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UPLAND SHEEP: A CURSE OR VITAL TOOL?

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OUTLINE

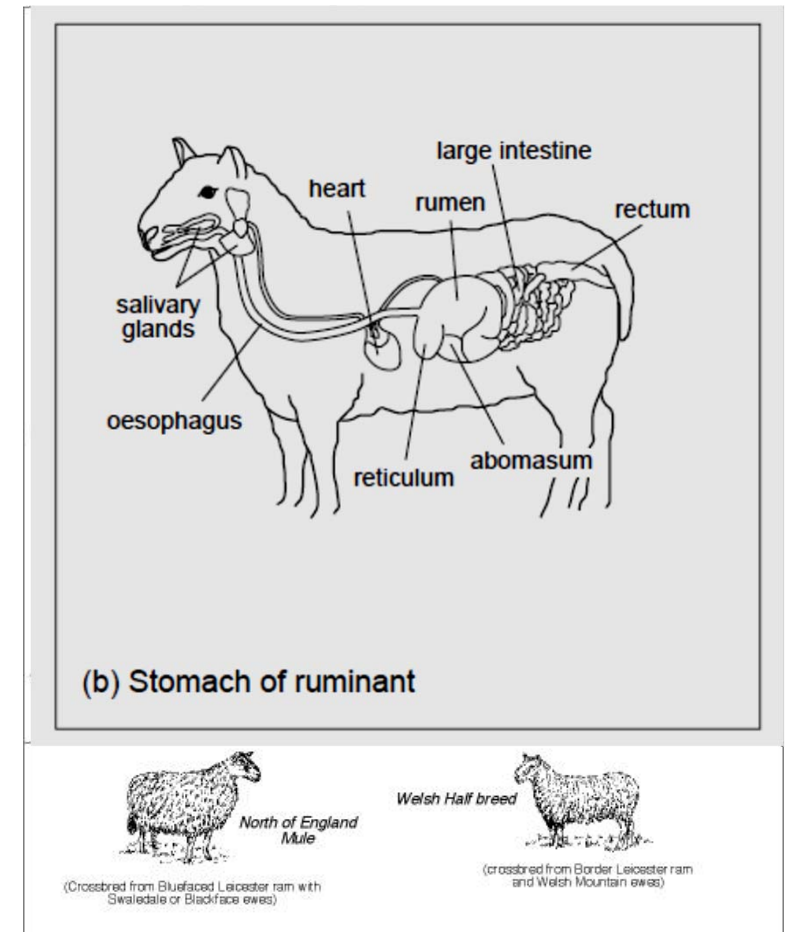
- The characteristics of upland sheep, how and what they eat
- Ecological context – what does this produce?
- Cumbrian Uplands: a case study
- Critique of upland sheep : pros and cons.
- A changing institutional context – what next for sheep?
- Some concluding thoughts



WHAT IS AN 'UPLAND' SHEEP?

