniclus | Reed Bunting | 2 adult(s) |
| Bird | Carduelis carduelis | Goldfinch | 25 |
| Bird | Chloris chloris | Greenfinch | 2 |
| Bird | Anthus pratensis | Meadow Pipit | 1 adult(s) |
| Bird | Saxicola rubicola | Stonechat | 3 |
| Fungus | Claviceps purpurea var. purpurea | Ergot | Coverage F DAFOR |
| Fungus | Psathyrella candolleana | Pale Brittlestem | Coverage F DAFOR |
| Flowering plant | Rhinanthus minor | Yellow-rattle | Coverage A DAFOR |

4.4.4 Conservation advice

Malcolm Haddow, SWSEID Support Officer has provided the following advice for further conservation at Lochhill, and wants to highlight that Richard and Jane have already done a brilliant job of providing a home for wildlife on their farm.

Actions to promote specific species:

- Barn owl: nest boxes could be put up. Improvement of grassland into species rich grassland to increase food i.e voles.
- Slow Worm: Provide compost heaps for breeding and lay down in sheets to help monitor numbers.
- Bats: If there are roosts on site it is vital to know where they are and avoid disturbance. Meadows would also increase food.
- Red Squirrel: Trapping of Grey Squirrels which can be done via proxy through the local red squirrel group. Stop feeding your birds if grey squirrels arrive as they spread disease and bird feeders have been correlated with a loss of reds following grey squirrels moving in.

- Skylark, Whorled Caraway & insects: Species Rich Grassland creation would be a great boost for these species.
- Swifts: Swift Boxes and despite what the literature says we have found swift locally nest in places well below 10m including nearly at ground level.
- Spotted Flycatcher: Open ended nest boxes and management of woodland by keeping the woodland canopy quite open but allowing for plenty of understory growth.
- White Fronted Geese: If these do graze on the site then the advice is technically to leave it as improved grassland.
- Erncrogo Loch: This is a locally significant Loch being very shallow and nutrient poor and is home to a number of locally and nationally rare species including Green Orb Mussel and Pillwort. The advice would be to prevent nutrient runoff into the loch and keep it nutrient poor.
- Tree Sparrow: The erection of tree sparrow colonial nest boxes.
- Japanese Knotweed. If this if found on site I would recommend taking measures to control it.
- Moth trapping: there are a few interesting moths that have been recorded there and nearby and it would be valuable to monitor these going forward. Even a trap being put out once a month could tell us a great deal about what moths are doing at Lochhill Farm.

Things to avoid:

1. Further woodland creation: The site is already well gifted with woodland and has had a fantastic impact on the sites ability to support wildlife. However, I would recommend that the site not become a forest as Galloway is already well catered for in that department. What the area needs more of is species rich grassland and semi-natural open habitats to cater for those species that are generally in decline at the moment due to the loss of these habitats, one of the current main culprits of which is ironically woodland creation. You may have noticed I have left Curlew off the list above mainly due to the fact that it is now unlikely for the curlews to breed on the site as they will actively avoid woodland.

2. Non-native plants in native seed mixes: Most native seed mixes that you can get are not in fact native seed mixes. Certainly at least for the south West of Scotland this can actually end up having a negative effect by introducing potentially invasive plants to the area. Scotia Seeds is expensive but their habitat-based seed mixes are the closest thing I have seen to a genuine native seed mixes for our area.

3. Too much access: I fully believe that everyone should have access to the outdoors and have the chance to see what wildlife they want to see. However, on sites that have catered to community disturbance is a major issue. I don't know if there are plans to make the site more accessible to the public or not but if there are my advice would be to leave a fair chunk of the site more of less inaccessible. This is especially important for breeding birds as ironically many of our countries most popular bird reserves are now in fact fairly poor for breeding birds due to the level of disturbance they receive. That said I don't expect that level of disturbance will be a problem at Lochhill but none the less it is worth considering the impact it might have when you are drawing up any plans.

4.5 Public goods

4.5.1 Public Goods Tool

The Organic Research Centres Public Goods Tool was used to capture the production of publics goods, ecosystem services and overall sustainability of land management practices at Lochhill.

Results are shown in the infographics below and highlight opportunity for improvement in most categories.

Final score by category



Results by sub-category are shown in the table below, providing greater insight.

