Teaching Ecological Ethics

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Outline

- Needs for ethics training in the curriculum
- Our team & pedagogical strategies
  - Content
  - Cases
  - Shadow program
- Preliminary outcomes
New Research Ethics Requirements

- America Competes Act 2007
- NSF, NIH, to be followed by others
  - NSF requires that, at the time of proposal submission to NSF, a proposing institution's AOR must certify that the institution has a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduates, graduate students, and postdoctoral researchers who will be supported by NSF to conduct research.
Responsible Conduct of Research

- Identified 9 areas of concern for ethics training
- Significant literature and pedagogical strategies exist for many of these
- We focus on an area rife with complex regulations but, lacking underlying theoretical rigor
- Conflict of interest – personal, professional, and financial
- Policies re: live vertebrate animal subjects in research, human subjects, and safe laboratory practices
- Mentor/mentee responsibilities and relationships
- Collaborative research including collaborations with industry
- Peer review
- Data acquisition and laboratory tools; management, sharing and ownership
- Research misconduct and policies for handling misconduct
- Responsible authorship and publication
- The scientist as a responsible member of society, contemporary ethical issues in biomedical research, and the environmental and societal impacts of scientific research
Our team focus

- Personnel
- Research focus
  - Applied Ethics
  - Ecological field research
- Pedagogical challenges and methods
  - Content
  - Case method
  - Shadow program
Pedagogical challenges

- Teaching
  - content or
  - foundations for change
- Why cover basic ethical theories?
  - You need to experience other ways of looking at things before you can assess your own value systems and ethical stands.
- Case method for teaching ethics
  - (Schrader-Frechette and McCoy 1994)
Ethics – Normative theories

- **Utilitarianism** (*Bentham, Mill)*
  - ‘the greatest good for the greatest number of people’
    - happiness or pleasure vs. suffering or pain
  - moral rightness depends on consequences

- **Deontology** (*Kant)*
  - judges the morality of an action based on the action's adherence to a rule or rules.
  - the only absolutely good thing is a good will

- **Virtue Ethics** (*Plato, Aristotle)*
  - collection of ethical philosophies that place an emphasis on being rather than doing.
  - emphasize the character of the moral agent
Environmental ethics

(Næss, Singer, Loveless, Rolston)

Libertarian, Ecologic, Conservation ethics (Marshall 2002)

Land Ethic (Leopold)

"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."

"The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land...it changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such."
Ecological ethics  Minteer and Collins (2005, 2008)

- Can help inform ethical decision making in ecology and conservation.
- Tensions between animal welfare considerations in ecological research/management and “higher level” ecological values (e.g., conservation of populations, species, or ecosystems).
- Problem of human agency and interference in natural processes for scientific and/or conservation goals.
An IACUC protocol example: chipmunks and nesting birds

- Experimental study of nest predation
  - Live-trap removal from three 7-ha plots
  - Determine if nest success changed

- Ethical Issues
  - Survival of relocated animals
  - Effects of additions on populations/community
  - Role of humans
Amphibians in Central America

- Chytrid fungus (Bd) 
  \( \text{Batrachochytrium dendrobatidis} \)
  - spread of fungus
  - endemic species extinctions are imminent
- Should we rescue them? (ethical & ecological concerns)
  - Fate
  - Evolution
  - Human roles

Over 30 other species at immediate risk
African elephant management

- Range greatly restricted
  - Limited by human land uses
- Natural Mortality
  - Predation on adults is rare
    - Some predation on young – but adult behavior usually limits
- Die-offs during drought
  - Jawbones of 3,400 elephants that died in Tsavo during 1970-1971 drought
African elephant management

- Humans have killed elephants for over 600,000 years
- Modern humans kill them more efficiently & for different reasons
- Elephants declined by > 50% by 1989
  - From over 1.2 Million to < 600,000
- Anti-poaching & regulation of ivory trade
  - Protected elephant pops increased dramatically
Consequences of elephant over-population

Overgrazing by elephants on woodlands results in ....

Changing of habitat and loss of other species that depended on woodlands.
African elephant management

- Management options
  - Do nothing – allow ecological & social consequences
  - Cull excess population
  - Contraception
  - Reinstate regulated hunting

- Ethical considerations
  - Human vs. animal ‘rights’
  - Population vs. individual rights
  - Trade-offs between species
IACUC Shadow program

- Mentoring from individual IACUC members
- Review and discuss animal use protocols in class
- Attend IACUC meetings to observe protocol review process
  - Discussions focus on both regulatory criteria and ethical considerations
Preliminary results

- 10-20 question pre- and post-tests of knowledge about ethics and IACUC’s
- Q-Sort
  - ranking ethical dilemmas to assess changes in viewpoints
- Defining Issues Test
  - quantitative rankings to moral dilemmas, data to be analyzed
- Post class feedback

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<thead>
<tr>
<th>pre-post knowledge tests</th>
<th>IACUC</th>
<th>ethics</th>
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<td>mentor experiences varied greatly with individual IACUC members.</td>
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<tr>
<td>Attending the IACUC meetings was the best part of this class.</td>
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<td>‘This experience definitely helps prepare me for my future research career.’</td>
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<tr>
<td>‘I wasn’t sure what to expect from this class but, it has been much more valuable than I had thought it would be.’</td>
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Acknowledgements

- This project supported in part by NSF Grant DBI-0832697
- Texas Tech University
  - Department of Natural Resources Sciences
  - Department of Philosophy
  - Department of Mass Communications
Useful sources

- www.rw.ttu.edu/ethics Our Project website
- www.indiana.edu/~appe/ Assoc. Practical & Professional Ethics
- http://ethics.sandiego.edu/ Ethics updates
- poynter.indiana.edu/tre/ Poynter center


What are Ecological Ethics?
Texas Tech University
Animal Care and Use Committee

TITLE OF PROTOCOL: (These may be multiple title(s))
Principal Investigator: 
Telephone Number: 
Department: 
Expected completion: 

Expected starting date of project: 
Food/Fiber Production [ ] Te[ ] Project in: Biomedical [ ] Aquatic Production [ ] Other, please describe:

Animal model(s): 
Animal name, sex, age:

(ACUC Use Only) 
ACUC APPROV
Expiration Date
Category

REQUEST ADDITIONAL ANIMALS:
Species:
Field number of animals:
Other additional animals requested:
Explain why you need additional animals and how you determined the total number of animals needed:

DELETE TITLE: (E) New Title(s):

CHANGE FUNDING SOURCE TO:

DELETE ANIMAL SPECIES:

DELETE:

ADD OR DELETE:

PROTOCOL FOR THE USE OF LIVE ANIMALS FOR RESEARCH, TEACHING OR DEMONSTRATION
Animal Use Form 2005

A protocol can be reviewed only after all questions have been answered completely. Do not refer to or attach passages from other documents. This is a form field document and you must provide the information in the shaded area and in the space provided. Q5.6.10 are not protected and can be checked for spelling and grammar using word processing software.