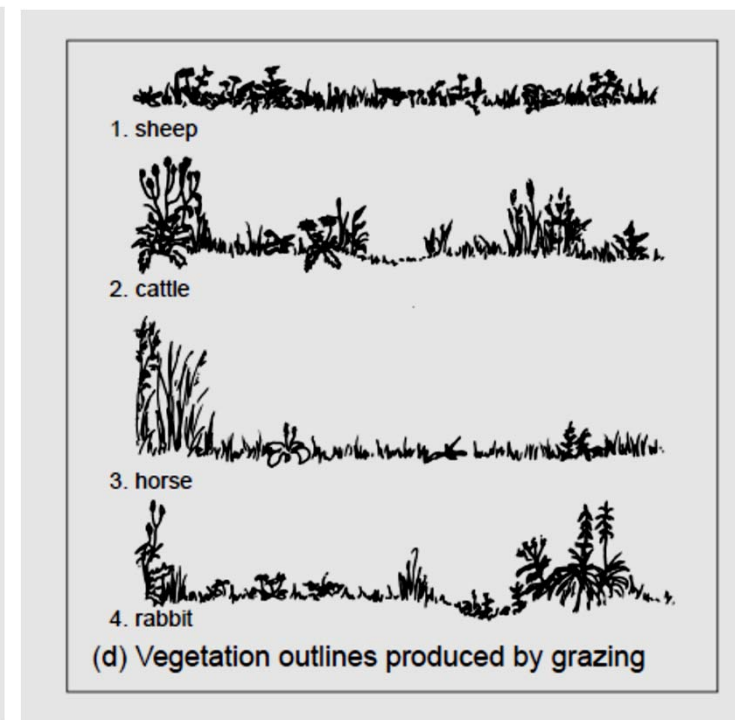
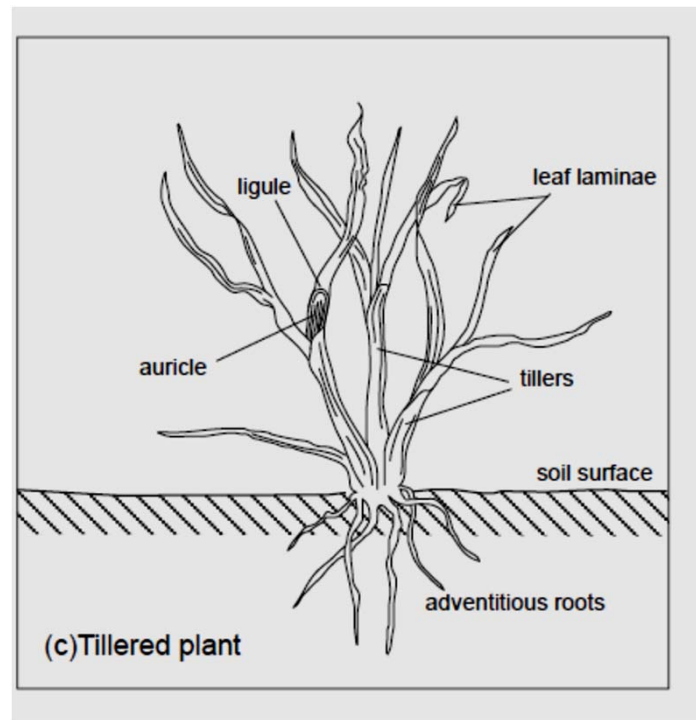
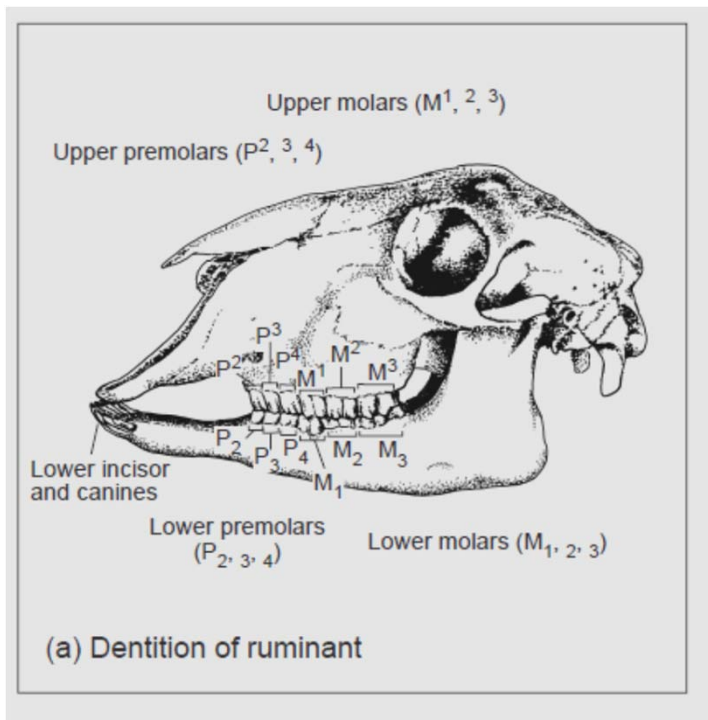
Key Distinguishing Characteristics

- Ability to cope with harshest of physical environments – *breed variation*
- Ruminants which break down cellulose on digestion
- Large rumens make upland sheep more efficient than lowland breed
 BUT Produces large amount of offal no longer desired
- Cf. lowland sheep with smaller rumens which cannot break down
 poor quality forage species
- Farmers have responded by decreasing rumen capacity but this then
 requires supplementary feed on hillside creating other issues
- Lower lambing rate than lowland breeds (lower returns)



(Mansfield, 2011)

HOW DO THEY EAT?



