Introduction and photos

Conservation Biology
ECOL 406R/506R
University of Arizona
Fall 2006

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1. Introductions
2. 3x5 cards, photos

3. Syllabus
4. Topics

‘3x5’ card

Registered? 406R or 506R? In Lab?

Name (and what you prefer to be called)
-Distinguishing characteristic

Email address

Year in school

Major

Relevant courses taken, or research projects, etc.

Why are you taking this course?
What do you hope to get out of this course?
1. Overall course objectives

• Grasp **scientific material** (content & literacy)

• Provide **real-world relevancy** and applications

• Place in **context** of students’ lives

• Foster life-long **appreciation** and respect for:
  - field, findings, organisms, biodiversity, etc.

Rank self from 1-10 on knowledge of Conservation Biology

10: Very knowledgeable

1: Know nothing about it, I might be in the wrong room

Please add this number to the top right of your card.
Humans on planet Earth

Meffe and Carroll 1997
Ecological Footprint

<table>
<thead>
<tr>
<th>Country</th>
<th>Per Capita Ecological Footprint (Hectares of land per person)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>10.9</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>5.8</td>
</tr>
<tr>
<td>India</td>
<td>1.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Ecological Footprint (Hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>3 billion hectares</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>94 million hectares</td>
</tr>
<tr>
<td>India</td>
<td>1 billion hectares</td>
</tr>
</tbody>
</table>

Figure 1-5 Relative ecological footprints of the United States, the Netherlands, and India. An ecological footprint is the amount of land needed to produce the resources needed by an average person in a country. It would take the land area of about three planet earths if all the world’s 6.2 billion people consumed the same amount of resources as is consumed by the 288 million people in the United States. Miller, 2003

1 ha = 2.47 acres
Ecological Footprint

**Def**: Number of productive acres (fishing grounds, forests, agricultural fields) needed to maintain a given lifestyle

- **Driving** (roads, vehicles, fuel, etc.)
- **Housing** (land and resources for construction)
- **Food** (land, transport, inputs, trophic level)
- **Other** goods and services

US citizens use **24 acres/person** on average  
(Canadians 17, Italians 9, Pakistanis 2)

As of ~2002, planet has about **4.5 acres/person**

**Sustainability?**

(1 acre = 0.405 hectare)

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**Contribution to Greenhouse Gas Emissions and Global Warming**

![Diagram showing contributions to global footprint and per capita emissions](image)
How many planets needed, at 4.5 acres/person, to live like the mean ECOL406R/506R student?

= mean/4.5 = ??

AVERAGE ECOLOGICAL FOOTPRINT IN USA IS 24 ACRES PER PERSON.
WORLDWIDE, THERE EXIST 4.5 BIOLOGICALLY PRODUCTIVE ACRES PER PERSON.

http://www.earthday.net/footprint/index.asp