Social Dimensions of Conservation

Learning Objectives:

1. Articulate how the current capitalist macroeconomic system contributes to environmental degradation
2. Define and identify externalities, and explain how they exemplify market failure
3. Outline the geopolitical causes of poverty
4. Discuss the "triple bottom line" of sustainable development and challenges to achieving it
5. Identify situations when conservation may result in poverty alleviation
6. Articulate how ABCD addresses short-comings of traditional problem-based approaches
7. Demonstrate effective practice for identifying and working with stakeholders
8. Analyze benefits and challenges of various forms of conservation incentives

Can we solve the biodiversity crisis?

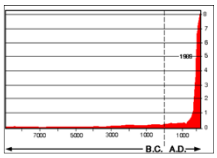
"Efforts to conserve biodiversity will only succeed if they improve human livelihoods"

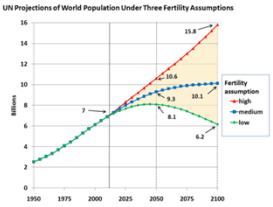
Who's livelihoods?

~3.5 billion live where there is little to no vegetation (<5% cover)
Only ~750 million people live in forested areas (>25% cover)

Human Population

7.6 billion and counting...

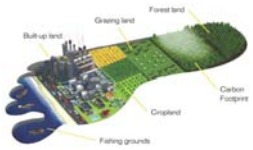


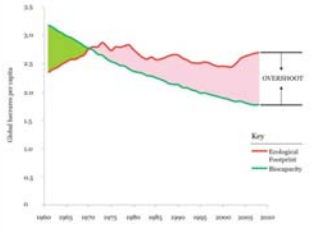


Medium UN estimate:
10.1 billion by 2100

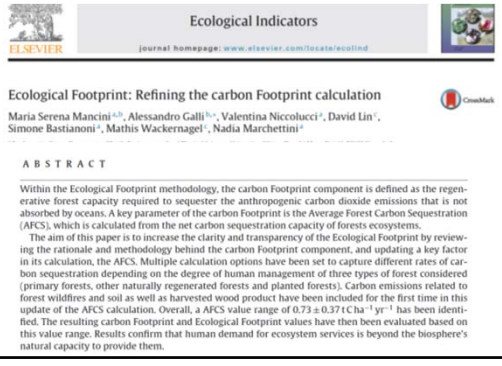
What is the human carrying capacity?

Human's Ecological Footprint





Ecological Overshoot



Ecological Indicators

journal homepage: www.elsevier.com/locate/ecolind

Ecological Footprint: Refining the carbon Footprint calculation

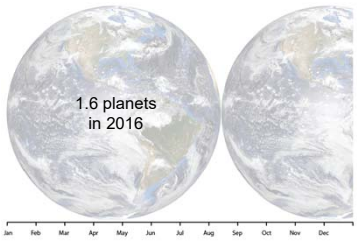
Maria Serena Mancini [a,b], Alessandro Galli [b,c], Valentina Niccolucci [a], David Lin [c], Simone Bastianoni [a], Mathis Wackernagel [c], Nadia Marchettini [a]

ABSTRACT

Within the Ecological Footprint methodology, the carbon Footprint component is defined as the regenerative forest capacity required to sequester the anthropogenic carbon dioxide emissions that is not absorbed by oceans. A key parameter of the carbon Footprint is the Average Forest Carbon Sequestration (AFCS), which is calculated from the net carbon sequestration capacity of forests ecosystems.

The aim of this paper is to increase the clarity and transparency of the Ecological Footprint by reviewing the rationale and methodology behind the carbon Footprint component, and updating a key factor in its calculation, the AFCS. Multiple calculation options have been set to capture different rates of carbon sequestration depending on the degree of human management of three types of forest considered (primary forests, other naturally regenerated forests and planted forests). Carbon emissions related to forest wildfires and soil as well as harvested wood product have been included for the first time in this update of the AFCS calculation. Overall, a AFCS value range of 0.73 ± 0.37 t C ha^{-1} yr^{-1} has been identified. The resulting carbon Footprint and Ecological Footprint values have then been evaluated based on this value range. Results confirm that human demand for ecosystem services is beyond the biosphere's natural capacity to provide them.

