Human Dimensions

Preview

1. Introduction
2. Values and Ethics
3. Economics
4. Politics and Action

1.

Introduction

- Human habitat
  - Food
  - Water
  - Shelter
  - Space

Introduction

- Human niche
  - Terrestrial mammal
  - Heterotrophic consumer
  - Bipedal
  - But that's not all!

Introduction

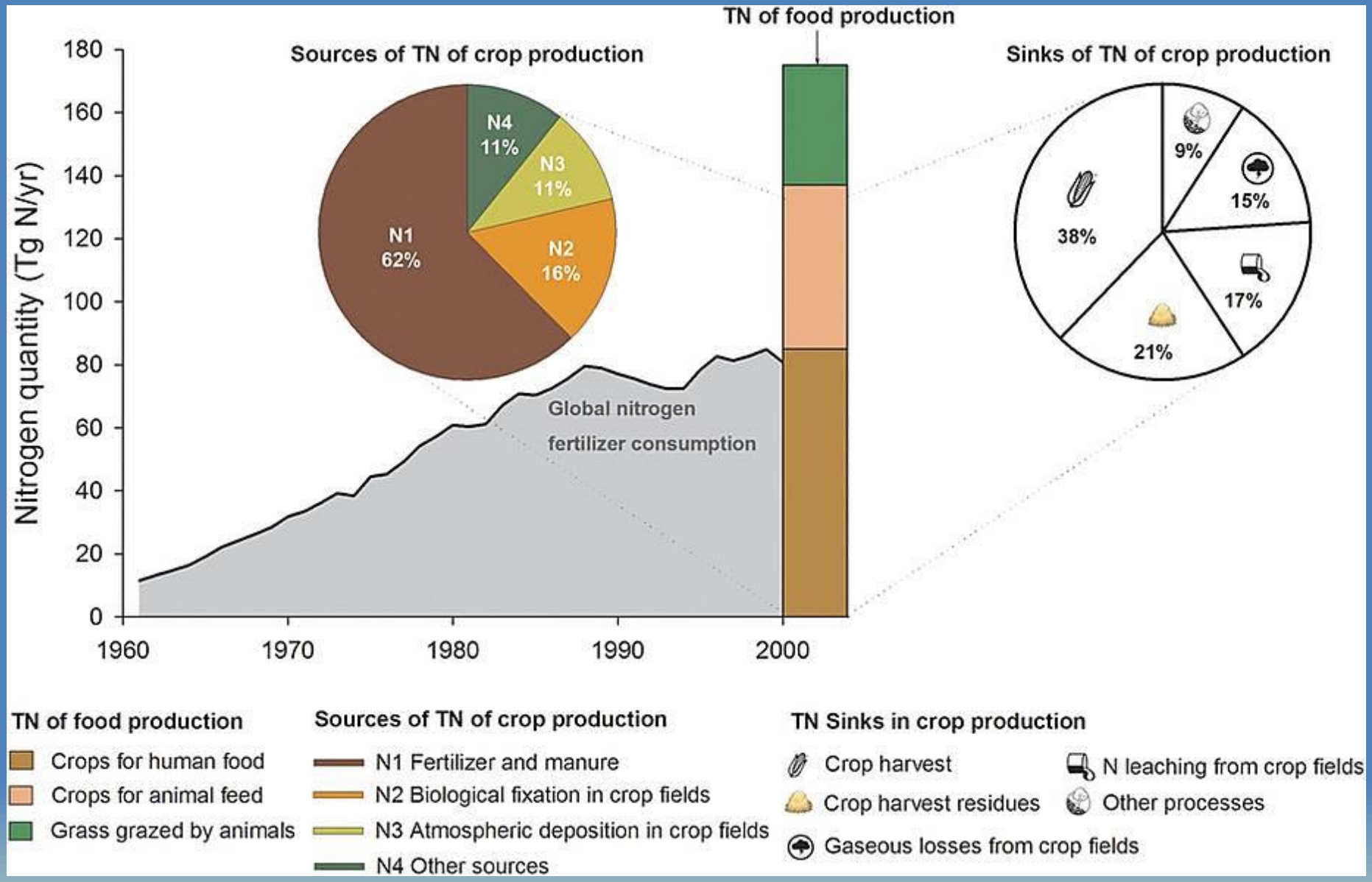
- Human niche cont'd
  - Complex cognitions including:
    - Rational logic
    - Future planning
    - Imagination
    - Creativity (e.g. art)
    - Tool construction and use

