Ethics in Environmental Research

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Learning Outcomes

- Briefly discuss some definitions and history of research ethics

- Introduce the Environment Dept's ethical review procedure

- Briefly discuss the expectations of good and ethical research

- Discuss the ethical issues associated with research involving humans and animals

What are 'ethics'?

- Rules for distinguishing between right and wrong
- Golden Rule ("Do unto others as you would have them do unto you")
- Code of professional conduct like the Hippocratic Oath ("First of all, do no harm")
- Religious creed like the Ten Commandments ("Thou Shalt not kill...")
- This is the most common way of defining "ethics": **norms for conduct** that distinguish between acceptable and unacceptable behaviour

Formal definition of ethics

- Ethics is a branch of philosophy that attempts to assist us in deciding what is right and wrong in human conduct

- Ethical reasoning takes place whenever there is a need to provide moral reflection on a specific action or behaviour, such as a research project or a procedure

- "Bio-medical ethics" refers to the application of moral reasoning to vexing questions at the frontiers of biology and medicine

If an action is legal, is it ethical?

- Most societies also have legal rules that govern behaviour

- Ethical norms tend to be broader and more informal than laws.

- Ethical and legal rules use similar concepts, it is important to remember that ethics and law are not the same.

Ethics Committees – Review of research

- "Ethical review" is now a standard part of approval for most publicly funded scientific research

- Your masters projects MIGHT need to go through the Env Dept's ethical review process

- Everyone MUST fill in an ethical review form even if you are declaring that you don't need ethical review

- You may also need to apply for ethical approval from outside organisations

Great Barrier Reef Marine park – Environmental Research Ethics Advisory Committee

- Endangered, vulnerable or threatened species or populations?

- Introduction into the Great Barrier Reef Marine Park of biological material of a type not already present in the area?

- Destruction and/or intrusion at a significant scale in space and/or time and relative to the size of populations and habitats affected, and ecological and geophysical processes applying in the area of the following nature:

  – deliberate damage?

  – taking of plants and animals?

  – behaviour manipulation or use of intrusive techniques?

- Controversial or sensitive issues (culturally/socially), or seen to be cruel, or to involve the infringement of privacy and property rights? http://www.gbrmpa.gov.au/zoning-permits-and-plans/permits/research-permits-advice-to-researchers/environmental-research-ethics-advisory-committee

Dept Website 'Ethics Tab' http://www.york.ac.uk/environment/

- Ethics Committeee tries to process applications with major changes within 2 weeks of re-submission.

- BUT **applicants should submit their Ethics Application at least four weeks before they wish to start collecting data**.

- If you know that you can't give 2 weeks notice then warn us in advance that you need a quick turn around

NEW application process for 2013/14 second year undergraduates and all staff

- All staff and students, need to complete the ethical review form before starting a research project. The form looks long but contains different options depending on exactly what the project entails. In some cases, your project will not need ethical review so you just need to complete SECTIONS 1, 2 AND 16.

Submitting your form

- Students must not submit their application directly to the Ethics Committee but via their supervisor who should first check it.
- We do not need signed paper copies of applications but by submitting an application the supervisor or PI thereby assumes responsibility for the contents of the application.
- Send all forms and correspondence to:

environment-ethics@york.ac.uk

Why should you adhere to ethical norms in your research?

1) **Promote the aims of research**,

- knowledge, truth, and avoidance of error.

- E.g., prohibitions against fabricating, falsifying, or misrepresenting research data promote the truth and avoid error.

Case study: The selection of data
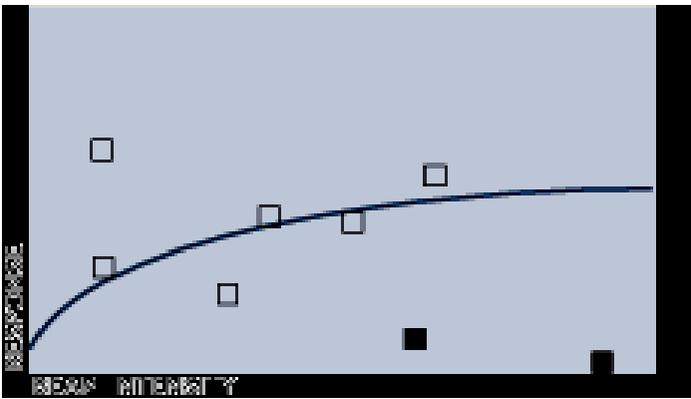
Deborah, a third-year graduate student, and Kathleen, a postdoc, have made a series of measurements on a new air pollutant using an expensive machine at a national laboratory. When they get back to their own laboratory and examine the data, they get the following data points. A newly proposed theory predicts results indicated by the curve.

