

# **Guidelines for field research: what do we have and what is missing?**

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# Method

- What are the key issues?
- What is included in national laws?
- What would “ideal” guidelines include?
  - ▶ principles
  - ▶ practical guidance
- What do we have?
  - ▶ 11 sets of guidelines
- What is missing?

# Key issues

- Not generally habituated to humans
- Lack of information about individuals e.g. age, life history
- Less known about pain or distress behaviours
- Difficult to monitor and recapture in field
- Possible adverse effects on conspecifics, other species, environment

# Laws

- US Animal Welfare Act
  - ▶ if pain, harm or distress caused then research proposal must comply with Act
- Norwegian Animal Welfare Act
  - ▶ must document goals, protocols, location
  - ▶ species not readily tamed must not be kept in captivity longer than necessary
  - ▶ liberation must be considered
- European Convention and UK A(SP)A 1986
  - ▶ animals can be set free provided wellbeing is safeguarded, but not for education or training purposes

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# Principles for “ideal” guidelines

- 1 Definition of procedures covered
  - ▶ bird ringing, dummy predators/eggs, phenotype manipulation, removing individuals, playing back calls, food manipulation, DLW
- 2 Legal issues
  - ▶ taking from wild, permits and licences, CITES, licensing for animal experiments
- 3 Consider welfare of subjects and non-subjects
  - ▶ conspecifics, other species, habitat/environment

# Principles for “ideal” guidelines cont’d

## 4 Three Rs

- ▶ including avoiding harmful studies altogether

## 5 Practical refinement

- ▶ entire experience of animal from moment of entering habitat to final release or euthanasia

## 6 Appropriate attitude to wild animals and interpretation of their behaviour

- ▶ not necessarily “tough” or “stoic” or resistant to infection
- ▶ effective welfare assessment

# Principles for “ideal” guidelines cont’d

## 7 Use in laboratory

- ▶ justification, habituation, acclimation, housing and care, maintaining condition, fate

## 8 Other sources of information on ethics and welfare

## 9 Training and competence

- ▶ training courses, aids, advice from experts e.g. veterinarians, behaviourists



# Principles for “ideal” guidelines cont’d

## 10 Ethical review

- ▶ considering harms and benefits, necessity and justification, decision-making framework

## 11 Roles of ethics committees or animal care and use committees

## 12 Communication with other wild animal users

- ▶ Three Rs, technical issues, data sharing, avoiding duplication, refinement

## 13 Openness and communication with public

- ▶ they are stakeholders

Animal-centred  
approach with  
recognition that the  
impact on the  
subject (and others)  
can be significant  
and not always  
immediately  
recognisable

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# Practical guidelines on refinement

- Encounter with humans
- Capture
- Handling/restraint
- Transport
- Confinement - short or longer term
- Injury as a result of the above
- Marking or tagging
  - ▶ Discomfort, physical burden, altered reactions of others including predators and prey

# Practical guidelines on refinement cont'd

- Scientific procedures
  - ▶ biotelemetry, tracking, administering substances, measurements, surgery (restraint, anaesthesia and after-effects, post-op pain, admin of analgesia, concealment of suffering)
- Recapture
- Adverse effects in field
  - ▶ post stress myopathy, pain, drug side effects, device effects
  - ▶ reduced ability to monitor/recapture, risk to animal

# Practical guidelines on refinement cont'd

- Disruption of conspecifics/other species/habitat due to prolonged human presence
- Assessing fitness for release
  - ▶ alternatives - rehome, euthanase?
- Removal or translocation of individuals
- Euthanasia

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# What do we have?