Sub-category scores

| | | 0 | 1 | 2 | 3 | 4 | 5 |
|--|---------------------------------------|---|---|---|---|---|----|
| | Soil analysis | | | | 3 | | |
| | Soil management | 0 | | | | | |
| Soil Management | Winter grazing | | | | | 4 | |
| | Soil erosion | | | | | | 5 |
| | Measures to reduce erosion | 0 | | | | | |
| | Agri-environmental participation | | | | | | 5 |
| | Rare species | | | | | | 5 |
| Agri-environmental management | Conservation plan | | 1 | | | | |
| | 3rd party endorsement | | | 2 | | | |
| | Habitat | | | | | 4 | - |
| | Herbicide and other pesticide use | | | | - | | 5 |
| the state of the s | ICA and landscape features | | | | | | |
| Landscape and Heritage Features | Management of houndaries | | | | | 4 | |
| | Genetic heritage | | 1 | | | | |
| | Reducing pollution | | | | | | 5 |
| | Flood defence and runoff prevention | 0 | | | | | |
| Water Management | Water audit and management plan | 0 | | | | | |
| | Water harvesting | | 1 | | | | |
| NDK hudget | Irrigation | | | | | | 5 |
| NPK budget | Nutrient balance | | | | | | 5 |
| | Fertiliser management and application | | | | | | 5 |
| Fertiliser management | Nutrient planning | | | 2 | | | |
| | Manure management | | | | | 4 | |
| | Farm waste disposal | | | | | 4 | 5 |
| | Penewable energy | | | 2 | | | 2 |
| Freezeward Carbon | Energy ratio | | 1 | 2 | | | |
| Energy and Carbon | Energy saving ontions | | 1 | | | | |
| | Greenhouse gases | | | | | 4 | |
| | Land use change | | | | 3 | | |
| | Total produtivity | | | | 3 | | |
| | Local food | | | | | | 5 |
| Food Security | Off farm feed | | | | | | 5 |
| | 3rd party endorsement | | 1 | | | | |
| | Food quality certification | | 1 | | | | |
| | Production of fresh produce | | | | | | 5 |
| | Rotational and varietal diversity | 0 | | | | | |
| Agricultural systems diversity | Livestock diversity | | | | 2 | 4 | |
| | On farm processing | | 1 | | 2 | | |
| | Employment | | | | | | 5 |
| | Skills and knowledge | | | | | 4 | |
| Social Canital | Community engagement | | | 2 | | | |
| Social capital | CSR initiatives and accreditations | | 1 | | | | |
| | Public access | | | 2 | | | |
| | Human health issues | | | 2 | | | |
| Farm Business Resilience | Financial viability | | | | 3 | | |
| | Farm resilience | | | | 3 | | |
| | Staff resources | | | | | | 5 |
| | Staff resources | | | | | | |
| Animal Health & Welfare | Animal health | | | | | 4 | Ε. |
| | Ability to perform natural behaviours | | | | 3 | | 2 |
| | Biosecurity | | 1 | | 2 | | |
| | bioseculity | | | | | | |
| | | | | | | | |

If we consider a score of three or less as opportunity areas for improvement and further action these are as shown in the table below.

| Category | Sub-category |
|--------------------------------|---|
| Soil management | Soil management, measures to reduce erosion |
| Agri-environmental man. | Conservation plan, 3 rd party endorsement |
| Land scape and heritage feat. | Historic, JCA and landscape features, genetic heritage |
| Water management | Flood defence and run-off prevention, water audit and management |
| | plan, water harvesting |
| Fertiliser management | Nutrient planning |
| Energy and carbon | Renewable energy, energy ratio, energy saving options, land use |
| | change |
| Food security | Total productivity, 3 rd party endorsement, food quality certification |
| Agricultural systems diversity | Rotational and varietal diversity, on farm processing |
| Social capital | Community engagement, CSR initiatives and accreditations, public |
| | access, human health issues |
| Farm business resilience | Financial viability, farm resilience |
| Animal health and welfare | Staff resources, housing, biosecurity |

Opportunity areas for further improvement in public goods and sustainability

Further information about public goods, research and the tool itself can be found here: <u>The Organic</u> <u>Research Centre – Public Goods Tool</u>

4.5.2 Carbon audit

Carbon auditing for the 2022 year was carried out using Agrecalc. Whilst the operational emissions are of limited interest now, the below estimates of carbon sequestration by woodland and hedgerows where provided.

6.4ha woodland and 0.86km of hedgerows on farm were estimated to have sequestered 110% of operational emissions in the audit year which highlights the significant contribution to sequestration the farm is providing. It is anticipated that this level of sequestration will be far greater than the emissions of any future enterprises on farm. Additionally, this does not include soil carbon sequestration.

Carbon sequestration

| Source | Kg CO₂e |
|-----------|---------|
| Woodland | 83,417 |
| Hedgerows | 2,017 |
| Total | 85,434 |

4.6 Buildings

The farm has the following building infrastructure:

- Cattle shed: Erected 2011–12, 60 ft x 30 ft, timber frame, walls concrete block with Yorkshire boarding above, roof of cement sheets, gates dividing shed into two halves, feeding gates at front with concrete hard standing, floor otherwise of compacted rock, access to small paddocks at rear, power, light and water.
- Shed used for hay, straw and equipment storage: Erected 2011–12 and similar construction to cattle shed but 60 ft x 40 ft and with partly open sides, earth floor, no services.
- Converted traditional byre (1): Rubble stone walls, re-roofed in 2009 with steel sheeting and new timbers, concrete floor, divided into store (10 ft x 9 ft), hen house (6 ft x 5 ft), stock pen with water and 3 feed troughs (16 ft x 10 ft), workshop (15 fr x 13 ft), all with power and light.
- Converted traditional byre (2): 27 ft x 16 ft, construction similar to (1), single housing space for livestock with feeding area with 5 feeding troughs and water supply divided off by gates at one end, open at other end with access to paddock, power and light.
- Converted traditional byre (3): 19 ft x 11 ft, construction similar to (1) and (2), stock pen with feed barrier, water, power and light, access to same paddock as (2).
- Handling pens: With race and cattle crush, well fenced gathering pens of different sizes, concrete floor, loading/unloading facility, light and access to power.

