Markets, Commodities & Nature

Critical Review Paper #1

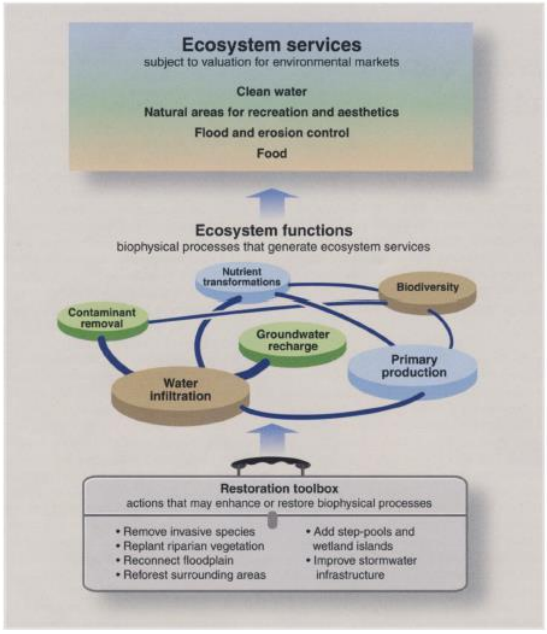
- Reminder: Due – Thursday (9/26) at 2:30 PM,
  - Worth: 100 points (10% of grade)
- Submit – BB Dropbox (.doc or .pdf)

Reminder: Make sure you have a strong thesis statement in your Introduction paragraph

Introduction Paragraph

- Introduce the article you are reviewing
- Clear thesis statement
  - What does your evaluation focus on?
    - » Example: This articles primary argument, _____ is correct and convincing because of _____ (evidence).

Palmer & Filoso Article – Figure 1



Article Discussion (Palmer & Filoso 2009)

QUESTION 1

What is ecological restoration?

Why is it important/beneficial?

QUESTION 2

What are ecosystem services?

What is the connection between ecosystem services and ecological restoration

QUESTION 3

What can go wrong when using markets to drive ecological restoration?

Thesis Statement Practice

- Drawing on the discussion of the Palmer & Filoso article, *write a thesis statement* (5 min.)
- Share with a neighbor (3 min.)
- Share with the class (5 min.)

Ecosystems & Ecosystem Services

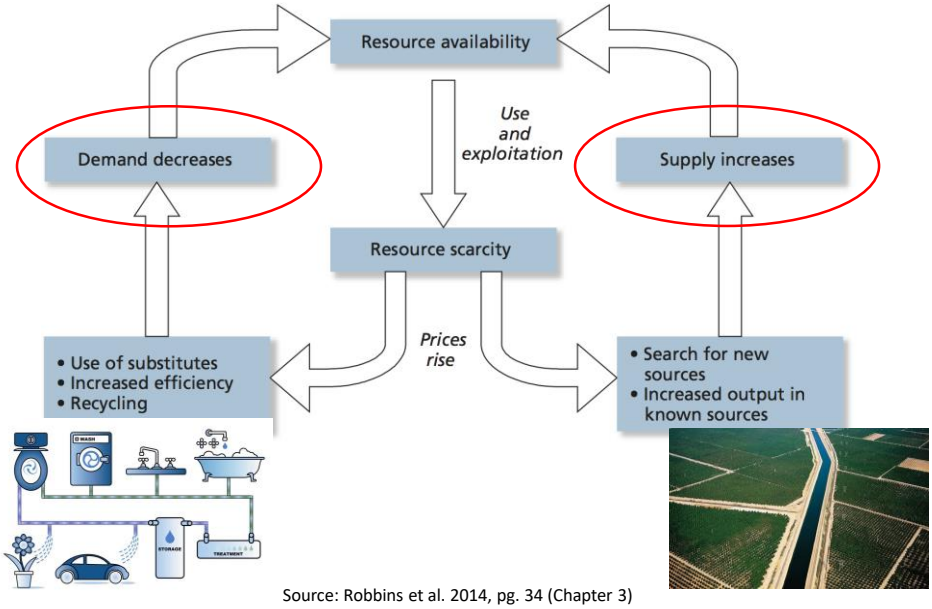
- **Ecosystem:** has strong interactions among its components and weak interactions across its boundaries
- **Ecosystem Services:** the benefits people obtain from ecosystems

Markets & Commodities - Key Concepts

- **Market Environmentalism:** the popular idea that environmental problems can be solved by the (free) market economy

- **Commodity:** A basic good used in trade/commerce that is *interchangeable* with other goods of the same type or *exchangeable* for a monetary price ($$).