Ecological Debt

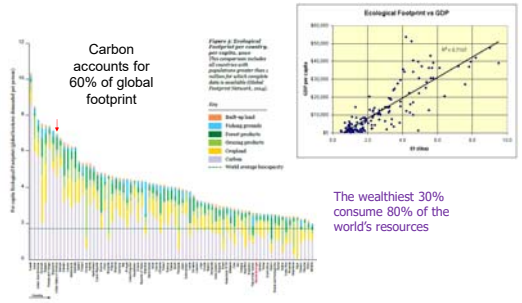


Ecological Overshoot Day gets earlier every year: www.futuretimeline.net

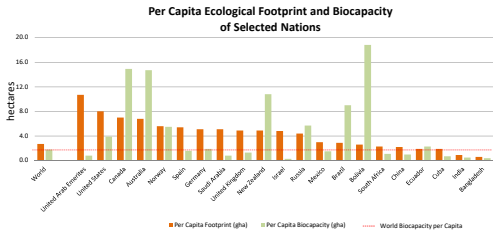
1995 November 21
2005 October 20
2015 August 15
2017 August 2

What can you do?
overshootday.org

HUMAN'S ECOLOGICAL FOOTPRINT



The wealthiest 30% consume 80% of the world's resources



Haves and have-nots

Future resource wars?

Data source: www.footprintnetwork.org

Economic Roots of Biodiversity Crisis

Capitalist system: Indirect and intrinsic values of nature not accounted

- Externalities

  costs (or benefits) that fall upon individuals not directly involved in the exchange

Economic Roots of Biodiversity Crisis

Capitalist system: Indirect and intrinsic values of nature not accounted

- Externalities
- Open-access resources

  Considered ***free*** *for all to use* - air, water, soil, even species! Often accrue externalities.

Economic Roots of Biodiversity Crisis

Capitalist system: Indirect and intrinsic values of nature not accounted

- Externalities
- Open-access resources
- Tragedy of the Commons

"Individual users acting independently according to their own self-interest behave contrary to the common good of all users by depleting or spoiling that resource ." -

Economic Roots of Biodiversity Crisis

Capitalist system: Indirect and intrinsic values of nature not accounted

- Externalities
- Open-access resources
- Tragedy of the Commons
- Market failure

When *externalities* exist such that things are over/under produced or over/under consumed due to incorrect costs/benefits calculations

"Climate change represents the greatest example of market failure we have ever seen."
- Stern Review 2009

How to solve the problem?

- "Polluter pays"?
- Regulation?
- Teach intrinsic values?
- Precautionary principle?

Conservation concerns may be secondary...

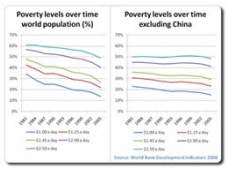
***But** in practice, people are poor and the rich are powerful!*

"Recognizing the **intrinsic value** of the nonhuman world has a dramatic effect upon the framework of environmental debate and decision-making. If the nonhuman world is only considered to be instrumentally valuable then people are permitted to use and otherwise interfere with any aspect of it for whatever reasons they wish. If anyone objects to such interference then the onus is clearly on the person who objects to justify why it is more useful to humans to leave that aspect of the world alone. If, however, the nonhuman world is considered to be intrinsically valuable, then the onus shifts to the persson who wants to interfere with it to justify why they should be allowed to do so". (Fox 1993)

The Role of Poverty

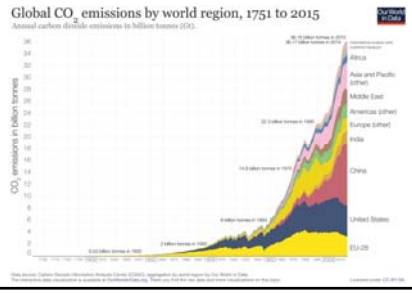
- Poverty-Conservation link unclear (read Pearce)
- Millenium Development Goals (2000-2015)
- Growing Inequality (link)
- Goals patchily met

MGD#7: Integrate principles of sustainable development into country programs and policies; achieve significant reduction in rate of loss of environmental resources.



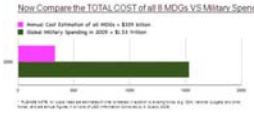
2015 MDG Final Report

Goal #7: CO2 emissions doubled since 2000, and habitat loss continued despite declines in deforestation



Causes of Poverty

- History of colonial exploitation
- 3 pillars of the "Corporatocracy"
- "Structural Adjustment" programs (70's-80's)
- Liquidation of natural resources to attract foreign investment
- Neo-imperialist aid programs
- Citizens United vs Federal Election Commission 2008

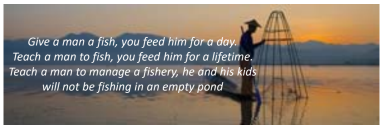


Read Perkins' *Confessions of an Economic Hitman*

How can we expect to alleviate poverty, improve access to health care and clean water, and reduce biodiversity loss when the richest among us have free reign over where they operate, who they employ (and for how much), and who gets elected to set the rules?