The wide range of well-maintained buildings on farm provides significant opportunities for future enterprises on farm.

4.7 Machinery and equipment

The business has the following machinery and equipment:

- Valtra A95 tractor (2003, bought second-hand, 2011) with front loader.
- Tractor equipment: bucket, muck forks (both second hand), front and rear bale handlers (new in 2013).
- Lely 205 mower (new, 2013).
- Major topper/slasher (second-hand but almost new, 2015).
- Flatbed trailer (second-hand, 2014).
- General purpose farm trailer (second-hand, 2015).
- Dung spreader (second-hand, 2015).
- Hay bob (second-hand, c.2000).
- 1 cattle field feeding trough.
- Cattle handling system with cattle crush.
- Sundry cattle equipment (eg calf feeding bottles, halters, calving jack, tagging equipment).

4.8 Farm support payments and cross compliance

4.8.1 Basic Payment Scheme

The farms Basic Payment Scheme (BPS) income is shown below.

BPS income

| Region | Area (ha) | Payment rate (£/ha) | Total (£) |
|--------|-----------|---------------------|-----------|
| 1 | 24.17 | 223.56 | 5,403.45 |
| 2 | 0.32 | 45.36 | 14.52 |
| Total | | | 5,417.97 |

*Based on 2023 BPS payment rates.

4.8.2 Whole Farm Plan

Farm support payments are not guaranteed going forward. Schemes may disappear or continue but with additional conditionality and potentially reduced payment rates.

Scot Gov have released the Agricultural Report Programme (ARP) route map giving information on the direction of travel which should be read: <u>Rural Payments – Agricultural Reform Route Map</u>

Under the route map it is stated that existing support payments and application mechanisms are going to be largely unchanged through into 2027 but with the introduction of the Whole Farm Plan which sets additional conditionalities to be eligible for BPS claim.

By 15th May 2025

Under the Whole Farm Plan, to claim BPS in 2025 businesses must:

- Ensure they have at least two of the audits or plans, detailed in the table below, by 15th May 2025.
- These must meet the minimum standard detailed in the guidance and be within the validity period.
- Indicate on their 2025 SAF which audits and plans are held and ensure copies are available to be shared with SGRPID if required. Only Habitat maps as part of the Biodiversity Audit will need to be submitted with the SAF.
- Biodiversity audits, carbon audits and soil analysis must be dated after 16th May 2020 to be eligible in 2025.
- Failure to have at least two of the audits and plans will not result in penalties in 2025, instead a warning letter will be issued. Checking will be part of the on-farm inspection regime.

WFP Audits and Plans

| Audit / Plan | Validity |
|---------------------------------|--|
| Animal Health and Welfare Plan | Annual review |
| Biodiversity Audit | Five-year review |
| Carbon Audit | Five-year review |
| Integrated Pest Management Plan | Annual review |
| Soil Sampling of Region 1 land | Five-year review (every Region 1 field that receives fertiliser or manure sampled within a five-year period) |

By 15th May 2028

It is likely that more than two audits/plans will be required for the 2026 SAF application. An update will be release in 2025 as part of the ARP route map.

For the 2028 SAF, by 15th May 2028 at the latest, every business will be required to have carried out all the audits and plans that make up the WFP that are applicable to their business as a condition of receiving support payments. Nutrient Management Plans will be introduced to the WFP by 2028.

Biodiversity and carbon audits are a requirement of all businesses whilst the other three are dependent on a given business's agricultural activities, whether they keep stock, use pesticides or apply artificial fertilisers and organic manures.

Full guidance: Rural Payments - Whole Farm Plan

4.8.3 Cross compliance

Cross Compliance is a mandatory set of requirements and standards that land managers are required to meet to receive support scheme payments:

There are two sets of requirements set out in legislation:

- Statutory Management Requirements (SMRs) <u>Rural Payments Statutory Management</u> <u>Requirements (SMRs)</u>
- Good Agricultural and Environmental Conditions (GAECs) <u>Good Agricultural and Environmental</u> <u>Conditions (GAECs) (ruralpayments.org)</u>

The business must make itself aware of all SMRs and GAECs that are applicable to their farm and business and ensure compliance.

