

Annual Monitoring Report
January - December 2017



Cassandra & Nigel Lishman
Fferm Plas Helyg



Tir-y-Gafel
Glandwr
Whitland
Pembrokeshire
SA34 0YD



Land based produce

Two adults work the land, Cassandra & Nigel Lishman. We support our two dependent children David (15) & Beatrice (12), though they are learning the ropes with livestock and land management.

The food we were able to provide for ourselves is listed as follows:

Land based produce 2017	Produced £	Bought £	Food total (produced + bought)	Percentage produced
Vegetables	224	1144	1368	20%
Fruit	915	416	1331	219%
Meat & dairy	200	800	1000	25%
Eggs	126	32	158	393%
Honey	52	104	156	50%
Grains, tea & other foodstuffs		2356	2356	0%
Total food need	1517	4852	6369	31%

We process fruit into jams & cordials for ourselves, we have fresh eggs almost all year round, and seasonally we produce a reasonable quantity of vegetables.



The other resources we were able to provide directly from the land are as follows:

Land based produce 2017	Produced	Bought	Total need (produced + bought)	Percentage produced
Fuel (firewood)	3 tonnes	0	£350	100%
Electricity (solar)	500units	0	500units	100%
Electricity (hydro)	10,000units	0	10,000 units	100%
Water	70,000 litres approx	0	70,000l	100%

Land based livelihood

Our land based income comes from two main sources: Willow and felt making workshops & product sales; and eco-building courses.

Willow and Felt-making



We have a willow coppice made up of 15 varieties of willow, ranging from very fine basketry varieties to those best suited to living willow structures. Each year our 3,000 trees are coppiced by hand, mellowed, sorted and processed according to their intended purpose. Some of the willow we use green, eg for living willow structures. Most of the willow we use semi-green, for teaching workshops in willow sculpture and for basketry.

Cassandra makes products for sale, both locally and through our websites. We also dry the willow we don't use straight away, so it can be re-soaked for use as needed.

We keep Blue Faced Leicester sheep for their fine fleece. We hand shear them, hand card the fleece, and plant dye their wool using plants from our garden. We also teach wool processing skills to children in schools, as well as teaching the art of felt-making to people of all age and abilities.



In 2017, Cassandra taught willow and felt-making workshops to schools throughout Wales through an Arts Council funded project 'Lead Creative Schools'.

Cassandra also works for Learning Pembrokeshire, and Arts Care Cymru. She also locally promotes and runs willow basketry & sculpture workshops at the Ecovillage. These workshops use the raw materials from the land to deliver unique land based activities to people of all ages and abilities.

In 2017, the earnings from land based willow & wool activities and products were as follows:

Land based income	
Willow Workshops	£10,439
Felt making workshops	£2281
Sales of willow sculptures & baskets	£1267
TOTAL Land Based Income 2017	£15,112



Eco-building workshops

Forming a much smaller part of our land based income, we run courses in cob building using our own natural resources available onsite. Using subsoil to make the cob, and spruce from our own woodland to use as cordwood, we offer a couple of courses per year to those interested in natural low impact building methods.

In 2017, we earned £1410 from cob building courses.



Land Based Livelihood Summary

Basic needs income requirement 2017		
Clothing & footwear		£900
Food (above our own provision)	Food	£4852
Travel	Vehicle purchase (each year)	£600
	Operation (MOT, repairs)	£500
	Vehicle tax	£500
	Insurance	£360
	Fuel	£2080
	Other travel costs	£1300
Communications	Telephone equipment	£20
	Landline	£400
	Mobile	£1000
Council tax	Council tax	£720
Total basic needs		£13,232
75% basic needs requirement	13,232/75%	£9924

The basic needs income for our household is therefore calculated at £9,924. From this figure it is clear we have produced well over the required income to cover our basic needs from the land.

Our entire land based calculations are as below:

Land based income and resources	£ value produced
Willow & felt workshops & products	£15112
Cob building courses	£1410
Fuel	£350
Water	£350*
Electricity	£1590**
Food	£1517
Total produced	£20,329
Basic needs	£9,924
Excess income produced (total-75%)	£10,405
Expressed as a percentage of basic needs (20329/13,232)	153%

*Conservative estimate based upon the average UK water bill being £350 per annum

**This figure is based upon 10,000 units of electricity produced, where one unit = 1 kW hour. The average UK cost of a kW hour is 15.9p.