Conservation & Poverty Alleviation

- Fight unbridled capitalism
- Support regulation
- Harness local knowledge & build capacity
- Adopt sustainable development approaches

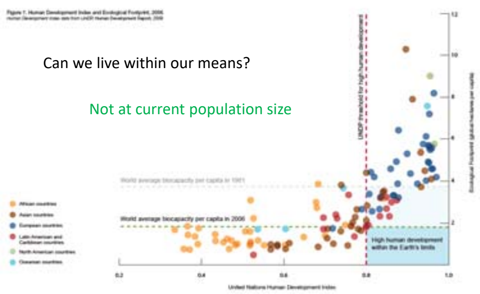


Will decreasing poverty lead to increased conservation of biodiversity?
(read Pearce)

Human Wellbeing vs Footprint

Can we live within our means?

Not at current population size



"In the context of the SDGs, population is sometimes called the elephant in the room. It is not mentioned in any of the 169 targets…"

Will they lead to lower population growth?
Will they lower our ecological footprint?

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Your source for the latest research news

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Breaking News: Gluten-Free Di

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Science News *from research organizations*

Sustainable Development goals lead to lower population growth

Date: November 29, 2016

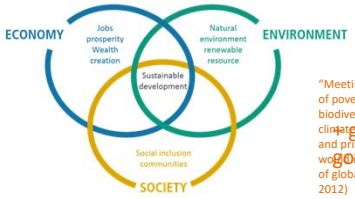
Source: International Institute for Applied Systems Analysis

Summary: Achieving the Sustainable Development Goals (SDGs) set by the UN in 2015 for the period up to 2030 would lead to a global population of between 8.2 to 8.7 billion by 2100, according to a new study. According to a new study, achieving the SDGs would lead to population growth below even the lower bound of recent UN probabilistic population projections.

Sustainable Development

"Sustainable development is eluding the entire planet" (Sachs 2012)

- The "triple bottom line"
  - economic development, environmental sustainability, and social inclusion



"Meeting the major goals of poverty reduction, biodiversity conservation, climate change mitigation, and primary health for all would require [illegible]% of global income" (Sachs 2012)

+good governance!

Involving People in Conservation

3.1 billion live where there is little to no vegetation (<5% cover)
only ~750 million people live in forested areas (>25% cover)

Involving People in Conservation

- Conflicting values, needs, & knowledge systems
- Working with stakeholders
- Problem-based vs Asset-based approaches
- Prioritization & planning

IDENTIFYING STAKEHOLDERS

Who are stakeholders?
- indigenous groups
- government
- donors
- ***Yasuní stakeholders?***

Number & Scope
- large-vs. small-scale
- fewer stakeholders = ▼conflicts

Participation
- planning meetings
- incentives & training

Steps Participatory Planning

Problem-based vs Asset-based Community Development (ABCD)

S.W.O.T. – Strengths, Weaknesses, Opportunities, Threats
F.O.D.A. –

Problem based	Asset based
focuses on negatives: deficits, mistakes, problems	focuses on positive: capacities, skills, existing resources, assets
top down	bottom up
looks outward: what can others do for us?	looks inward: what can we do for ourselves?
fosters dependence	fosters independence
demoralizing	engenders pride
less likely to engage, succeed	more likely to engage, succeed

Criteria for Prioritizing Action

- perceived importance
- intensity of threat
- urgency of threat
- political feasibility
- social practicability
- assets available
- potential impact

Challenges to Involving People

- "Shifting baseline"
- Land tenure
- Volume vs. variety
- Opportunity cost
- Risk aversion
- **Behavior change**
- Capital

Livelihood impacts of conservation

Is it always necessary to obtain local support for conservation?
(read Wuerthner)

Incentives

- Capacity building / job training
- Support for sustainable microenterprises
- Payments for Ecosystem Services
- Carbon markets and REDD
- Education

Education can help reduce the need for financial incentives

How to Change Behavior?

- Community-based Social Marketing

1. identify barriers
2. behavior change tools
   - direct personal appeals
   - piloting
   - incentives
3. Evaluation

How to Change Behavior?

- workshops & information campaigns don't work