Tool Use

Introduction

- In the process of obtaining habitat needs, humans have
  - Altered habitats and ecosystems
  - Made the environment more hospitable for themselves
  - Capitalized upon/subverted natural cycles

1.

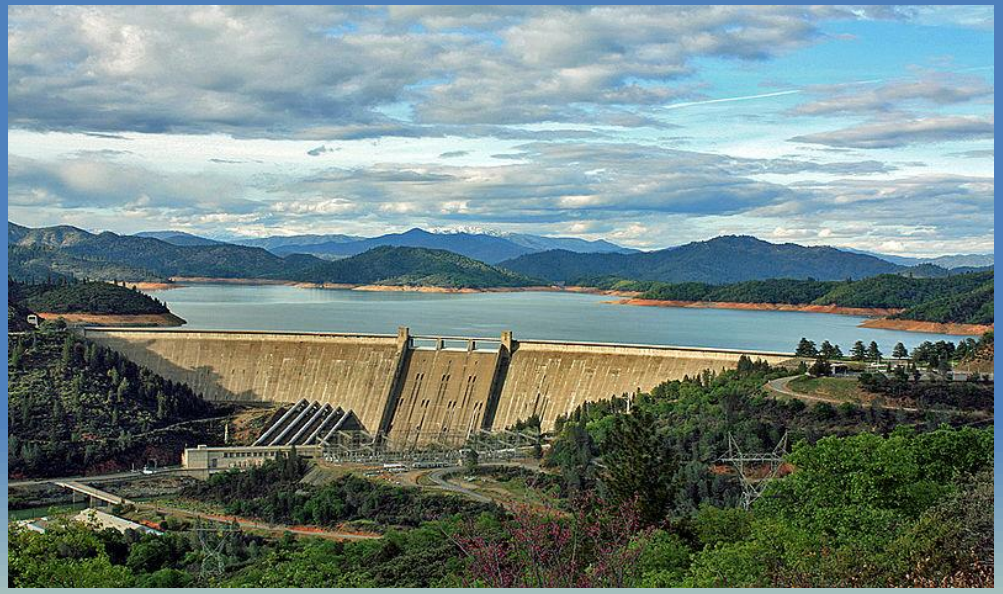


Human effects on the Nitrogen cycle

www.nature.com

1.

What's the difference?



1.

What's the difference?

David Tilman

www.wikipedia.org

Introduction

- Human niche cont'd
  - Morality, ethics, values
  - Thinking beyond ourselves
  - Seeking to understand "why"?

Symphony of Science

Values and Ethics

- Morality and Nature
  - Humans' relationship with nature
    - CEO
    - Caretaker
    - Community member

2.

Wolves in popular culture

Values and Ethics

- Urban vs. Rural
  - People have different experiences of nature
  - Urban: “Nature Deficit Disorder”
  - Rural: Survival and safety

Values and Ethics

- Men and Women
  - Roles have differed in societies
  - May influence attitudes toward environment

Values and Ethics

- Rich vs. poor
  - Environmental challenges differ
  - Exploitation vs. consumption
    - Cow vs. beef
    - Pig vs. pork

Growth and Consumption

Values and Ethics

- Rich vs. poor cont'd
  - Different responses to environmental problems
  - Species can have >1 cultural value

I Bought A Rainforest

2.

