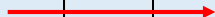


Note 18
Land Use, Nature &
Thermodynamics

June 2021

Time	Natural System	Land Use	Examples	Working with Nature	Substituting for Nature	Environmental Stress			
						High	Medium	Low/Zero	
c.1000 1800's	Anglo Saxons, Normans, Monastic Orders, Great Cathedrals, Enclosures, Early Agricultural Scientists, Aristocratic Landowners breeding livestock.	Equilibrium	True Wilderness	The Pre-1900's Managed Landscape: an incremental change over 1000 years, was in a stable, dynamic equilibrium.	1				1
			Forestry						
			Agriculture						
			Game Shooting						
1900's	A Focus on Volume & Industrial Methods	Non-Equilibrium	Managed Wilderness	The Post-1939 Managed Landscape: fast-paced / forced changes: output at all costs. Artificial fertilisers may improve yields in the short term but increasing amounts will be needed as time moves on to maintain the yields. The ultimate destination of this mechanism will be monocultures and eventual sterility.		1		1	
			Forestry						
			Agriculture						
			Game Shooting						
2000's	Reclamation by Nature	Reversal	De-Stocking or Rewilding	Re-wilding will be random	A managed landscape can be improved or adulterated (within its local confines) but it cannot be returned to its original state.			1	
	The Future for the Managed Landscape	MSO	All	<p>The inevitable decrease in farm sector outputs will be offset by a new focus on business assets: 1. Treating Natural Capital as a marketable product & 2. High-quality branded produce with a greater degree of added-value on the farm</p> <p>Variable costs in farming comprise two different and sequential components: Productive variable costs (PVCs) where activities work with <i>Nature</i> and corrective variable costs (CVCs) where activities substitute for <i>Nature</i>. The PVCs end at the point at which the natural fertility/grass runs out and the CVCs begin at this point as artificial feed-stocks, chemicals and fertilisers are adopted. This is the point of MSO (Maximum Sustainable Output).</p>	1				



Time		Natural System	Land Use	Examples	Working with Nature	Substituting for Nature	Environmental Stress			Laws of Thermodynamics	
							High	Medium	Low/Zero	No.	Law
c.1000 ↓ 1800's	Anglo Saxons, Normans, Monastic Orders, Great Cathedrals, Enclosures, Early Agricultural Scientists, Aristocratic Landowners (breeding livestock).	Equilibrium	True Wilderness	The Pre-1900's Managed Landscape: an incremental change over 1000 years, was in a stable, dynamic equilibrium.	1				1	0th	When two natural systems come into contact, each will, in time, find an equilibrium with each other
			Forestry								
			Agriculture								
			Game Shooting								
1900's	A Focus on Volume & Industrial Methods	Non-Equilibrium	Managed Wilderness	The Post-1939 Managed Landscape: fast-paced / forced changes: output at all costs.		1	1			1st	Natural systems only change when work is put into it: energy must be expended
			Forestry								
			Agriculture	Artificial fertilisers may improve yields in the short term but increasing amounts will be needed as time moves on to maintain the yields. The ultimate destination of this mechanism will be monocultures and eventual sterility.						2nd	When natural systems are supplied with new energy: the system cannot deliver more than the new amount. Also, when natural systems move from one state to another irrecoverable energy is lost in the process.
			Game Shooting								
2000's	Reclamation by Nature	Reversal	De-Stocking or Rewilding	Re-wilding will be random	A managed landscape can be improved or adulterated (within its local confines) but it cannot be returned to its original state.		1			3rd	Reversing natural systems (or leaving well-alone) will not create a pathway to an original point
	The Future for the Managed Landscape	MSO	All	The inevitable decrease in farm sector outputs will be offset by a new focus on business assets: 1. Treating Natural Capital as a marketable product & 2. High-quality branded produce with a greater degree of added-value on the farm Variable costs in farming comprise two different and sequential components: Productive variable costs (PVCs) where activities work with <i>Nature</i> and corrective variable costs (CVCs) where activities substitute for <i>Nature</i> . The PVCs end at the point at which the natural fertility/grass runs out and the CVCs begin at this point as artificial feed-stocks, chemicals and fertilisers are adopted. This is the point of MSO (Maximum Sustainable Output) .	1						0th, 1st, 2nd & 3rd