The contribution of silvopasture to a small mixed farm in Northern Ireland

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Farming with Trees

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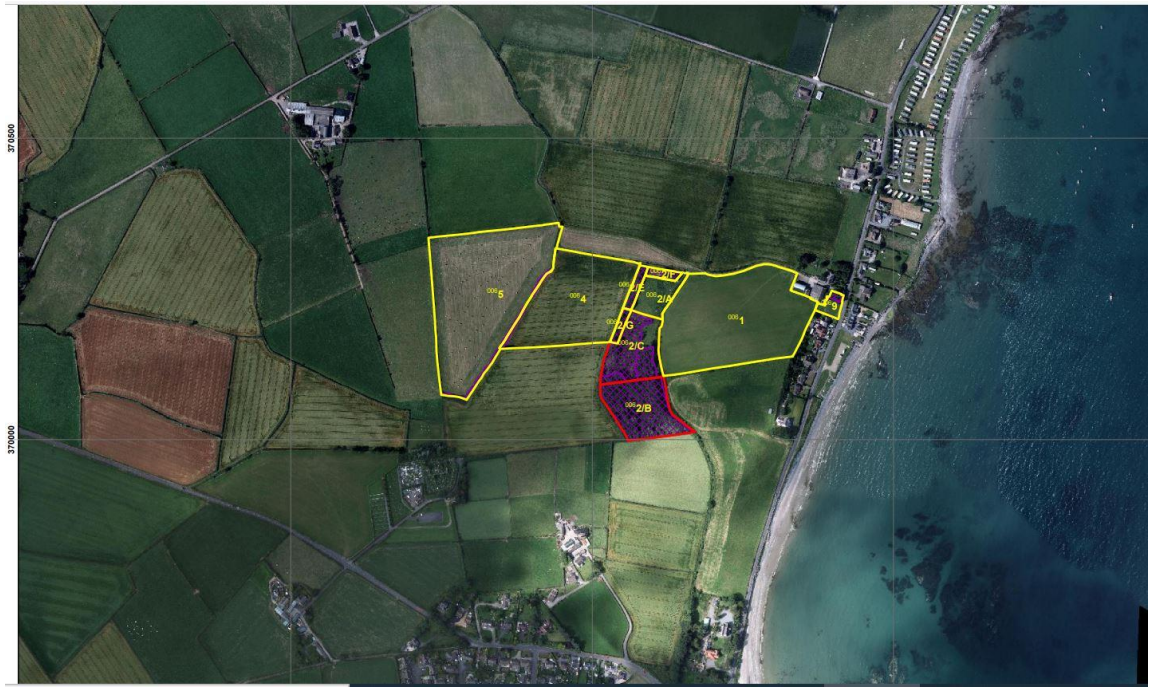
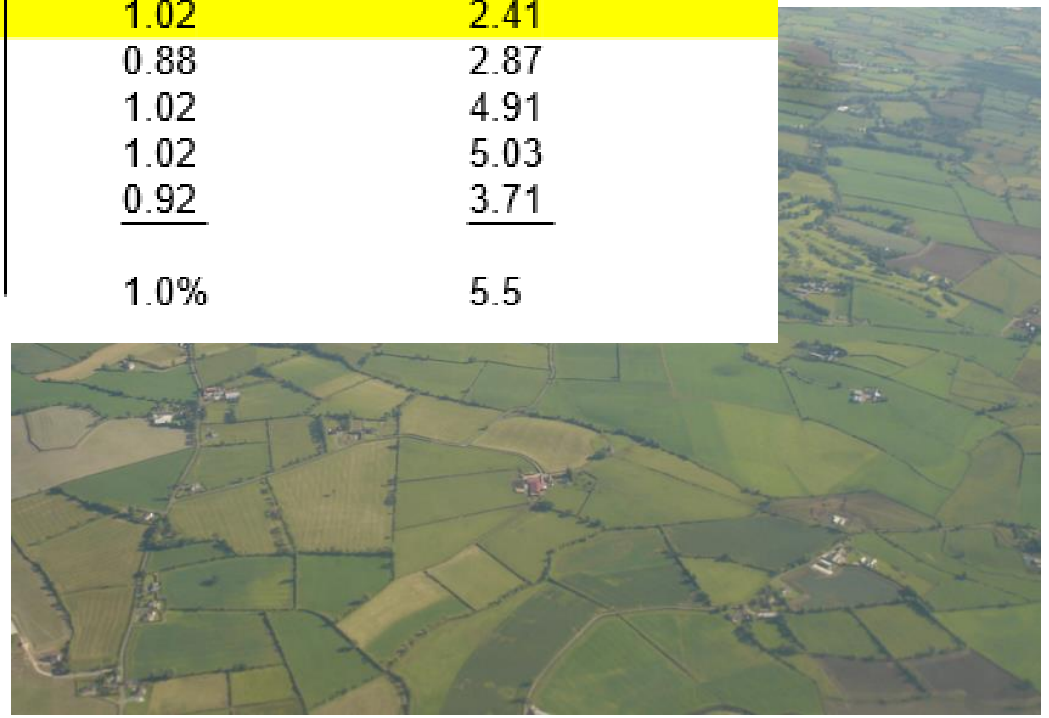
Kilowna Farm, Co Down