Values and Ethics

= rural

= urban

= USA

= Japan

Value	Definition	Function
Utilitarian	Practical and material exploitation of nature	Physical sustenance/security
Naturalistic	Satisfaction from direct experience/contact with nature	Curiosity, outdoor skills, mental/ physical development
Ecologistic- Scientific	Systematic study of structure, function, and relationship in nature	Knowledge, understanding, observational skills
Aesthetic	Physical appeal and beauty of nature	Inspiration, harmony, peace, security
Symbolic	Use of nature for metaphorical expression, language, expressive thought	Communication, mental development
Humanistic	Strong affection, emotional attachment, ‘“love`” for nature	Group bonding, sharing, cooperation, companionship
Moralistic	Strong affinity, spiritual reverence, ethical concern for nature	Order and meaning in life, kinship and affiliational ties
Dominionistic	Mastery, physical control, dominance of nature	Mechanical skills, physical prowess, ability to subdue
Negativistic	Fear, aversion, alienation from nature	Security, protection, safety

Values and Ethics

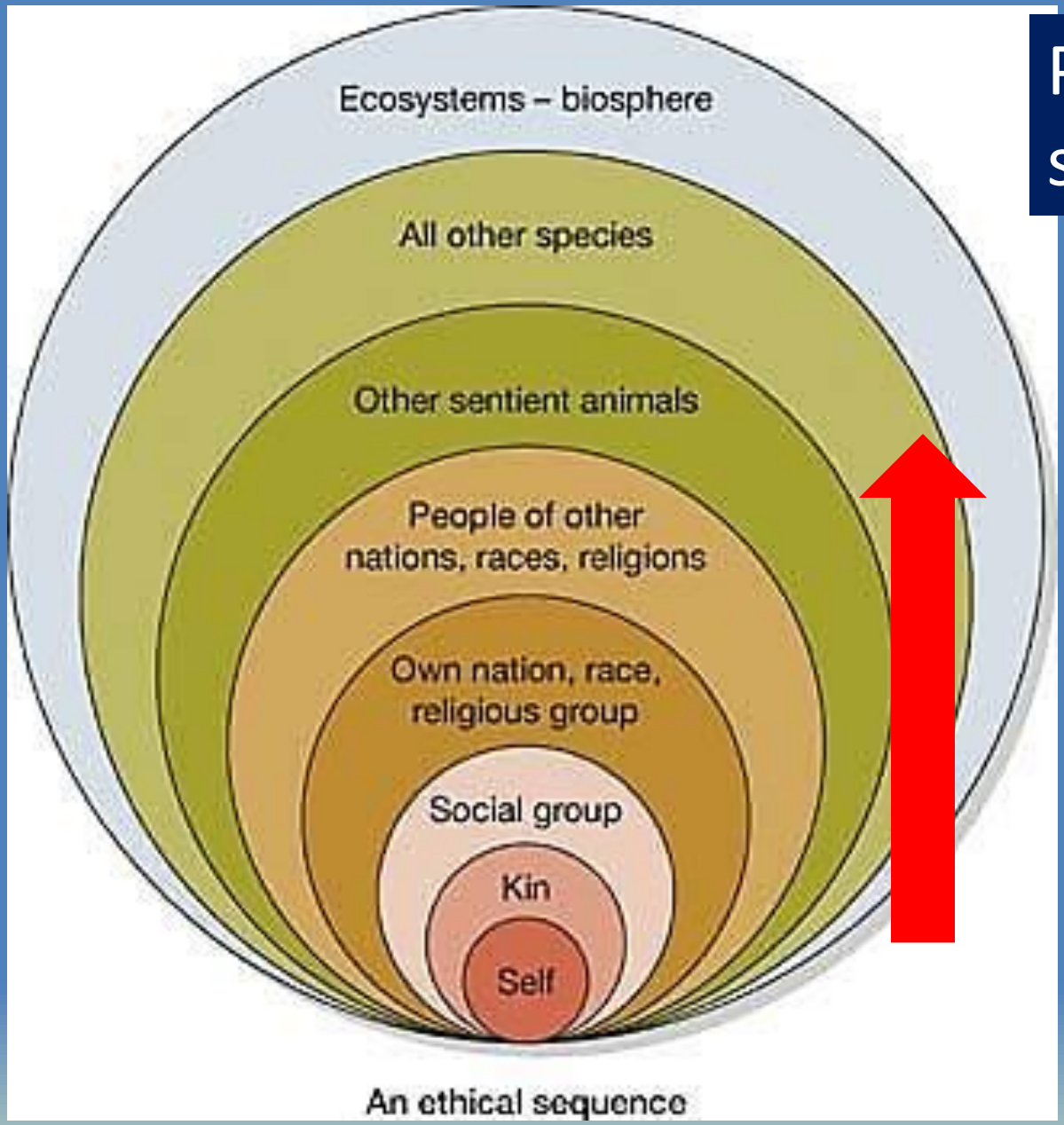
- Disturbing Trends
  - Dualism: separation of one group (read: humans) from another (read: non-humans)
  - Reductionism: examination of component parts over systems