The **Market Response Model**



Source: Robbins et al. 2014, pg. 34 (Chapter 3)

The Coase Theorem

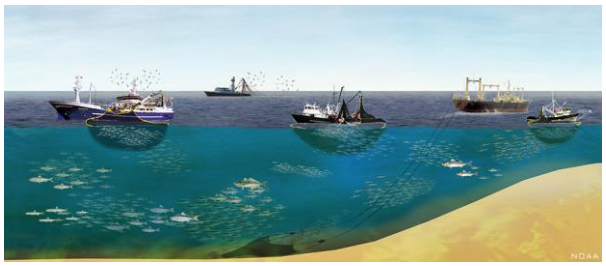
If property rights are clearly defined and people bargain *without cost*, externalities (ex. pollution) can be most efficiently controlled through contracts between private property owners

Important Assumptions*:*

- All parties must have ability to make decisions & control resources (clearly-defined property rights)
- Enforcement of contracts, paperwork, regulation, and administration must have no cost

Ronald Coase (1910-2013)

Critique: *What about the "commons",* which are open-access systems, difficult to divide or enclose into private property?



3 Key Complications

1. **Market failure**: A situation where the production or exchange of a good or service is *not efficient* (often caused by a mismatch between real world conditions and market assumptions)
   1.) Transactions are not, by any means, free
   2.) Contracts and property rights have to be defined and enforced often at great legal and regulatory expense
   3.) Not all parties to negotiations have perfect or equal info

2. Externalities: Costs or benefits that are not figured into the price of goods or services

- **Cost example:** Pollution is not counted in product cost
- **Benefit example:** Intercropping preserves bird habitat

3 Key Complications (Cont)

3. Transaction costs: Costs associated with making an exchange and ensuring enforcement of rules and regulations

- Ex: Lawyers, regulators, police, courthouses, peoples' time

Market-Based Solutions

Table 3.1 Market-based solutions. An overview of some dominant environmental regulatory mechanisms that involve market components and are based in part on market logics. Note that in all cases the state remains an important player in making markets work and achieving environmental goals.

Regulatory mechanism	Concept	Market component	Role of the state
Green taxes	Individuals or firms participate in "greener" behavior by avoiding more costly "brown" alternatives	Incentivized behavior	Sets and collects taxes
Cap and trade	Total amount of pollutant or other "bad" is limited and tradable rights to pollute are distributed to polluters	Rewarding efficiency	Sets limits and enforces contracts
Green consumption	Individual consumers choose goods or services based on their certified environmental impacts, typically paying more for more benign commodities	Willingness to pay	Oversees and authenticates claims of producers and sellers

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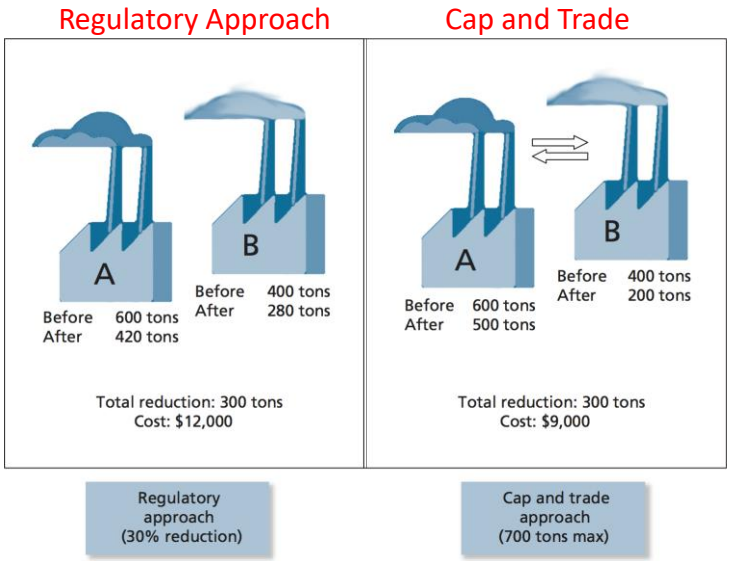
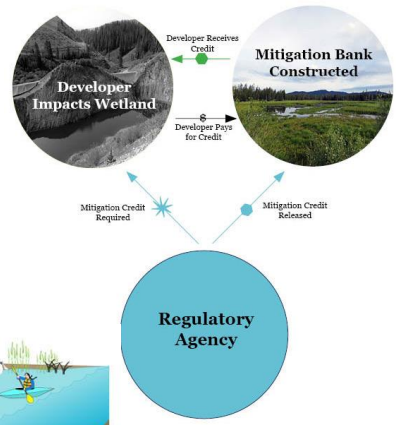
Cap and Trade