Part 5: SWOT analysis and options appraisal

5.1 SWOT analysis

The following SWOT analysis has been developed following review and discussions with the business.

| Strengths | Weaknesses |
|---|--|
| Clear vision for the farm. Productive land class 4.1 Region 1 pastures. Fencing and water infrastructure. Positive biodiversity status, habitats and wildlife on farm. Well maintained building infrastructure suitable for conversion into other uses including micro-dairy and education venue. | Small land area (19.18ha of pasture). Small herd size potential. |
| Opportunities | Threats |
| Improvements in soil health, biology and fertility. Increase grassland sward diversity. Natural capital income. Increase public goods. Micro-dairy and beef herd producing milk and cattle sales or further value- added dairy products and beef. Free range broiler production. Market garden. Wildflower seed sales. Education venue. | Succession. Poor governance. Failure to find the right people to operate the proposed enterprises. Poor financial viability of proposed enterprises. Poor uptake and sales of enterprise products at the premium required for financial viability, be that garden produce, dairy, chicken, venue rental or educational workshops. Lack of affordable rural housing. |

5.2 Enterprise options appraisal

To recap the business vision for the farm follows three key aims:

- 1. Maximise ecological diversity.
- 2. Support sustainable livelihoods.
- 3. Be a place for education and learning.

Whilst renting the farm out to one operator could, provided the right person was found, contribute to aim 1, it would not meet aims 2 and 3 well.

The roundtable discussion helped to generate a number of ideas for on farm enterprises. An 'Enterprise Stacking' approach is being considered, in which each enterprise would be the remit and responsibility of different people as separate micro-enterprises. The enterprises would work collaboratively and over time develop mutually supportive and symbiotic relationships.

The following enterprises where highlighted by the discussion to have promise as potential enterprises for Lochhill that could move it towards all three aims of its vision as a whole:

- Micro dairy and beef herd.
- Free range poultry.
- Market garden.
- Wildflower seed.
- Education venue.

The following sections outline the enterprise analysis carried out to date and next steps.

In every case, getting the right people that are aligned to the business ethos, enthusiastic and driven will be key. As is start up funding, be that personal, grant or loan, in the majority of cases.

5.2.1 Micro dairy and beef herd

As a predominantly grass farm, grazing ruminant livestock will continue to be a key feature of the farm. Beef cattle and dairy are preferred over sheep or goats. It is anticipated that the herd, or part of, will be owned by Lochhill Farm to maintain active farmer status for future farm support payments and inheritance tax reasons.

Dairy is a dominant feature of the farming environment in Dumfries and Galloway, although the last dairy farm in the Glenkens sold their herd in 2022. Data from South of Scotland Enterprise, Digital Dairy Hub, D&G Sustainable Food Partnership and the Galloway Food Hub has evidenced a gap in the market for direct sales of pasture fed, regeneratively farmed milk, cheese, butter and yoghurt. There is in fact no butter produced at all in Dumfries and Galloway. As such an on-site creamery is a potential enterprise to add value over milk sales. As does an on-farm butchery which could also service the local farms.

In this model, dairy cows would comprise 50% of the Lochhill herd, with the remaining 50% running as a beef suckler herd. Whether dairy calves are suckled on dam or weaned at birth is to be considered. A dual-purpose breed such as Shetlands will be selected. It is advised that both enterprises be run by the same operator to achieve sufficient scale and financial viability.

It is anticipated that the herd will be managed on regenerative principles, using adaptive multi-paddock (AMP) grazing with daily shifts and long periods (adapted to livestock class nutritional requirements) to

promote soil health, pasture diversity, ecosystem function and extend the grazing season. The beef herd being totally forage based and the dairy cows receiving minimal supplement. The regenerative system will be key to the marketing strategy.

The table below outlines estimated cost of herd establishment for 10 cows based on whether calving and so milking (5 cows) is commenced in year 1 requiring the purchase of in-calf heifers/cows or delayed until the following year with bulling heifers purchased in year one (this results in no income in year 1). In both cases a class of younger stock is required to have replacements should any cows fall out of the system. Breeding policy needs to be reviewed as to whether artificially inseminated (AI) is used or a bull purchased or both.

| Scenario | Head | £/head | Total | | |
|--|------|--------|---------|--|--|
| Milking in year 1 | | | | | |
| In calf heifers/cows | 10 | 1500 | 15000 | | |
| Bulling heifers | 2 | 1000 | 2000 | | |
| Total | | | 17000 | | |
| Milking in year 2 | | | | | |
| Bulling heifers | 10 | 1000 | 10000 | | |
| Heifer calves | 2 | 650 | 1300 | | |
| Total | | | 11300 | | |
| Sensitivity analysis ± 20% stock value | | | | | |
| Milking year 1 | | | ±£3,400 | | |
| Milking year 2 | | | ±£2,260 | | |

Herd establishment cost

An analysis of the buildings and cattle handling systems in place at Lochhill has concluded that two of the buildings could be easily retrofitted for a dairy and processing facility. Rob Drummond, Osliebrae Organic Dairy, has provided the following estimates for capital expenditure in fixed equipment for milking, processing and assuming a vending machine for milk sales.

