

Context-dependent challenges and decisions for humane killing of wild small mammals

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SMALL MAMMALS



- Shrews, >370 species
 - Rodents, >2300 species
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- Distributed worldwide
 - Occupy all ecosystems and habitats
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- Potential for context-dependent challenges that can necessitate departures from the *Guide*

TECHNIQUES TO STUDY SMALL MAMMALS

Non-invasive or observational

- Acoustic recorders
- Camera traps
- Sticky hair snares

Physical methods

- Box traps
- Snap traps
- Pitfall traps



LIVE TRAPS

- AVMA preferred method
- Checked frequently
- Stocked with food & nesting material
- Sheltered from the elements
- Followed by methods of euthanasia when appropriate or necessary



FIELDWORK CHALLENGES

Scenarios arise where AVMA preferred capture techniques or methods of euthanasia are not practical or may be a less than ideal choice

- When live traps pose undue risk for pain and distress
- When researchers cannot use approved measures of euthanasia
- When “scientific collecting” is appropriate or necessary

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A diverse set of circumstances can trigger these scenarios

- Environmental conditions
- Logistical constraints
- Species-specific biology

LOGISTICAL & ENVIRONMENTAL CONSTRAINTS

- Travel times prohibit frequent monitoring of live traps
- Access is weather dependent
- Injectable or inhalant agents cannot be obtained or transported



SPECIES-SPECIFIC CIRCUMSTANCES

- Body size dictates metabolic and thermoregulatory demands
- Risk may not be uniform among species
- Live traps might pose undue risk for pain and distress



KILL TRAPS

- Mechanized snap traps
- Pitfall traps with fluid
- Provide an efficient and quick death
- May not always meet criteria for euthanasia
- May be characterized as humane killing



KILL TRAPS

- Voucher specimens (e.g., study skins, skeletons, and multiple tissue types) advance scientific research
- Impact on wild populations is negligible and take is regulated



FIELDWORK CHALLENGES

- Small mammals are diverse and distributed across habitats worldwide
- Logistical, environmental, and species constraints can present challenges for field work on small mammals that can necessitate deviations from AVMA preferred methods
- Use of live traps and subsequent euthanasia is not always possible and may not always represent the best option for the animal
- The AVMA distinguishes between euthanasia and humane killing, and recognizes that kill traps may be characterized as humane killing under certain circumstances



RECOMMENDATIONS FOR RESEARCHERS

- Read the guidelines thoroughly
- Meet with the Attending Veterinarian before submitting protocol to IACUC
- Consult with colleagues or experts at the institution or via professional societies
- Provide justification for procedures in protocol
- Provide citations and references in protocol & as educational resources for the IACUC
- Offer to attend IACUC meeting to explain research



RECOMMENDATIONS FOR IACUCS

- Keep current with the guidelines
- Have relevant expertise on the Committee or use experts as consultants
- Offer to meet with new researchers before they submit protocols for review
- Recognize taxon-specific guidelines from professional societies
- Ask researchers to provide materials for continuing education to the IACUC
- Invite researchers to attend IACUC meetings to explain their research

SELECT RESOURCES

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- Sikes, R. S., and the American Society of Mammalogists. 2016. 2016 Guidelines of the American Society of Mammalogists for the use of wild mammals in research and education. *Journal of Mammalogy* 97:663–688.
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THANK YOU

University of New Hampshire

- Julie Simpson, PhD
Director, Research Integrity Services
- Dean Elder, MS, DVM &
Linnea Morley DVM, DACLAM
Animal Resources Office

American Society of Mammalogists

- Bob Sikes, Ph.D.
- Animal Care and Use Committee