Front teeth cut to create leaf blades
 Back teeth grind to prepare for digestion

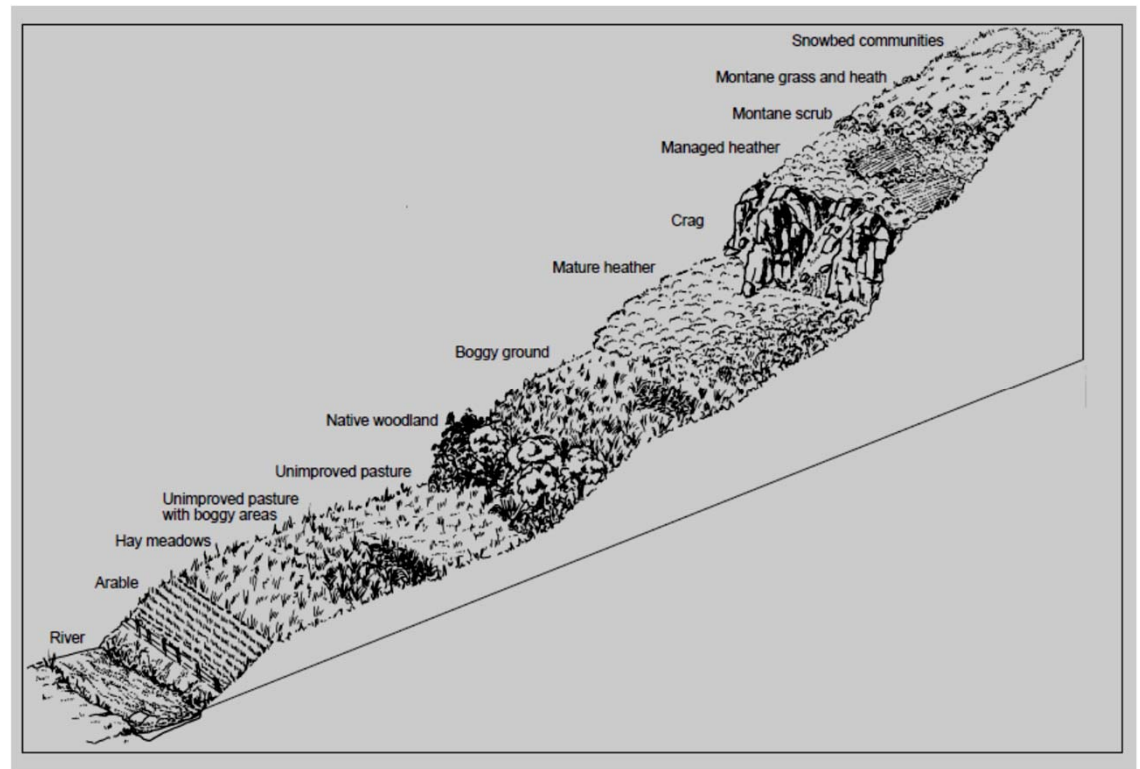
Effect of cutting encourages regrowth
 – known as tillering, hence thicker sward