Dairy capital requirements for fixed equipment

| | £ | Notes |
|-----------------------------|-------|--|
| Milking parlour | 5000 | Second hand parlour or 2 or 3 of twin bucket milkers. |
| Associated building works | 5000 | Very hard to estimate until we know what scale and type of set up. |
| Milk cooling | 4000 | Pre-processing & post pasteurisation. |
| Milk processing | 10000 | 200l capacity batch pasteuriser, Chinese options cheaper but with higher risk. |
| Milk bottling | 20000 | Low volume - is hand filling an option? vending @£10000 though cheaper |
| /distribution/sales/vending | | Chinese options (higher risk). |
| Total | 48400 | |
| Contingency +10% costs | 53240 | Total |

Rob Drummond has provided indicative costings (Appendix 3) for the dairy for a five or 10 milking cow herd assuming 4,000l yield per cow (3,000l sold at £1.25/l) consuming a low rate of 0.5t of concentrates per cow with calves weaned at birth and reared to 90 days consuming 1,000l of milk.

In summary:

- Gross Margin profitability of £3,328 per cow is estimated providing a total Gross Margin of £16,640 for a five-cow herd or £33,280 for a ten-cow herd.
- Fixed costs for spares and repairs, contractor charges, electricity and fuel and depreciation totalling £11,645 realised a partial net margin of £21,626 (£2,165.4/cow) for a ten-cow herd but only £4,986 (£997.2) for a five-cow herd due to inability to spread fixed costs across sufficient output.
- Processing, distribution, vending costs and admin are not included and in need of further review. As does any machinery requirements, be that owned by the operator or leased from the farm.
- Rent and labour (personal drawings if all labour provided by the operator) are also not included in the partial budget and require further review. In both cases this will be shared with the beef enterprise.
- In both cases these additional fixed costs are anticipated to exceed the partial net margin shown highlighting poor profitability potential and outlining that a five-cow milking herd is unviable.
- Further processing into butter, cheese etc should be appraised to add value to the milk with potential for improved profitability.

Breeding cow herd size on the 19.18ha of pasture, will be driven by the grazing system employed and the number of youngstock carried eg whether youngstock are sold as calves, stores or finished on farm at 18–36 months. Within this, the number of suckler cows, not milked, will be dependent on the anticipated scale of the dairy system which if numbering ten milking cows will likely need to be a greater proportion than 50% of cows milked. Weaned calves from the dairy will however contribute to beef cattle sales.

Further review into the dairy and beef enterprises, including potential for added value dairy and direct to consumer beef, are required to ascertain the best means forward in terms of stocking capacity, system, herd structure and management with detailed scenario analysis and costings.

5.2.2 Free range broilers

Data from the Galloway Food Hub has identified organically produced free range chicken meat as a gap – and demand – locally. As consumers become more aware of how their food is produced and water pollution from industrial chicken farms is in the news, increasingly people are prepared to pay a premium price for high quality, sustainably produced meat.

A fixed but moveable chicken shed is proposed that is moved between two locations, near the steading, between batches to provide clean pasture for each new batch. Processing facilities will need to be considered.

Sascha Grierson, SAC Consulting, has been commissioned to carry out an appraisal for a free-range poultry enterprise at Lochhill. FAS Specialist Advice funding is be utilised. Sascha runs an organic direct to consumer meat business including free-range poultry at Newmiln Farm near Perth.

5.2.3 Market garden

Vegetable and fruit production continues to be a gap in the farming landscape of Dumfries and Galloway. In Scotland, we import around 80% of all fruit and vegetables. As D&G is a net exporter of beef, lamb and pork this figure is likely to be higher.

Climate change poses a real threat to production in places where vegetable production is concentrated, such as the south of Spain, sub-Saharan Africa, and Holland.

Data from D&G Sustainable Food Partnership, South of Scotland Destination Alliance and the Galloway Food Hub demonstrate a desire for locally grown, organically produced vegetables. Local supply chains already exist and work is underway through collective action for market gardeners in the region to find mutual support, training and shared resources.

In this model, 1 acre (0.45ha) of land at Lochhill will be designated as market garden land. Initial thoughts are for this to be the top of field 20, near to the road and accessible services from the steadings. The area under cultivation moved periodically and the old site put back to pasture.

Cashflow projections for year 1 (Appendix 4) and year 2 (Appendix 5) including capital investment, loan and grant requirements have been provided by Abi Morden.

In summary:

- £25,000 in capital expenditure is required to set up the market garden in year 1 including a shed, polytunnels, fencing, tools and electric and water infrastructure.
- £19,400 in sales of vegetables, plug plants and cut flowers in year 1, increasing to £27,600 in year 2. This includes £9,000 in workshop sales based on 30 workshops of 15 attendees paying £20 each. This is an affordable learning opportunity for the community.
- £20,000 in grants and £5,000 in loans to be sought in year 1 with £7,500 in grants in year 2. The loan is budgeted as a 1-year loan at 3% interest meaning it is payment off in year 1.
- Operational costs of £25,920 in year 1 including wages and loan repayments and £24,792 in year
 2.
- This results in a cashflow deficit of £6,280 in year 1. Further grants or loans will need to be accessed or the personal capital of the operator invested. There is also options to scale back set up in year 1 to reduce costs.
- In year 2, a positive cashflow of £10,548 is realised. It should however be noted that this includes £7,500 in grants highlighting reliance on grant funding to achieve profitability (at least in the early years) and also highlights risk, should yields and sales be lower or costs increased.