Tree cover in Co Down

	PRIVATE WOODLAND % OF AREA	All WOODLAND %
FERMANAGH	1.37	9.66
DOWN	1.02	2.41
ARMAGH	0.88	2.87
TYRONE	1.02	4.91
LONDONDERRY	1.02	5.03
ANTRIM	0.92	3.71
	1.0%	5.5



Typical landscape around the farm

Land use

Field	Use	Area (ha)
1	Grass over 5yrs	3.86
2	Arable-spring barley	2.35
3	Permanent grass	0.38
4	Silvopasture	0.9 (0.6 eligible)
5	Woodland	1.27
6	Grass under 5 yrs	3.54
7	Permanent grass (+0.03 ha silvopasture)	0.1

	Area	%
Permanent grass (>5)	4.38	35
Temporary grass ley	3.54	28
Arable	2.35	19
Silvopasture	0.93	8
Woodland	1.27	10
TOTALS	**12.52**	100

Financial performance

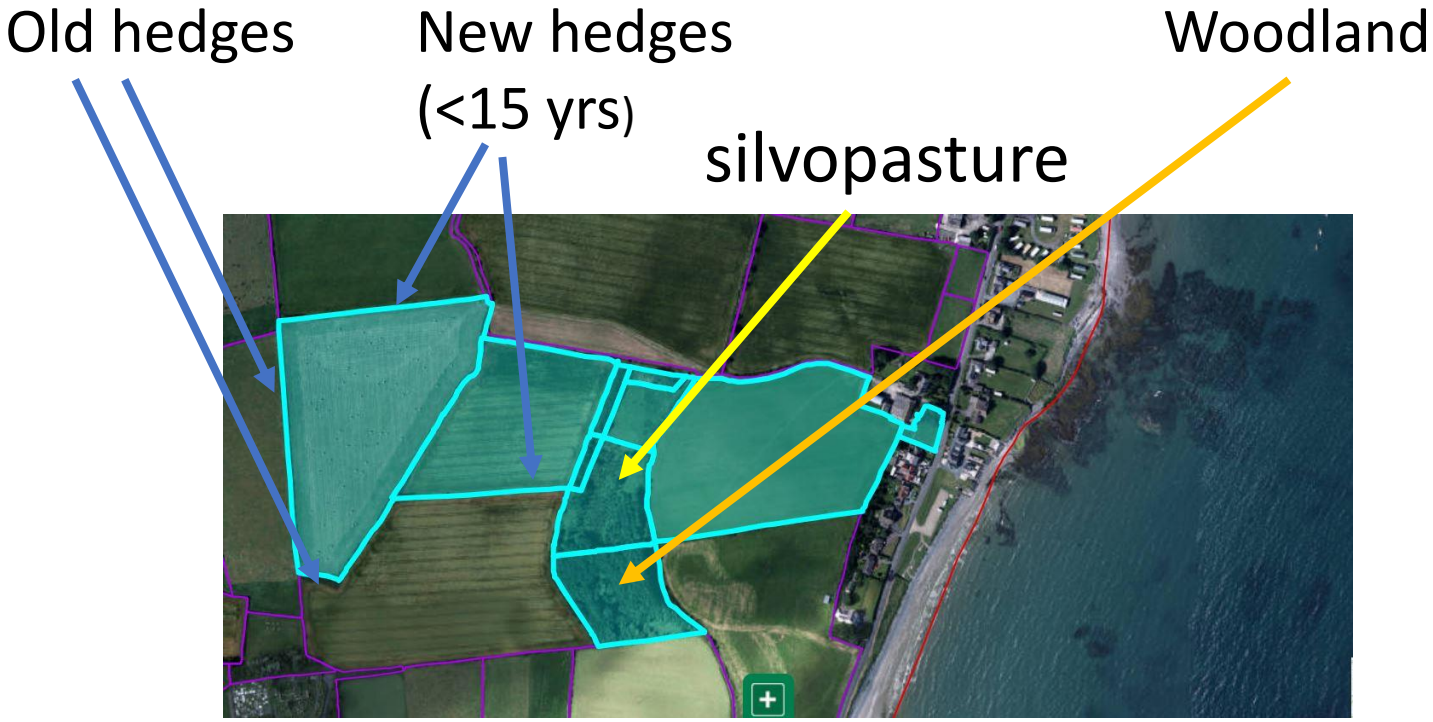
Enterprise

Income	Associated costs	Gross Margin	GM/ha
GRASS (7.9ha)			
2210	1223	987	125
CEREAL (2.4ha)			
3517	1174	2343	976

