



Economics, Nature and the Commons

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What is Economics?

- Allocation of available resources among alternative desirable ends
 - How we use what we have to create what we want
- What do we want?
- What do we have?
- How do we allocate?



What do We Want?

- Maximizing utility: e.g. high quality of life for this and future generations
- Physiological needs, healthy communities, fulfilling social relationships, meaningful work, etc.
- OR Pareto efficiency and maximization of monetary value
- Freedom of choice



What do We Have?



Laws of Physics



Land and Nature

- Can't make something from nothing or vice versa
- Can't do work without energy
 - Finite petroleum stocks
 - Finite solar flows
- Disorder increases



Laws of ecology



Land and Nature

- Conversion of ecosystem structure into economic products and waste emissions degrades and destroys ecosystem services
 - including basic life support function
- Both economic products and ecosystem services essential to civilization
- Unavoidable tradeoffs





Information

- Improves through use
- Plays critical role in solving ecological problems, meeting human needs
- Value maximized at price of zero



The Macro-allocation Problem

- How do we allocate ecosystem structure between ecosystem services and economic products?
 - Goal: sufficient well-being for humans and other species, now and in the future
 - Services include vital life support functions, shared by all, often not depleted through use



Potential Macroallocation Solutions

- Reform: Internalizing externalities through markets
 - Price determines scale, e.g. green taxes
 - Prices determine scale
 - No freedom
 - Scale determines price, e.g. cap and trade
 - Scale determines price
 - Susceptible to speculation
- Revolution: Internalizing externalities through common ownership
 - Scale, distribution then allocation



The Micro-allocation Problem

- How do we allocate available ecosystem structure and information among different economic products?
 - Goal is to promote greatest human well-being from available resources (efficiency)
 - Do markets achieve this? Examples of water, land, food and energy



Markets and Essential Resources

- E.g. food, land, water, energy
- Market demand = preferences weighted by purchasing power
 - Exchange value trumps use value
- Allocates resources to those who require resources the least
 - E.g. doubling of grain prices in 2007-2008



Water

- Natural monopolies
 - High fixed costs, low marginal costs
 - Competition increases costs
 - For-profit monopoly unacceptable
- Profit maximization
 - Flushing toilets or saving lives?
- Contagious disease and efficiency



Energy

- Fossil fuels
 - Rival and excludable
 - Competition for use
- Alternative energy
 - Non-rival and non-excludable
 - Information
 - Cooperation in production



Markets and Finite, Essential Resources

- E.g. land, food, petroleum, water, tradable environmental allowances
- Supply does not respond to price signal
- Small decrease in supply leads to huge increase in price
- Drives speculation, bubbles, busts, instability, misery



Allocation Through the Commons

- Macroallocation (ecological sustainability) cannot be solved through markets
- Just distribution of resources cannot be solved by markets
- When resources are essential or not depleted through use, markets are inefficient



Economics and the Commons

- How we allocate resource is determined by the desirable ends and the available resources
- The most serious problems we face cannot be solved by free markets
- Collective action and common ownership are more sustainable, just and efficient



Economics and the Commons

- Common “ownership” of ecosystem function requires common ownership of ecosystem structure
- Common ownership to ensure basic needs are met
- Surplus can be auctioned off for private use, with revenue sustaining health and ownership of commons