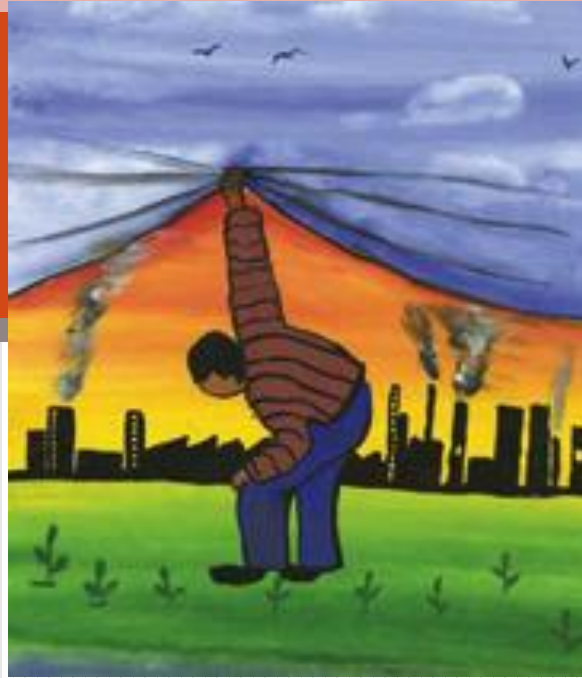


Public Ecology and Making an Environmental Difference



Tracey Osborne
University of Arizona
Amazon-Pire

A Human Dominated Planet

- Population growth, resource use, and unsustainable economy have together changing the Earth in unprecedented ways.
- Three classes of change (Lubchenco 1998)
 - Transform land and sea through resource use – forestry, mining, urbanization, fishing
 - Alter biochemical cycles of carbon, nitrogen and water
 - Change species composition, with loss of significant number of species, but introduction of invasive and genetically modified species.

Extent of Human Domination

- One third to a half of the Earth's land surface has been transformed by human action.
- Carbon dioxide in the atmosphere has increased by nearly 30% since the Industrial Revolution.
- More than half of all accessible fresh water resources is enrolled in human use.
- About two thirds of all marine fisheries are fully exploited, over exploited or depleted.

Vitousek et al.

Science and its role in society

- “Science is the pursuit of knowledge about how the world works, a pursuit with an established process of inquiry, logic, and validation” (Lubchenco 1998).
- Society currently expects two outcomes from its investment in science
 - The production of the best possible science regardless of the area.
 - The production of something useful – research that will lead to understanding issues society considers important.

The New Social Contract for Science

- The contract assumes scientists will:
 - Address the most urgent needs of society in proportion to their importance.
 - Communicate their knowledge and understanding widely in order to inform decisions of individuals and institutions.
 - Exercise good judgment, wisdom, and humility.

Lubchenco 1998

Key aspects of the contract include:

- Communicating certainties and uncertainties, seriousness of environmental problems
- Educating the public
- Providing alternatives
- Scientists should be leading the dialogue on environmental priorities.

Public Ecology

- Public Ecology – a philosophy and practice of ecology that intends to influence policy and decision making on environmental issues. Knowledge should be purposeful. It is a more normative science.
- Recognizes human influence on nature and that humans are an integral part of nature. Challenges environmental determinism.
- Scientists who practice Public Ecology are in conversation with a wider set of stakeholders.

Practicing Public Ecology

- Recognize that all environmental knowledge is normative.
- Construct context-specific knowledge
- Integrate knowledge across disciplines, professions and scales
- Produce knowledge base that can adapt
- Knowledge must be accessible to diverse stakeholders.

Elevator speech

- Groups of 2 or 3
- Describe your research and explain how it is relevant to an NGO member or policy-maker. What is the broader impact?
- We will then go around and present to the group our research, why it's important, and it's broader impact.