Biodiversity

From a barren sheep grazed desert to an ecological paradise, Plas Helyg represents the best of what and thriving One Planet Development can offer. Over the last 9 years we have planted over 1,500 broadleaf trees, including native hedgerow species and a wide variety of fruiting trees. We have created over 250 metres of hedgerow. We have planted over 1000m of willow coppice, which provides the earliest forage for honey bees, as well as creating the basis of our livelihood. Our land is now literally buzzing and singing with wildlife.



Before & after images from the south boundary of Plas Helyg land

We have planted an estimated 200 new species of tree and shrub. We have created natural habitats for hedgehogs, lizards, and newts, as well as willow warblers, long tailed tits, red kites and woodpeckers. We have planted hundreds of bee forage trees, to support to struggling honey bee population. Through our inventive use of design, we have created microclimates including a walled garden, which increases the range of species we can grow outside in the Preseli hills.

Ecological footprint

If the ecological footprint of a human population exceeds the 'biocapacity' of its environment, the situation is unsustainable. The average of the worldwide human ecological footprint is 2.8 global hectares per capita (gha/cap), compared with a total worldwide bio-capacity of only 1.7 gha/cap (National Footprint Account results). Therefore humanity is using 1.65 times as many resources as are sustainably available, which is only possible for a short time.

Low income countries have a typical footprint of 1.0 gha/cap, but the average for high-income countries is 6.2. The Wales value is 4.9; thus we would already need 2.9 Planet Earths to support the total world population of 7.1 billion if everyone was to have typical Welsh living standards.

Our ecological footprint at Fferm Plas Helyg in 2017 was 1.83 gha/cap, which is up from our very low figure of 1.48 gha/cap the previous year. This is due to an increase in travelling; namely a flight to the USA to visit an ill relative, and a large number of miles driven to facilitate the willow livelihood workshops.

We anticipate that next year our mileage will be lower, as this was an exceptionally well funded year for school workshops. Although this will also mean our land based income is also expected to be lower, it will mean our footprint for next year will be more in line with that of 2016.

Low Impact Buildings



Roundhouse Workshop (and temporary dwelling): built using straw bales, local timber, lime and sand plaster, and pigmented with iron oxide and with a cob floor, this is a lovely example of a reciprocal roofed roundhouse, and is very natural and low impact.

Roundhouse stable: using local wood, our own spruce & cob made with our subsoil, and with a recycled plastic roof covered with turf, this is a gorgeous building where we house our sheep & horses as needed.

Roundhouse willow store: well, we love roundhouses! Another smaller shelter for my willow and wool store, except with now walls for good ventilation.

Cob greenhouses: created with our own subsoil, recycled glass and little else - these are fantastic low impact growing spaces with passive solar properties. We grow peaches, goji berries, and lots of salads and herbs in these unique hand made structures.

Cruck frame barn: local timber frame & cladding, hempcrete floor, wool insulation, and now housing a solar thermal shower, this building is a multi purpose washing room, library, workshop and storeroom.



Traffic management

We endeavour to always keep our traffic to a minimum, and whenever we run courses we ask our participants to car share and limit their car movements. Our children walk to the bus to school in the village, and we always ensure we do as much as possible when we are out with the car.

However, this past year due to the number of willow & felt workshops we have run, we have made more journeys than usual. We estimate this year we have made 4 return journeys per day on average, which means 1460 vehicle trips per year.

We are expected to make less than the average of 5 return journeys per day, so even with our increased vehicle movements we are still within our targets.

Welsh language

Our two teenagers attend the local Welsh medium secondary school, and are both fluent in Welsh. Cassandra has attended 3 years of adult learning and is conversant in Welsh. Our business cards are bilingual, and we intend to further develop our promotional materials to ensure bilingual accessibility. Additionally, in most of the work Cassandra delivers in schools, she brings Welsh songs and language into the day whether they are English or Welsh medium.

We intend to maintain and improve our commitment to and integration with the Welsh language and culture in all our activities at Fferm Plas Helyg.

Plas Helyg means Willow Palace in Welsh.

www.plas-helyg.co.uk

www.pembrokeshirewillow.co.uk