5.2.4 Wildflower seed

The hay meadow at Lochhill is rich in yellow rattle and other wildflowers. Selling wildflower seed direct or linking with an organisation such as Scotia Seeds are possible options.

Labour to pick seeds by hand, processing facilities, a drying room, packaging and marketing plan will be required.

This enterprise requires further appraisal.

5.2.4 Education venue

A purpose-built space or renovation of one of the existing farm buildings as a hireable venue for workshops, courses and events of various types as well as in-house workshops.

Abi Mordin has provided the following costings of input and expenditure.

Education venue - income and expenditure projections

| | Year 1 | Year 2 onwards |
|--|--------|----------------|
| Income | | |
| Space hire | 0 | 8000 |
| In-house developed weekday workshops (fees) | 0 | 13500 |
| In-house developed weekend workshops (fees) | 0 | 20000 |
| Total income | 0 | 41500 |
| Expenditure | | |
| Capital investment for construction/renovation | 20000 | 0 |
| Management | 0 | 19000 |
| Cleaning and caretaking | 0 | 6240 |
| Utilities | 0 | 2400 |
| Total expenditure | 20000 | 27640 |
| Cashflow | -20000 | 13860 |

5.2.4 Governance

An appropriate governance structure is perhaps the single most important factor to consider. Expert advice must be sought to ensure the best means forward is ascertained. Factors to consider include:

- Succession planning for land ownership including whether a trust is appropriate.
- Governance structure for farm management for example a Limited Company, Community Interest Company (CIC) or Charitable Incorporated Organisation (CIO). A CIC has been decided upon.
- It is anticipated that each enterprise operator will be self-employed. However, there are other structures that could be reviewed including employment by the farm management body or share farming agreements.
- Land rental structure, be that to the farm management body, direct to the operators or a combination of both. An SLDT to the CIC with enterprise operators being co-directors has been decided up.
- Farm subsidy claim and eligibility. Options include claim being made by the farm, the farm management body or the operator of the cattle enterprises. This would also influence expectations for responsibility to maintain infrastructure eg fencing.

Part 6: Conclusion

Baselining conclusions and next steps:

- Productive small farm with good fencing and water infrastructure.
- Extensive network of hedges and woodland with a wide range of benefits including habitat, wildlife and carbon sequestration and in creating sub-division for improved pasture management and water course boundaries for habitat areas and minimising diffuse pollution.
- Variable soil fertility but generally good. Several fields very low pH. Sub-optimal soil biology with opportunity to improve. Fairly positive soil health scores with opportunity to improve soil structure further.
- Bird surveying, species diversity recording using iNaturalist and wildlife sighting data from SWSEIC have highlighted a biodiverse farm with a wide range of plant, insect and bird species. This is testament to Richard and Janes commitment and investment into promoting nature at Lochhill.
- Livestock grazing management is highlighted as the next big opportunity to further promote pasture species diversity, wildlife, soil structure and health. Further actions to promote nature and benefit specific species outlined by Malcolm Haddow of SWSEID should be considered.
- The Public Goods Tool has highlighted several areas of opportunity for improvement. It is however noted that many of these will be addressed through successful establishment of the proposed future enterprises (eg social capital, food security, farm resilience) and land management.
- Overall, the baselining paints a very positive picture. Continue to record and review data on soil health, biodiversity and public goods going forward to track the impact of proposed enterprises, practices and land management and continue to identify opportunities for improvement.

Enterprise options appraisal next steps:

- In all cases the enterprises analysis carried out to date is only the starting point with further review required in all cases to ascertain viability and the best means forward. Funding options will need to be looked into and accessed to cover the costs of further reviews. As will start up funding for each respective enterprise.
- Review funding options for further micro-dairy and beef enterprise analysis.
- Free range broiler enterprise analysis in progress with Sascha Grierson utilising FAS Specialist Advice funding.
- Further review of market garden viability is required including start up and operational grant funding options.
- Wildflower seed sales is highlighted as a potential enterprise but has not yet been analysed.
- Indicative costings for the education venue highlight a financially viable enterprise. Further review into implementation should be carried out.
- Expert advice must be sought to ascertain the best means forward for governance.

Appendix 1: Farm Map



Appendix 2: Field table

| Counter | Area (ha) | Land use |
|---------|-----------|----------------------------|
| 1 | 1.62 | Woodland |
| 2 | 0.08 | Woodland |
| 3 | 0.11 | Woodland |
| 4 | 1.84 | Pasture |
| 5 | 0.35 | Pasture |
| 6 | 1.69 | Woodland (0.5ha) and marsh |
| 7 | 0.12 | Woodland |
| 8 | 0.26 | Woodland |
| 9 | 0.14 | Pasture |
| 10 | 2.57 | Pasture |
| 11 | 2.8 | Pasture |
| 12 | 0.13 | Woodland |
| 13 | 0.26 | Pasture |
| 14 | 0.22 | Woodland |
| 15 | 0.18 | Woodland |
| 16 | 0.63 | Woodland |
| 17 | 0.33 | Woodland |
| 18 | 3.45 | Pasture |
| 19 | 0.54 | Woodland |
| 20 | 3.03 | Pasture |
| 21 | 0.02 | Woodland |
| 22 | 0.02 | Woodland |
| 23 | 0.74 | Woodland |
| 24 | 0.42 | Woodland |
| 25 | 4.74 | Pasture |
| 26 | 0.48 | Woodland |
| Total | 26.77 | |