- American Fisheries Society (2002/3)
- American Society of Ichthyologists and Herpetologists (2004)
- American Society of Mammalogists (2007)
- Animal Welfare Information Centre (1999)
- Association for the Study of Animal Behaviour (2002)
- British Columbia Ministry of Environment, Lands and Parks (1998)



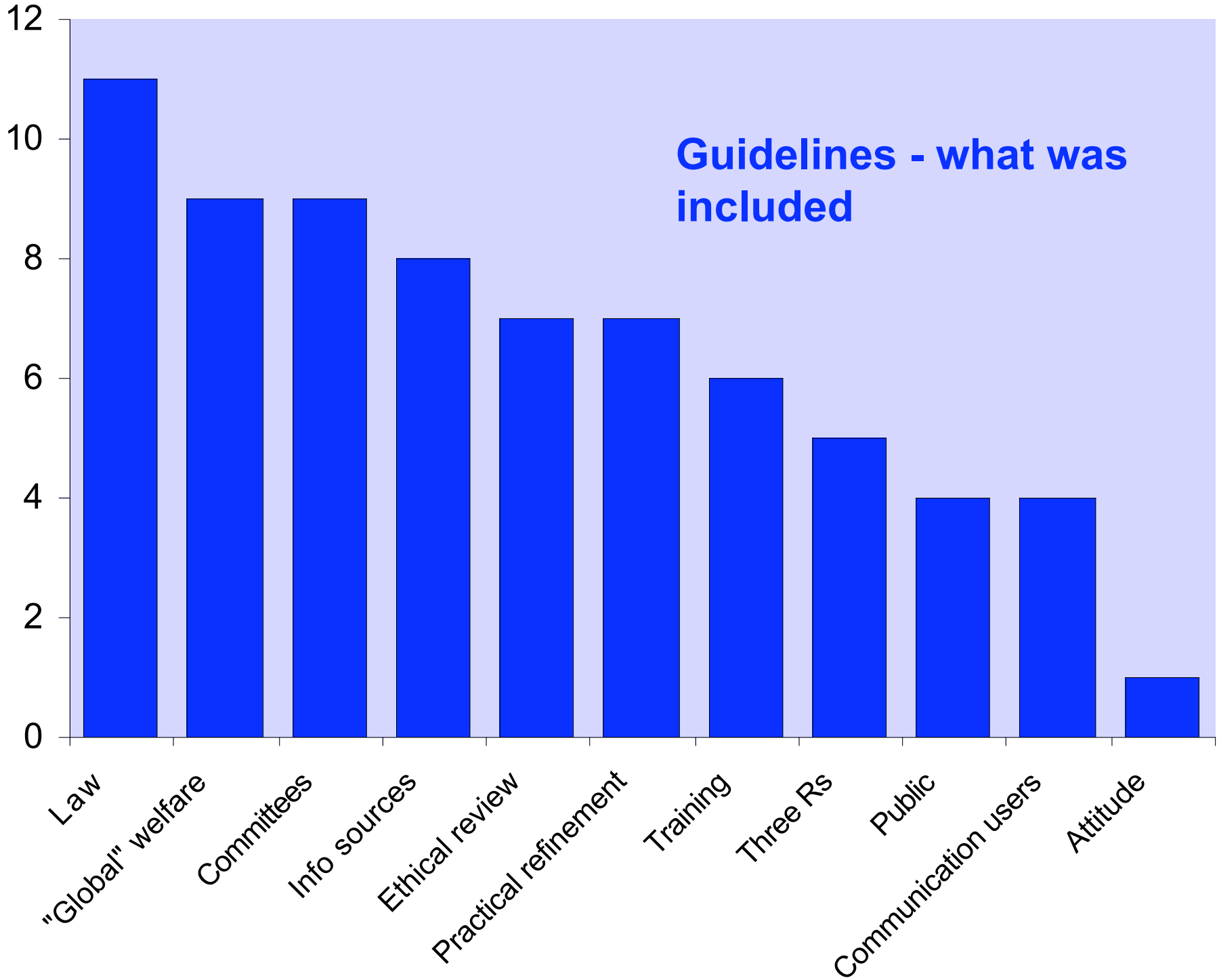
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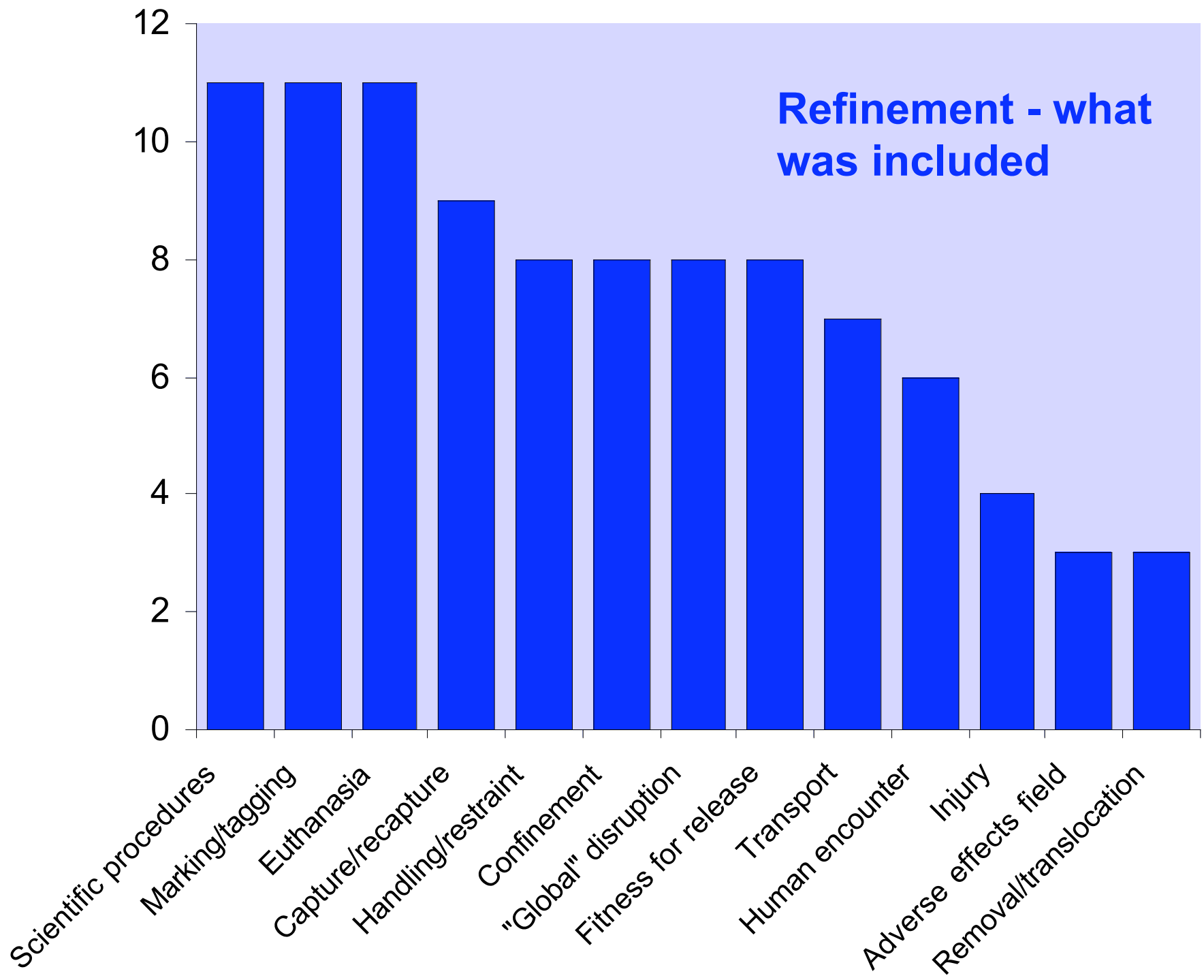
- Canadian Council on Animal Care (2003)
- International Society of Applied Ethology (2002)
- NC3Rs (2008)
- The Ornithological Council (1999)
- The Wildlife Society (US Geological Survey, 1996)