Values and Ethics

- Two strategies:
  - Education
    - Formal or informal
    - Provides context for issues
  - Experience
    - Hands-on, being “in” nature
    - Creating a personal connection

2.

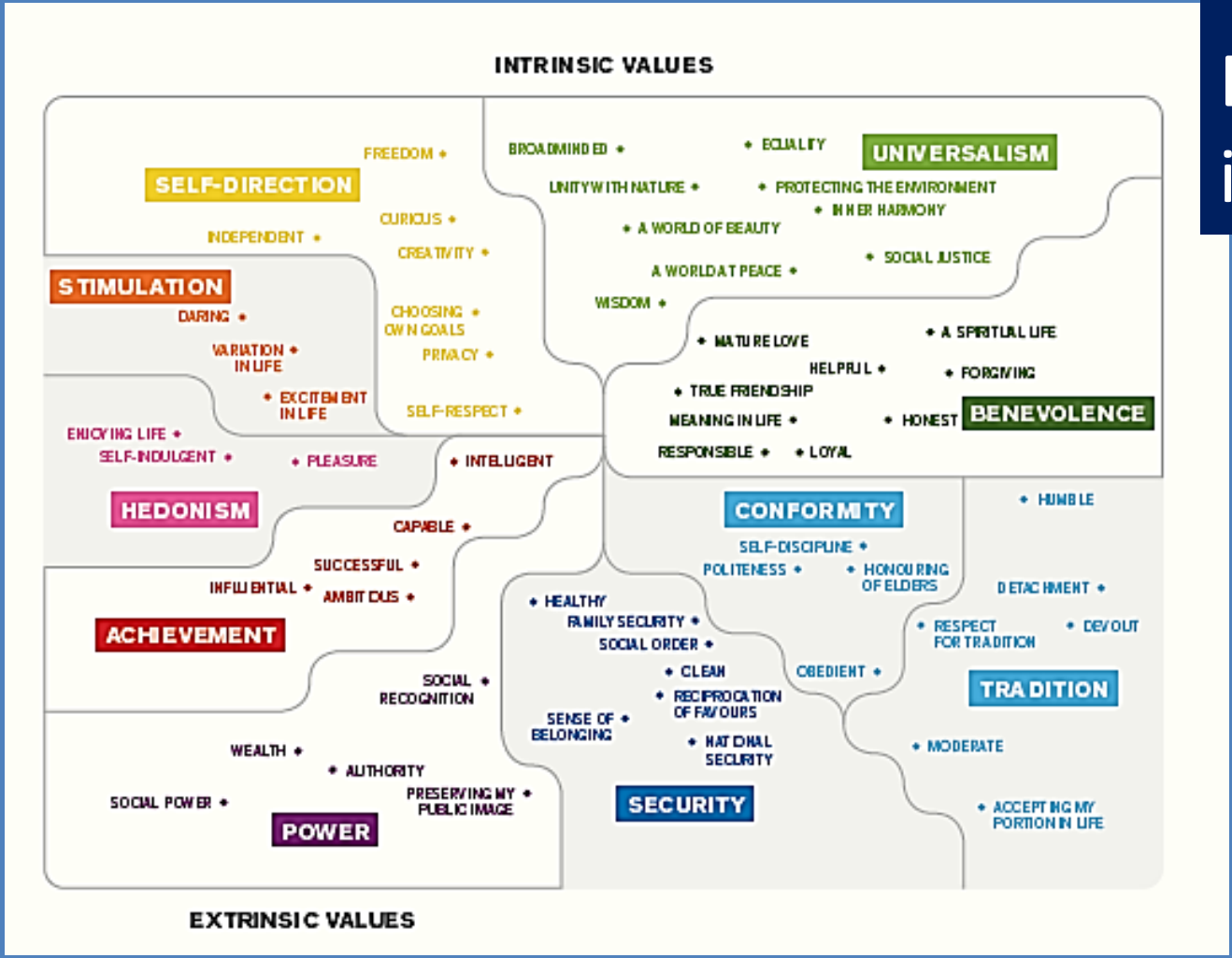
Promoting a shift in values



An ethical sequence

2.

Values: Extrinsic vs. intrinsic



Common Cause Foundation

2.

Economics

- Involve the exchange of goods and services
  - Producers
  - Consumers
- Products may be renewable or non-renewable resources

Economics

- Goods vs. services
  - Goods – physical objects to own
  - Services – labor performed for our benefit
  - How they are obtained varies
    - Directly - Subsistence
    - Indirectly – supermarket, internet

Economics

- Good vs. services cont'd