Appendix 3: Dairy costings

| | 5 milking cows | | 10 milking cows | | |
|-----------------------------|----------------|-------------|-----------------|-------------|--|
| | Total (£) | Per cow (£) | Total (£) | Per cow (£) | Notes |
| INCOME | | | | | |
| Milk | 18750 | 3750 | 37500 | 3750 | £1.25/I retail price |
| Weaned calves at 90 days | 1000 | 200 | 2000 | 200 | Type dependant - range £150 to 500 at 3mths old |
| Total income | 19750 | 3950 | 39500 | 3950 | |
| VARIABLE COSTS | | | | | |
| Calf rearing | | | | | |
| Concentrate feed | 360 | 72 | 720 | 72 | 2kg/hd at £400/t for 90 days |
| Straw | 200 | 40 | 400 | 40 | Approx 0.5t/hd |
| Vet and med | 100 | 20 | 200 | 20 | |
| sundries | 50 | 10 | 100 | 10 | Tags, bvd & Johnes testing |
| Sub total | 710 | 142 | 1420 | 142 | |
| Dairy | | | | | |
| Concentrate feed | 1000 | 200 | 2000 | 200 | £400/t conventional, organic will be around 50% more |
| Bedding | 250 | 50 | 500 | 50 | 50p/day in straw or sawdust. |
| Dairy chemicals | 50 | 10 | 100 | 10 | Approx £60/mth depends on system |
| Vet and med | 250 | 50 | 500 | 50 | |
| Sundries | 250 | 50 | 500 | 50 | Milk testing |
| Breeding costs | 600 | 120 | 1200 | 120 | |
| Sub total | 2400 | 480 | 4800 | 480 | |
| Total variable costs | 3110 | 622 | 6220 | 622 | |
| GROSS MARGIN | 16640 | 3328 | 33280 | 3328 | |
| FIXED COSTS | | | | | |
| Spares & repairs | 2000 | 400 | 2000 | 200 | Parlour test & consumables |
| Contractor charges | 1750 | 350 | 1750 | 175 | Silage, dung, field operations |
| Electricity & fuels | 5000 | 1000 | 5000 | 500 | |
| Depreciation | 2904 | 580.8 | 2904 | 290.4 | £6000/yr split of £44000 pt 10% pt 20% |
| Total fixed costs (partial) | 11654 | 2330.8 | 11654 | 1165.4 | |
| NET MARGIN (partial) | 4986 | 997.2 | 21626 | 2162.6 | |

| Appendix 4: Market gard | en – Year 1 cashflow |
|-------------------------|----------------------|
|-------------------------|----------------------|

| | Total | April | Мау | June | July | Aug | Sept | Oct | Nov | Dec | Jan | Feb | Mar | Details |
|----------------------------|-------|-------|-------|-------|------|------|------|------|-------|-------|-------|-------|-------|---|
| INCOME | | | | | | | | | | | | | | |
| Sales | | | | | | | | | | | | | | |
| Weekly veg sales | 9200 | | 500 | 500 | 800 | 1000 | 2000 | 1500 | 800 | 500 | 500 | 500 | 600 | First year of sales while still establishing growing site |
| Plug Plants | 600 | | 200 | 200 | | | | | | | | | 200 | Veg, herb and flowers |
| Cut flowers | 600 | | | | 200 | 200 | 200 | | | | | | | Table flowers, seasonal |
| Workshop fees | 9000 | 3000 | | | 3000 | | | 3000 | | | | | | 30 workshops with 15 people paying £20 each |
| Total sales | 19400 | 3000 | 700 | 700 | 4000 | 1200 | 2200 | 4500 | 800 | 500 | 500 | 500 | 800 | |
| Other | | | | | | | | | | | | | | |
| Donations | 240 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | Pay it Forward. |
| Grants | 20000 | | 10000 | | | | | | | | 10000 |) | | Capital Items, educational activities |
| Loans | 5000 | 5000 | | | | | | | | | | | | Affordable finance for your business eg LEAP |
| Total other | 25240 | 5020 | 10020 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 10020 | 20 | 20 | |
| TOTAL INCOME | 44640 | 8020 | 10720 | 720 | 4020 | 1220 | 2220 | 4520 | 820 | 520 | 10520 | 520 | 820 | |
| EXPENDITURE | | | | | | | | | | | | | | |
| Operational costs | | | | | | | | | | | | | | |
| Wages and Sessional Costs | 18000 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | Think about fair and equitable rates of pay. |
| Volunteer Expenses | 880 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 20 | 20 | 20 | 20 | 100 | All costs incurred looking after voulenteers - tea, coffee etc. |
| Transport | 252 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 15 | 15 | 5 15 | 23 | 23 | Budget for 45p per mile |
| Resources and equipment | 820 | | | 20 | | | | | | 800 |) | | | Seeds, pots and trays, horticultural fleeces, packaging |
| Office costs | 120 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |) 1C | 10 | 10 | General admin, marketing, memberships etc |
| Loan Repayment | 5148 | 429 | 429 | 429 | 429 | 429 | 429 | 429 | 429 | 429 | 429 | 429 | 429 | 1 year loan repayment including 3% interest. |
| Accountancy | 200 | | | | | | | 200 | | | | | | Help preparing annual accounts |
| Insurance | 500 | 500 | | | | | | | | | | | | Public and Employer/Employee |
| Total operational costs | 25920 | 2562 | 2062 | 2082 | 2062 | 2062 | 2062 | 2262 | 1974 | 2774 | 1974 | 1982 | 2062 | |
| Capital expenditure | | | | | | | | | | | | | | |
| Shed and covered work area | 5000 | | | | | | | | | | | | | For packing, workshops etc |
| Hardstanding | 1000 | | | | | | | | | | | | | 100m2 |
| Polytunnels | 8000 | | | | | | | | | | | | | Indoor and covered production |
| Electric and water hook up | 4000 | | | | | | | | | | | | | Optional but advised |
| Tools | 1000 | | | | | | | | | | | | | Various non-mechanised |
| Mechanised tools | 4000 | | | | | | | | | | | | | Compact tractor or 2 wheel tractor with fittings |
| Fencing | 2000 | | | | | | | | | | | | | Rabbit proof - you may need deer proof |
| Total capital expenditure | 25000 | | | | | | | | | | | | | |
| TOTAL EXPENDITURE | 50920 | 2562 | 2062 | 2082 | 2062 | 2062 | 2062 | 2262 | 1974 | 2774 | 1974 | 1982 | 2062 | |
| INCOME LESS EXPENDITURE | -6280 | 5458 | 8658 | -1362 | 1958 | -842 | 158 | 2258 | -1154 | -2254 | 8546 | -1462 | -1242 | |