## Others (not used)

- Trapping and marking mammals paper in ILAR (Powell & Proulx)
- Animal Ethics Infolink (Aus)
- ANZCCART facts sheet on restraint and handling captive wildlife
- American Psychological Association
- British Psychological Society
- BVAAWF/FRAME/RSPCA/UFAW Joint Working Group on Refinement - birds and telemetry

# Guidelines - what was included





**Which came top?**



Canadian Council on Animal Care  
Conseil canadien de protection des animaux

## However ...

- This was only a quantitative assessment
- There are differences in the quality and detail of the guidance
  - ▶ descriptions of different approaches e.g. to marking, euthanasia, some mention of effect on animals (usually mortality or behaviour)
  - ▶ consideration of impact on animal (discomfort, distress)
  - ▶ permissibility of different methods
- Basis for guidance is not always clear

# Marking for identification

- American Society of Mammalogists
  - ▶ list of techniques
  - ▶ practical issues e.g. longevity of mark, potential for snagging, device mass for telemetry
  - ▶ does not recommend least invasive approach
  - ▶ toe clipping: invasive, requires justification, animals use toes BUT no mention of pain and “might be especially suitable ... in small species e.g. *Sorex*”
  - ▶ anaesthetics and analgesics not recommended

# Marking for identification

- CCAC
  - ▶ use natural features where possible
  - ▶ minimise any adverse effects on behaviour, physiology or survival
  - ▶ consider restraint, tissue removal/damage, pain, infection, harms and benefits of methods
  - ▶ toe clipping: only when no alternative, animals use toes, most distal phalanx only, adequate pain control necessary



# Marking for identification

- International Society for Applied Ethology
  - ▶ non-invasive methods where possible
  - ▶ size of identification device relative to body size and suffering, or effects on behaviour
  - ▶ methods that cause minimal pain and distress (e.g. ear tags) permissible if necessary for scientific aims
  - ▶ toe clipping: acute and perhaps chronic pain, generally considered unacceptable

# Basis for guidance

Most birds show little evidence of pain or discomfort from punctures or incisions over much of the body with the exception of the head and bill, scaled portions of the legs, and the vent area ... some surgical procedures, including laparotomy and muscle biopsy, may be performed with little or no anaesthesia.

British Columbia

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# What's missing - principles

- Training and competence (6/11)
- Three Rs (5/11)
- Communicating with public, understanding and respecting people's views (4/11)
- Communicating with other animal users (4/11)
- Attitude towards/understanding of animals (1/11)

# Communicating with the public

- A significant sector cares about wild animals and the environment
- People are concerned about animal experiments - the spectrum of views should be acknowledged and respected
- “The wild” is viewed as being there “for everyone”
- The public pays for the research, directly or indirectly

# Public engagement

- CCAC: take into account traditional/local knowledge and community values; share knowledge and understanding of the species studied with the local community
- TWS: scientists do not operate in a vacuum, but rather in an arena with responsibilities to the organisms they study and to society

The purest motivation for studying animals may be simply the desire to understand them. But even if this is our motivation, we should proceed cautiously and reflectively. For in quenching our thirst for knowledge we impose costs on these animals.

In many cases they would be better off if we were willing to accept our ignorance, secure in the knowledge that they are leading their own lives in their own ways.

However, if we do make the decision to study animals we should recognise that we are doing it primarily for ourselves and not for them, and we should proceed respectfully and harm them as little as possible.

Marc Bekoff

# Public engagement

- ISAE: concerns about the use of animals in research are being voiced by both the scientific and lay communities ... the investigator should assess whether the purpose justifies the use of animals ... should be able to explain and justify his/her conclusions to demonstrate awareness of the ethical issues and facilitate dialogue between interested parties



# Attitudes/awareness: ISAE

- Sizeism: little evidence that smaller animals are any less capable of suffering
- Speciesism: due to animal's physical appearance or because they are a "pest"
- Anthropocentricity: reduced ability to empathise e.g. UV sensitive animals, hens in pre-lay
- Some species less responsive to painful stimuli but this does not mean they are more tolerant or they are not suffering

# What's missing - refinement

- Encounter with humans (6/11)
- Injury due to trapping, restraint etc. (4/11)
- Adverse effects in the field, post release; welfare assessment (3/11)
- Removal of individuals or translocation (3/11)

