

## **CE 440**

# **Causes of Diffuse Pollution**

### **Text Reading: pages 50-68, pages 71-94**

Nonpoint source pollution is more a social, political, cultural, and economic issue than a technical issue.

NPS issues require working WITHIN a complex social and legal system.

Fig. 2.1 - should economy be within environment?

Guilty producers and innocent consumers?

Difficulty of quantifying some things that are very important – natural capitalism perspective, ecosystem services, environmental valuation → 2 or 3 decades vs. sustainable development

Economic stability / meeting of basic human needs is prerequisite for environmental management / protection / restoration

### **Economic Causes**

Externality vs. market magic:

Define externality

Caused by failure of the market to include in the economic value of the economic output the cost of damage caused by disposal of wastes into the environment.

Transferred by physical means (rivers, runoff), not market transactions

One person's use of a natural resource can inflict damage on other people who have no way of securing compensation, and who may not even know they are being damaged.

Write down some examples of externalities:

Social and environmental costs – triple bottom line

Environmental Ethics

Aldo Leopold and Wendell Berry – land ethic – gradual extension  
Holmes Rolston at CSU

Stakeholders p. 61

Policy options p. 62

Ten Commandments Box 2.1 pp. 65-66 – How could you simply / integrate these?

### **Ultimate and Proximate Cause of Diffuse Pollution**

Noted ecologist David Orr begins his book *Earth in Mind* with the following call for a world wide reality-check: *“If today is a typical day on planet earth, we will lose 116 square miles of rain forest, or about an acre a second. We will lose another 72 square miles to encroaching deserts, the results of human mismanagement and overpopulation. We will lose 40 to 250 species, and no one knows whether the number is 40 or 250. Today the human population will increase by 250,000. And today we will add 2,700 tons of chlorofluorocarbons and 15 million tons of carbon dioxide to the atmosphere. Tonight the earth will be a little hotter, its waters more acidic, and the fabric of life more threadbare”*

Important Figures and Tables: Figure 2.10, Table 2.2, Figure 2.11, Figure 2.18

Boxes 2.1-2.5 are important