| | Total | April | May | June | July | Aug | Sept | Oct | Nov | Dec | Jan | Feb | Mar | Details |
|---------------------------|-------|-------|------|------|------|------|------|------|------|-------|------|------|------|---|
| INCOME | | | | | | | | | | | | | | |
| Sales | | | | | | | | | | | | | | |
| Weekly veg sales | 17200 | 800 | 800 | 1000 | 2000 | 2500 | 3000 | 2000 | 1500 | 1000 | 800 | 800 | 1000 | First year of sales while still establishing growing site |
| Plug Plants | 800 | 200 | 200 | 200 | | | | | | | | | 200 | Veg, herb and flowers |
| Cut flowers | 600 | | | | 200 | 200 | 200 | | | | | | | Table flowers, seasonal |
| Workshop fees | 9000 | 3000 | | | 3000 | | | 3000 | | | | | | 30 workshops with 15 people paying £20 each |
| Total sales | 27600 | 4000 | 1000 | 1200 | 5200 | 2700 | 3200 | 5000 | 1500 | 1000 | 800 | 800 | 1200 | |
| Other | | | | | | | | | | | | | | |
| Donations | 240 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | Pay it Forward. |
| Grants | 7500 | | 2500 | | | | | | | | 5000 | | | Capital Items, educational activities |
| Loans | 0 | | | | | | | | | | | | | Affordable finance for your business eg LEAP |
| Total other | 7740 | 20 | 2520 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 5020 | 20 | 20 | |
| TOTAL INCOME | 35340 | 4020 | 3520 | 1220 | 5220 | 2720 | 3220 | 5020 | 1520 | 1020 | 5820 | 820 | 1220 | |
| EXPENDITURE | | | | | | | | | | | | | | |
| Operational costs | | | | | | | | | | | | | | |
| Wages and Sessional Costs | 21000 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | Think about fair and equitable rates of pay. |
| Volunteer Expenses | 880 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 20 | 20 | 20 | 20 | 100 | All costs incurred looking after your helpers - tea, coffee etc |
| Transport | 252 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 15 | 15 | 15 | 23 | 23 | Budget for 45p per mile |
| Resources and equipment | 520 | | | 20 | | | | | | 800 | | | | Seeds, pots and trays, horticultural fleeces, packaging |
| Office costs | 240 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | General admin, marketing, memberships etc |
| Events and Activities | 1200 | 400 | | | 400 | | | 400 | | | | | | Showcase events, open days, workshops |
| Accountancy | 200 | | | | | | | 200 | | | | | | Help preparing annual accounts |
| Insurance | 500 | 500 | | | | | | | | | | | | Public and Employer/Employee |
| TOTAL EXPENDITURE | 24792 | 2793 | 1893 | 1913 | 2293 | 1893 | 1893 | 2493 | 1805 | 2605 | 1805 | 1813 | 1893 | |
| INCOME LESS EXPENDITURE | 10548 | 1227 | 1627 | -693 | 2927 | 827 | 1327 | 2527 | -285 | -1585 | 4015 | -993 | -673 | |

Appendix 5: Market garden – Year 2 cashflow