  - Services are much more valuable than goods BUT…
  - Services much more difficult to value

3.

Cost of Good: ~$100

Cost of Services:

- Fisheries and Recreation?
- Shoreline Protection?
- Biodiversity?

Economics

- Contingent valuation
  - How much would you pay to…
    - Repair ecosystem damage?
    - Lower your taxes?
    - Walk your favorite nature trail?
    - See more wildlife on your property?

Economics

- "Paying" for services
  - Subsidies, tax credits
  - Incentive programs
  - Ecosystem services trading markets

Economics

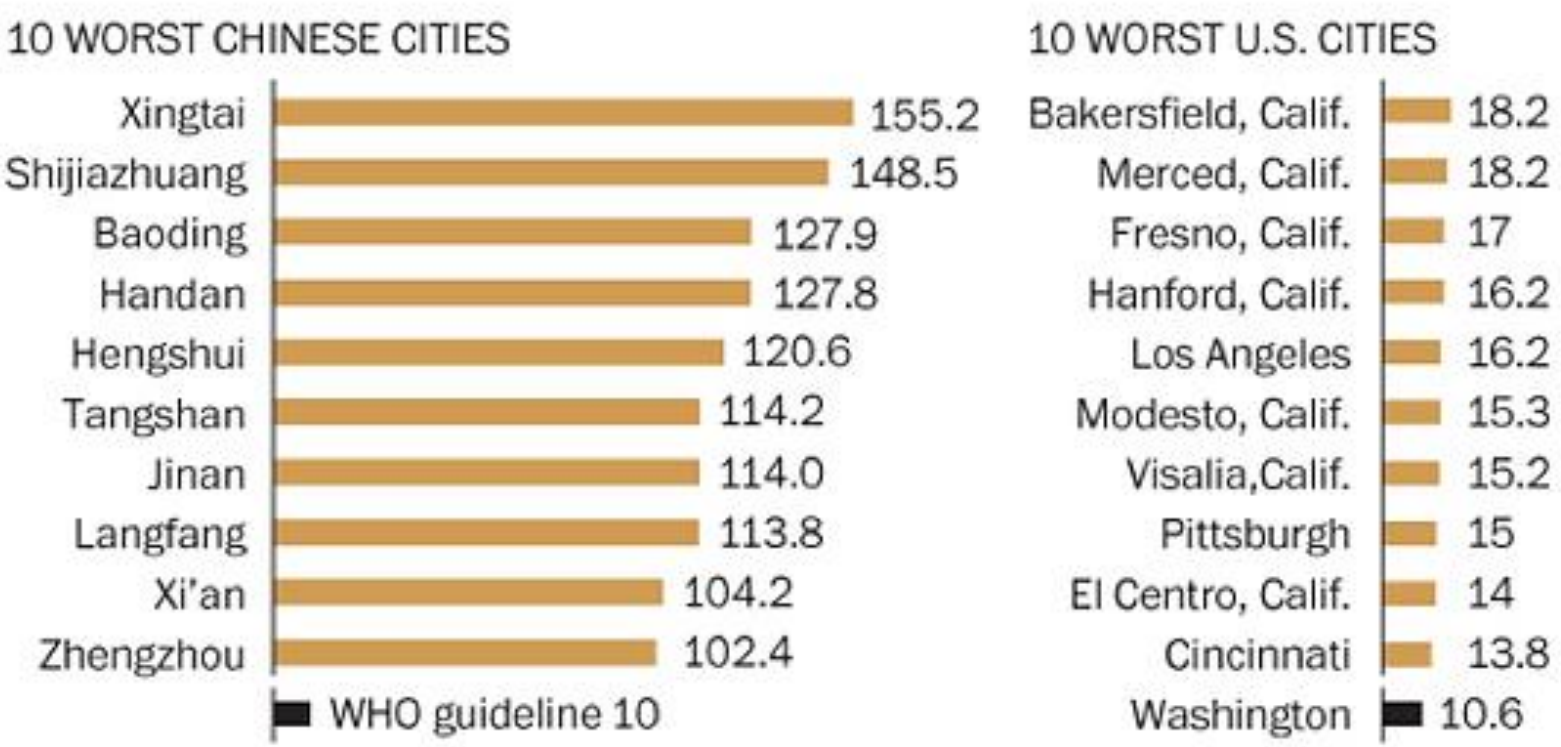
- 2017 Report (*The Lancet*)
  - 9 million deaths/year globally from air pollution
  - Mostly in underdeveloped countries
  - Linked to absence of environmental regulations