Effect of these two is a 'lawn effect'
 unlike other ruminants

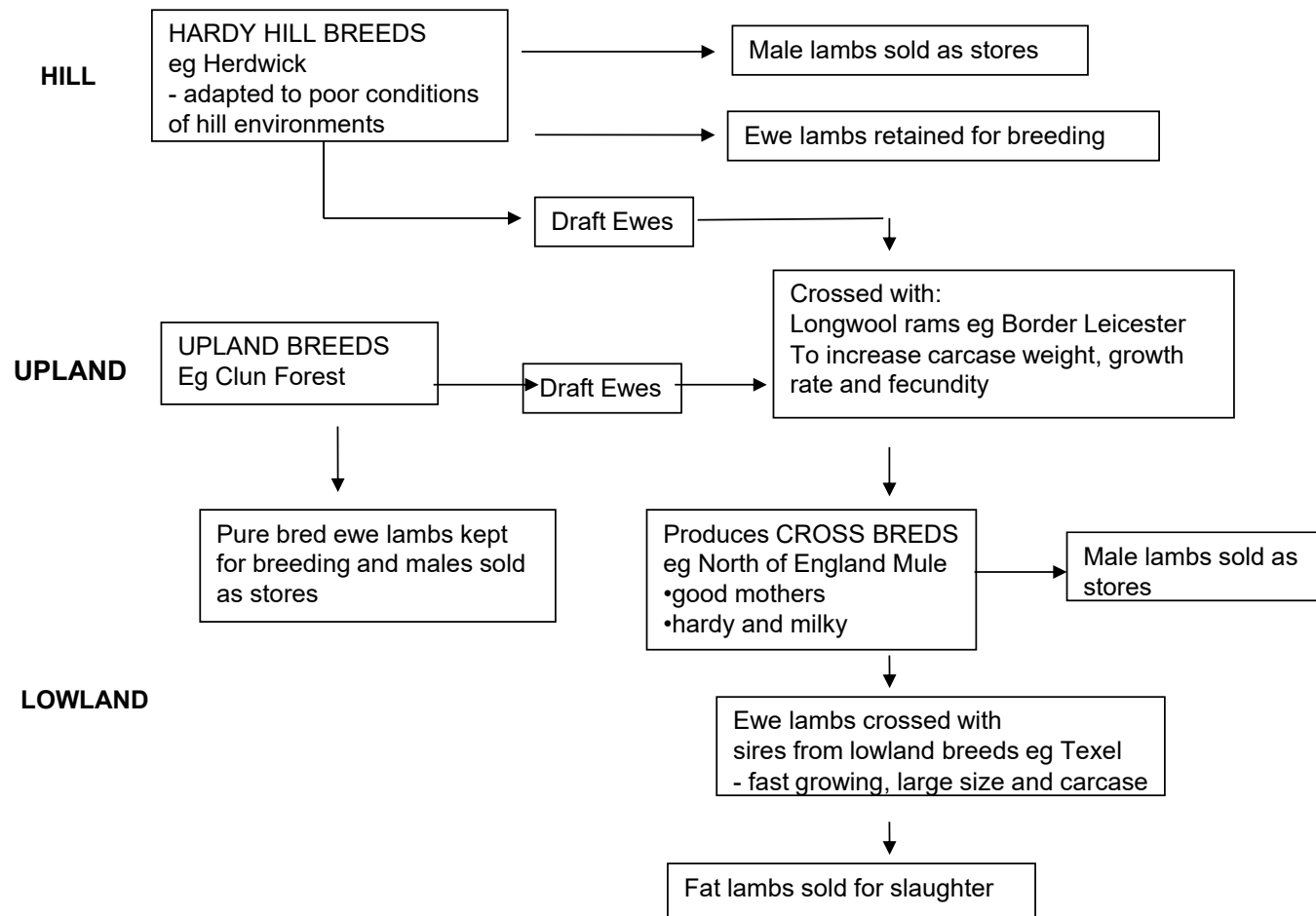
ECOLOGICAL CONTEXT - what does this produce?

Grazing by upland sheep and its supporting agricultural system has led to the development of a range of plagioclimax habitats.

Using work by Ostermann (1998), nearly 50% of habitats identified in the EU *Habitats Directive 1992* are a product of upland farming systems.



CASE STUDY – Cumbrian Uplands



TYPICAL HILL FARM BUSINESS INCOME:

40% farming
30% diversification
30% subsidy

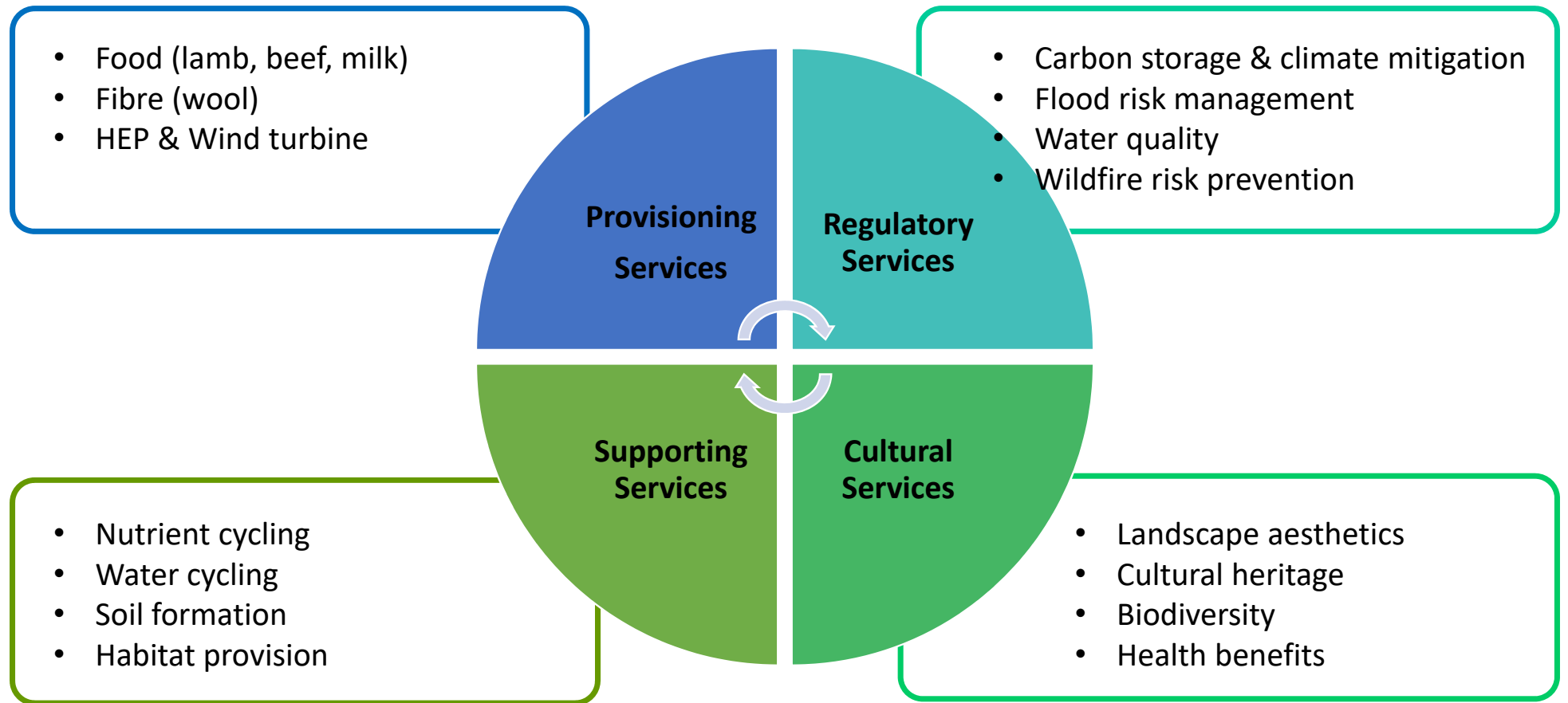
(Wallace & Scott, 2018)

Gross margins range from minus figures to around £10K/ annum.

Key structures: inbye, intake and fell

Key processes: hefting, gather and stratification

PRO - sheep & ecosystem services in the Cumbrian uplands



CONS – upland sheep farming

'The land has been sheepwrecked.' Monbiot (30 May 2013).

Undergrazing – selective grazing does not control the build up of undesirable plant litter and regrowth does not occur of all plants



Poaching - destruction of soil structure through repetitive hoof movements on one spot as a result of supplementary feeding



Overgrazing - 'grazing numbers adversely to affect the growth, quality and species composition of vegetation
Soil can be removed via **erosion**

SOCIO-ECONOMIC

Operating at economic margins of cultivation requires subsidy and negative public perception

Changing consumer demand for less offal

CHANGING INSTITUTIONAL CONTEXTS

	Provisioning	Regulatory	Supporting	Cultural
25 year DEFRA plan : <i>'A Green Future'</i>	Sustainable land management (ch1)	Global environment (ch5)	Recovering nature (ch2) Resource efficiency (ch4)	Connecting people (ch3)
DEFRA Agriculture Bill Consultation: <i>'Health & Harmony'</i>	?????	Public money for public goods (ch5)		
	Reforming the CAP, transition and farming futures (ch2, 3 & 4)	Risk management and resilience (ch10) Protecting crop health (ch11)	Enhancing our Env't (ch6)	Supporting rural communities & remote farming (ch8)
Lake District Partnership <i>'Management plan'</i> supporting World Heritage Status	Prosperous Economy (theme 2)			World class visitor experience (theme 3)
	Special landscape, natural and cultural heritage (theme 1) Vibrant communities (theme 4)			
Brexit	Published estimates vary between 60 and 95% of farm businesses folding, heavily dependant on leave scenario and nature of transition arrangements			

SOME CONCLUDING THOUGHTS

Institutional changes in the UK re-inforce the role upland sheep farming has to play in the delivery of a range of ecosystem services.

These are *explicit* tools, rather than the previously implicit attitude of institutional players of the last eighty years of policy.

It still remains unclear whether Brexit will derail the upland sheep farming system – a case of too little, too late.

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