Farm

	Income	Notes
GRASS/CEREAL	3330	
Subsidy-Env Farm Scheme	200	Overwintering stubble
Subsidy-Basic Payment	3185 (on 10.9 ha)	292/ha-50%
TOTAL	6175	Less costs –Insurance, Rates, Fuel, Vehicle, Repairs. Maintenance etc. **£5000**

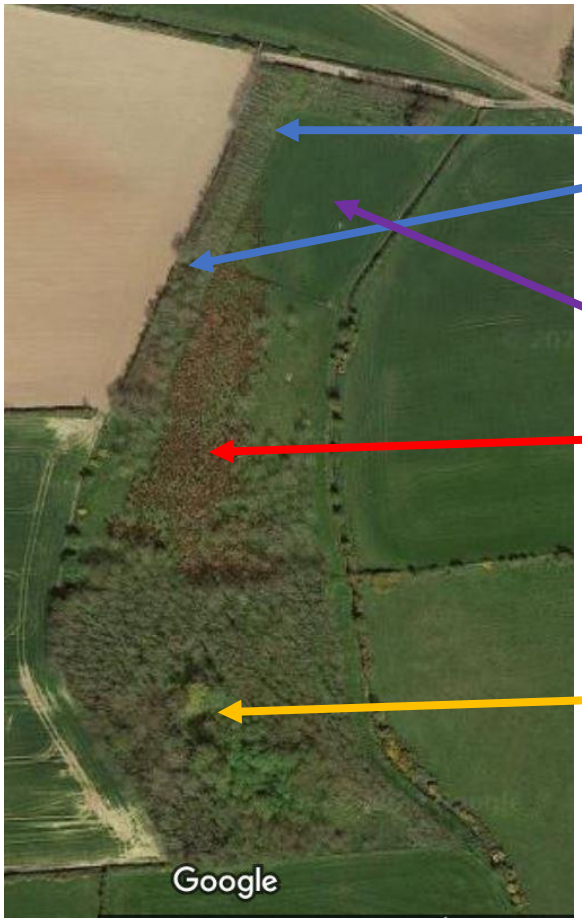
Biodiversity -Habitats



Old hedges	**310 m**
New hedges	**430 m**
Silvopasture	**0.9 ha**
Woodland	**1.3 ha (10.4 %-- NI Av= 7)**

Hedgerow Density= 9.7 km/sq km (NI Av = 8.8)

Silvopasture on the farm



Shelterbelts – **Oak, Ash, Nothofagus**

Pasture- old, permanent

Silvopasture- planted 1995.
Sycamore, oak, ash , cherry

Woodland mixed

The silvopasture (0.9 ha)

Ash (+sycamore & oak)

Sycamore (+Ash)

Oak, Cherry, Scots Pine

THE SEA

COLD EASTERLIES

PLUS 3 MIXED CLUMPS

One of the clumps-Ash & cherry

Sycamore

Carbon audit

Land use	area	tC/ha in vegetation	Total C (t) in vegetation	tC/ha in soil	Total C (t) in soil	Total Carbon t	Estimated C sequestration potential (tC/yr)
Pasture	7.9	1.8	14.22	170.2	1345	1359	6.32
Arable	2.4	1.0	2.4	144.1	346	348	-1.2
Woodland/Shelter belt	1.3	28.5	37.1	226.2	294	331	4.94
Agroforestry	0.9	15.0	13.5	166	149	163	2.9
Hedges[1]	0.16	29.5	4.7	199.5	31.9	37	0.48
			71.92		2167	2238	13.44

[1] Assuming 740m hedges c 2m wide. With 15tC/ha (old hedges) 40tC/ha (new hedges) above and below ground Sequestration potential 3t/C/ha/yr

Summary

- The farm has much better habitat quality than average for the area and better than the national average
- The trees make a significant contribution to the carbon balance of the farm- woodland, hedges and silvopasture (grazed) account for 18% of the farm area and 22 % and 78% of the soil and above ground biomass respectively.
- Planting more silvopasture and hedges offers the best chance to sequester more carbon.
- The farm is not financially viable without subsidy (half the farm income last year), so keeping subsidy is vital
- As silvopasture is treated as agricultural land in NI, For the future, having more silvopasture would improve soil health and increase the farm carbon stock **without** loss of subsidy

BUT

..if you look at this map of the Irish Sea projected to 2100 - I have lost the place anyway! We might be managing a marine geopark