Pollution

3.

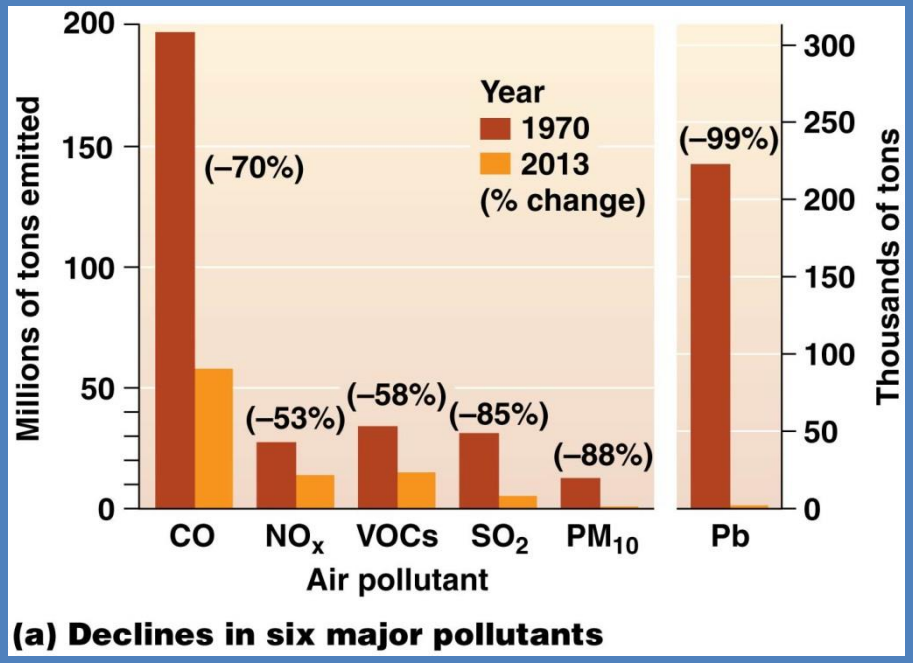
DAILY AVERAGE POLLUTION

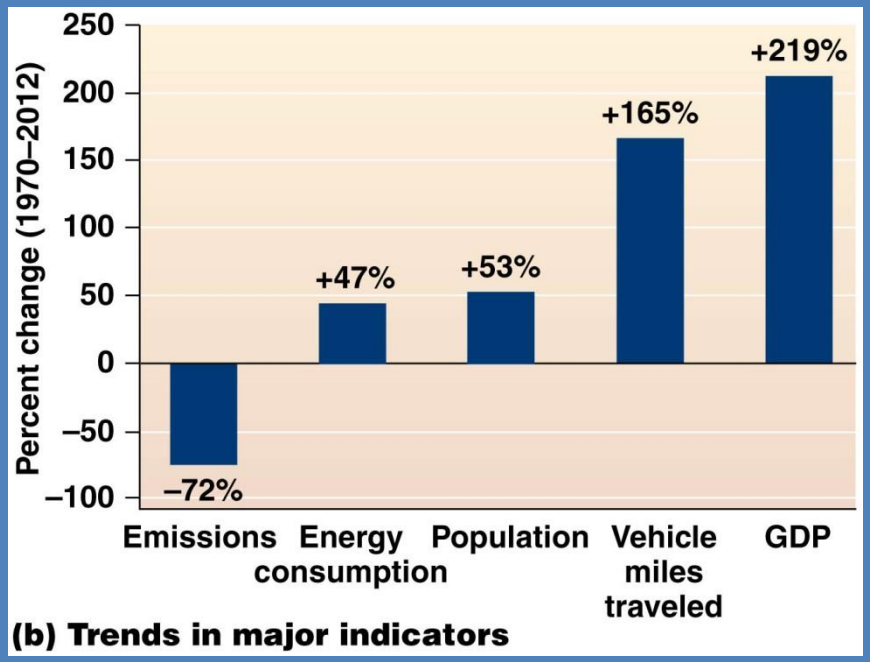
The World Health Organization (WHO) guidelines consider anything over 10 micrograms per cubic meter of PM2.5 to be hazardous to health.



Sources: Chinese Ministry of Environmental Protection, American Lung Association and WHO. Simon Denyer and Richard Johnson/The Washington Post. Published on February 2, 2014, 5:46 p.m.

3.





Relationship between environmental regulations and economic growth?

3.

Economics

- Environmental costs tend to occur more for those in less developed countries
- Environmental benefits tend to be most common in developed countries
- Wider gap between rich and poor can create political unrest

Economics

- Economic problems and the environment

1. Communal ownership of natural resources; exploitation rewards go to few
2. Maintenance costs for biodiversity often borne by rural poor
3. Short-term profits for exploitation preferred over long-term sustainability
4. Not everyone thinks biodiversity is "worth it"

Politics and Action

- Environmental policy is meant to:
  - Protect the environment from exploitation
  - Ensure equal access to ecosystems services for all citizens

Politics and Action

- Environmental policy must take into account:
  - Spatial/temporal scale of the problem