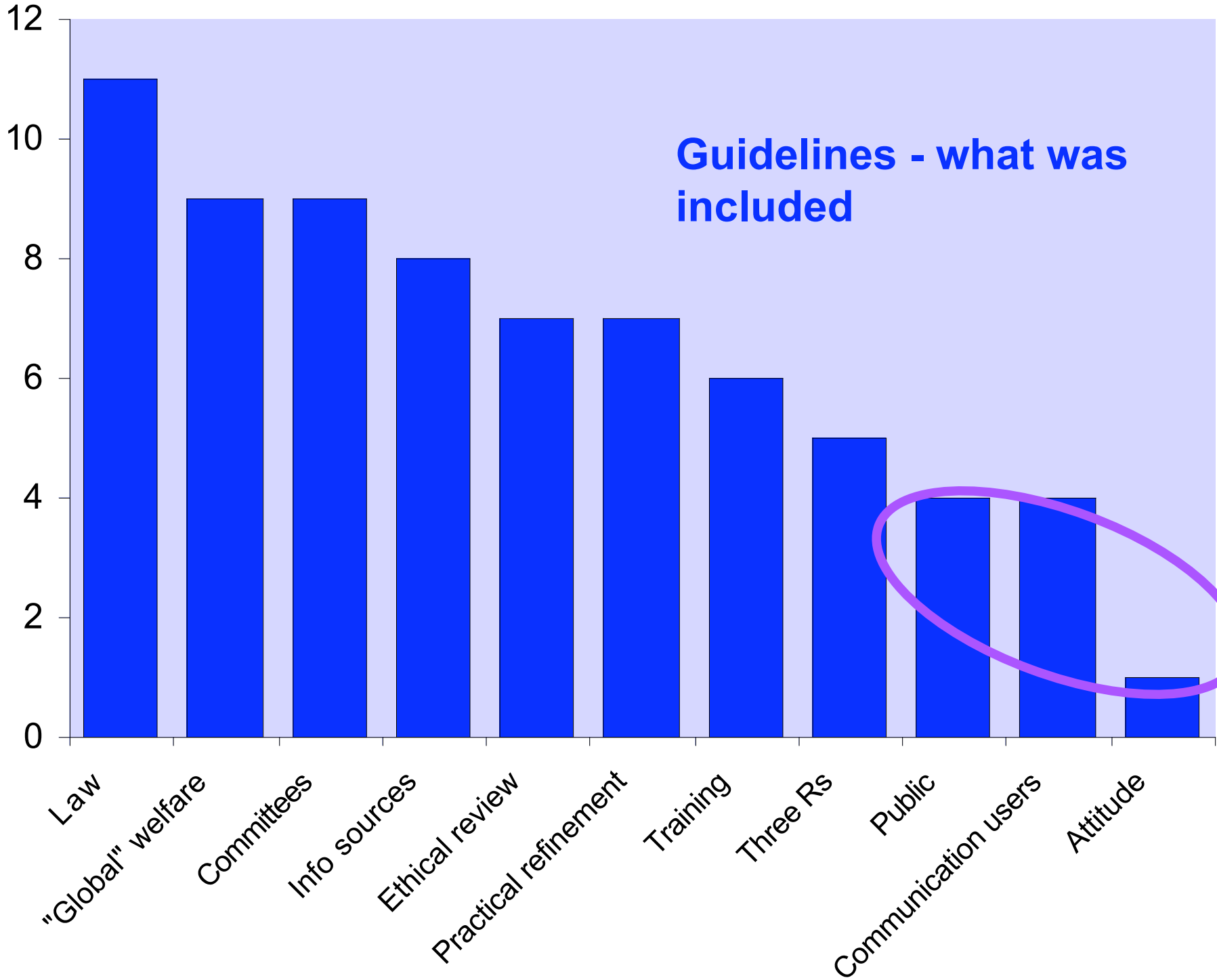
# Adverse effects in field

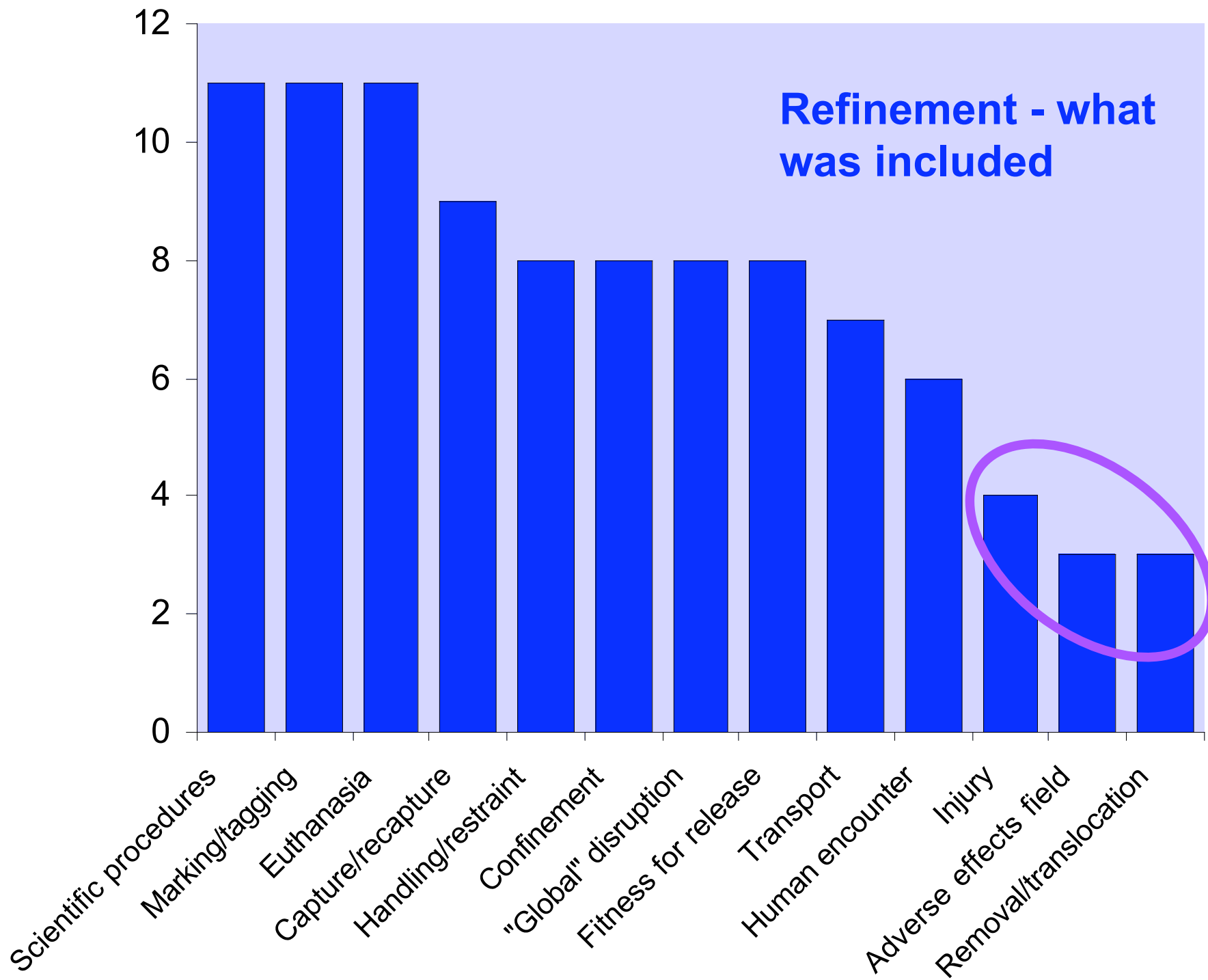
- CCAC: post-release monitoring is an important component of release programs ... can include radio tracking, post-mortem, demographic studies, disease monitoring
- ASAB: pilot investigations and follow-up studies
- No guidelines go into depth about monitoring welfare, pain, suffering or distress during procedures that involve release, humane endpoints and problems with implementation

# Key issues

- Not generally habituated to humans ✓
- Lack of information about individuals e.g. age, life history
- Less known about pain or distress behaviours ✗
- Difficult to monitor and recapture in field ✗
- Possible adverse effects on conspecifics, other species, environment ✓ ✓

# Guidelines - what was included





# Conclusion

- Many different approaches to guidance
- Good consideration of practical responsibilities e.g. the law, minimising device impact, the environment
- Less consideration for animals' experience of field research
- More public transparency and dialogue with other researchers
- Need to deal better with “difficult” issues, e.g. field welfare assessment, potential for injury, public engagement, fostering appropriate attitudes