During the measurements at the national laboratory, Deborah and Kathleen observed that there were fluctuations they could not control or predict. Furthermore, they discussed their work with another group doing similar experiments, and they knew that the other group had gotten results confirming the theoretical prediction and was writing a manuscript describing their results.

In writing up their own results for publication, Kathleen suggests dropping the two anomalous data points (the solid squares) from the published graph and from a statistical analysis. She proposes that the existence of the data points be mentioned in the paper as possibly due to measurement errors and being outside the expected standard deviation calculated from the remaining data points. "These two runs," she argues to Deborah, "were obviously wrong."

2) Ethical standards promote the **values that are essential to collaborative work**

- Trust, accountability, mutual respect, and fairness.

- For example, many ethical norms in research, such as guidelines for authorship, copyright and patenting policies, data sharing policies, and confidentiality rules in peer review, are designed to protect intellectual property interests while encouraging collaboration.

3) Ethical norms help to ensure that researchers can be held **accountable to the public**

- E.g. Government or EU policies on research misconduct, conflicts of interest, the human subjects protections, and animal care and use are necessary in order to make sure that researchers who are funded by public money can be held accountable to the public.

4) Ethical norms in research also help to build **public support** for research

- People more likely to fund research project if they can trust the quality and integrity of research.

- Can you think of research in which public support or lack of has impacted policy, funding or behaviour?

5) Many of the norms of research promote a variety of other important **moral and social values**

- E.g. social responsibility, human rights, animal welfare, compliance with the law, and health and safety.

- Ethical lapses in research can significantly harm human and animal subjects, students, and the public

- Hypothetical or real examples from your masters or UG courses?

An Articulation of
Core Ethical Principles

Nuffield Council on Bioethics (2002)

- The duty to alleviate suffering
- The duty to show respect for persons
- The duty to be sensitive to cultural difference
- The duty not to exploit the vulnerable or less powerful

Alleviation of 'suffering'

- Maximize possible benefits

- Minimize possible harms or wrongs

- This principle gives rise to norms requiring:

    - On balance, the research should generate more good than harm

    - Risks of research to be reasonable in light of the expected benefits

Respect for Persons

- Autonomy, self-determination
  - Those capable of deliberation should be treated with respect for their capacity for self determination
  - Underlies requirement for "informed consent"
- Special measures for the vulnerable
  - Those whose decision-making capacity is impaired or diminished due to intrinsic factors or circumstance
  - Who do we mean by this?
  - What about animals?

Informed Consent is a process

- Informed consent is a process of collaborative communication and decision making, not the signing of a form
- Informed consent requires that prospective participants:
  - **Be appropriately informed about the nature of the research**
  - **Adequately understand this information and its implications**
  - **Voluntarily decide to participate, without coercion**
  - **Explicitly consent to participate, orally or in writing**

# Other issues when working with humans:

5. Will any covert methods be necessary (e.g. observing/interacting with people without their knowledge that they are subjects of research or without their knowledge of the nature of the research?		
6. Will the study involve discussion of sensitive issues?		
7. Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants?		
8. Does the study entail meeting unknown respondents off university premises?		
9. Is the study likely to require copyright clearance for the use of images, text or tables?		
10. Does your study involve the use of a questionnaire, workshops or focus groups? If 'yes' you must append a copy of the draft questionnaire or relevant topic guide.		

Why do we need to know this information?
Can you provide examples?

Using animals in your research

- Will you be interacting directly with the animals? (e.g. proving food, trapping or tracking individuals, behavioural interventions or observations) - YOU NEED ETHICS REVIEW

- Are you going to be working on vertebrates? – YOU NEED ETHICS REVIEW AND POSSIBLY A HOME OFFICE LICENCE
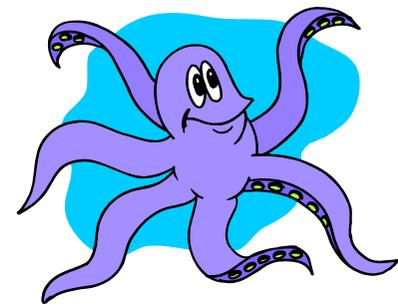
The 3 Rs

- The guiding principles for the use of animals in research are the three R's:

  – Replacement: Use alternative, non-animal methods to achieve the same scientific aim

  – Reduction: Use statistical methods so that a smaller number of animals are required

  – Refinement: Improve the experiments so that animals do not suffer

What Makes Research Ethical?

- Social or scientific value

- Scientific validity

- Fair subject selection

- Favorable risk-benefit ratio

- Independent review

- Informed consent

- Respect for potential and enrolled subjects

- Collaborative partnership

Emanual et al., JAMA, 283, 2000