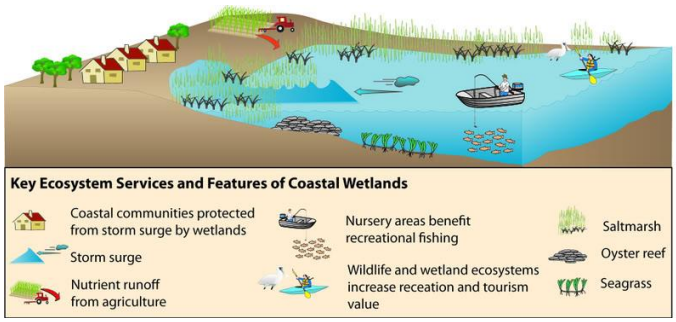
- **Cap and Trade:** Regulations set a maximum limit on pollution emissions, but individuals or firms may trade credits for the right to pollute.
  - Intended to efficiently reduce emissions without excessive cost.
    - **Critique 1:** Cap and Trade does not consider local effects from concentrated pollution because the only concern is overall emissions.
    - **Critique 2:** Cap and Trade does not address the issue of determining how much pollution should be allowed in the first place, which is a highly political issue.

Regulatory Approach vs. Cap and Trade



Applied Example: Wetland Banks





Ecosystem Services - Wetlands

Ecosystem Services Provided by or Derived from Wetlands

Services	Comments and Examples
Provisioning	
Food	production of fish, wild game, fruits, and grains
Fresh water[a]	storage and retention of water for domestic, industrial, and agricultural use
Fiber and fuel	production of logs, fuelwood, peat, fodder
Biochemical	extraction of medicines and other materials from biota
Genetic materials	genes for resistance to plant pathogens, ornamental species, and so on
Regulating	
Climate regulation	source of and sink for greenhouse gases; influence local and regional temperature, precipitation, and other climatic processes
Water regulation (hydrological flows)	groundwater recharge/discharge
Water purification and waste treatment	retention, recovery, and removal of excess nutrients and other pollutants
Erosion regulation	retention of soils and sediments
Natural hazard regulation	flood control, storm protection
Pollination	habitat for pollinators
Cultural	
Spiritual and inspirational	source of inspiration; many religions attach spiritual and religious values to aspects of wetland ecosystems
Recreational	opportunities for recreational activities
Aesthetic	many people find beauty or aesthetic value in aspects of wetland ecosystems
Educational	opportunities for formal and informal education and training
Supporting	
Soil formation	sediment retention and accumulation of organic matter
Nutrient cycling	storage, recycling, processing, and acquisition of nutrients

[a] While fresh water was treated as a provisioning service within the MA, it is also regarded as a regulating service by various sectors.

Source: Ecosystems and human well-being: Wetlands and water – Millennium Ecosystem Assessment / p2

Critiques of Market Environmentalism

1. Non-Market Values:
   - Should everything be in a market?
   - Conflicts between Anthropocentric vs. Ecocentric perspectives
   - What about intrinsic (non-market) values of nature?
   - Can markets act fast enough to avert environmental disaster?

2. Money and Nature
   - A market or commodity approach to the environment is based on the exchange of discrete and specific items or services
   - But, in the real world, ecosystems are very complex and ecological functions are connected and interdependent

Critiques of Market Environmentalism (cont.)

3. Equity and Rights:
   - Economic injustice → Environmental injustice
     - *"A market system gives power to those most able to pay" (Beder 1996, pg. 61)*
   - It is not possible to include everyone who might be affected by environmental problems.
   - How do you bring hundreds, thousands, or billions of people to negotiate?
   - Future generations cannot be involved in bargaining (not born yet)
   - Marginalized people are routinely excluded from decisions that affect them

4. Assumes Humans will act Rationally to Changes
   - "[In a Market Response Model] price signals are translated into adaptations by rational and creative people in the market, providing abundance under conditions of scarcity."
   - Do we behave rationally as consumers?
   - Are we marketed to as rational consumers?