  - Level of biodiversity affected
  - Sense of urgency for a particular species or ecosystem
  - Social/cultural/political differences

4.


I LOVE SPOTTED
OWLS...FRIED
CAUTION: I SWERVE
FOR SMALL ANIMALS
THEY'RE HARDER TO HIT!


IT'S A DEAL... YOU CONTINUE TO OVER-POPULATE THE PLANET WHILE WE SQUANDER ITS NATURAL RESOURCES!
THIRD WORLD
RIO EARTH SUMMIT

Politics and Action

- International Organizations
  - Think of a conservation as a global activity
  - Regulating shared resources
  - Sharing financial burdens and benefits
  - Information sharing

Politics and Action

- Governments
  - Developing/enforcing regulations
  - Conserving public resources
  - Using economic policy tools
  - Environmental education and research

Politics and Action

- Private Sector (NGOs and Business)
  - Representing stakeholders to government
  - Innovating in ways governments cannot
  - Internalizing costs

Cradle to Cradle

Politics and Action

- Communities and Individuals
  - Encouraging informed citizens
  - Gain experiences
  - Communicate, seeking common ground
  - Lifestyle/values alignment

Resources

Publications

Hunter Jr., M. L., and J. Gibbs. 2007. Fundamentals of Conservation Biology, 3rd Edition. Blackwell, Malden.

Smith, T.M., and R.L. Smith. 2015. Elements of Ecology, 9th Edition. Pearson, New York.