American Society of Mammalogists

Ornithological Council

ASM/OC Position and Addendum #3 to 2007 Guidelines of the American Society of Mammalogists on the use of wild mammals in research—approved June 2010

Categorization of Animal Use for USDA Compliance

Two aspects of animal usage classification are confusing where activities involving wild animals are concerned: classification of the capture of free-ranging animals within the USDA reporting categories of pain and distress; and identification of field studies for the purpose of determining when IACUC (Institutional Animal Care and Use Committee) protocol review and site inspection are required.

USDA reports: pain and distress categories

The Animal Welfare Act [7 USC 2143(b)(3)(A)] and the implementing regulation (9 CFR 2.36) require that research facilities in the United States subject to these laws file an annual report with the USDA Animal Care Regional Office documenting their research and teaching activities that used live animals covered by the Act and its implementing regulations. A component of this report is classification of animal usage into categories intended to describe the presence, absence, or extent of pain or distress and the use of drugs to alleviate these conditions.

USDA descriptions for animal reporting categories as defined on the reporting form (APHIS Form 7023) are:

> C—Animals upon which teaching, research, experiments or tests were conducted involving no pain, distress, or use of pain-relieving drugs.
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> D—Animals upon which experiments, teaching, research, surgery or tests were conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs were used.
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> E—Animals upon which teaching, experiments, research, surgery, or tests were conducted involving accompanying pain or distress to the

> animals and for which the use of appropriate anesthetic, analgesic, or tranquilizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, or experiments, surgery, or tests. (An explanation of the procedures producing pain or distress on these animals and the reasons such drugs were not used must be attached to the report).

Guidance for classifying painful procedures is provided in Policy 11 of the Animal Care Resource Guide published by the Animal Care program of the USDA Animal and Plant Health Inspection Service. However, this minimal guidance and the examples given therein pertain to procedures conducted in a laboratory setting, usually in the context of biomedical research.

Classification becomes especially problematic when institutions are faced with applying regulations intended primarily for laboratory settings to the very different context of free-ranging animals. The two critical terms in these descriptions are "pain" and "distress." According to the Animal Care Resource Guide, Policy 11, a painful procedure is defined as one "that would reasonably be expected to cause more than slight or momentary pain and/or distress in a human being to which that procedure is applied, that is, pain in excess of that caused by injections or other minor procedures." Distress is not defined in current policy except by example: "Food or water deprivation beyond that necessary for normal presurgical preparation, noxious electrical shock that is not immediately escapable, paralysis or immobility in a conscious animal." The principal investigator and the institution must then contend with the task of determining the appropriate classification of captured free-ranging mammals.

USDA classifications as applied to animal capture and non-invasive field procedures

Mammal capture devices are designed either to hold the animal unharmed (live-traps) or to kill the animal outright upon capture. The guidelines of the American Society of Mammalogists for the use of wild mammals in research discuss appropriate methods and trap types for capturing or collecting free-ranging mammals (Gannon et al. 2007).

Birds can be captured with a variety of devices, all designed to capture and hold a bird unharmed until released. Although scientific collecting of birds may sometimes entail capture of a live bird followed by euthanasia, the capture methods themselves are not intended to be lethal and in fact do not kill birds. The 2010 revision of the *Guidelines to the Use of Wild Birds in Research* discusses capture methods and the practices needed to assure that capture does not result in harm to birds (Fair et al. 2010).

Barring mechanical malfunctions and with appropriate placement and trap checking frequency, animals captured in live-traps or nets are simply held without injury until removal. Appropriate training is essential for setting capture devices and for removing animals from those devices. Pain or distress, as described in the APHIS Animal Care Resource Guide, is unlikely to result from the simple capture of free-ranging mammals

or birds using most live traps or capture techniques covered in the American Society Mammalogists or Ornithological Council Guidelines, so animal usage in these instances is consistent with USDA category C.

Most tissue sampling and marking techniques in the field also are consistent with USDA pain category C provided that procedures are not more invasive than peripheral blood sampling. Support for this classification is provided in the *Guidelines for Preparing USDA Annual Reports and Assigning USDA Pain and Distress Categories.* This document is distributed by the NIH Office of Animal Care and Use, which is the oversight office for intramural research. This guidance expressly states that Category C includes most blood and tissue collection procedures that involve no or only momentary or slight pain. Based on these same NIH Guidelines, USDA category C is also appropriate in instances where protocols requiring peripheral tissue sampling or tagging and release of free-ranging animals necessitate chemical immobilization to conduct the procedures provided that immobilization is performed only to facilitate the procedure and protect the animal and the researcher from injury rather than to alleviate pain or distress induced by the procedure.

Free-ranging mammals captured in live traps and subsequently euthanized as part of the research study or that are taken in properly functioning kill-traps meet the standards for either USDA category C or D; the distinction between these reporting categories depends upon how the animal dies. Animals taken in live traps that show no obvious signs of pain or distress and subsequently euthanized using accepted methods that avoid inducing pain or distress and those taken in properly functioning kill traps fit the definition for reporting under USDA category C. This conclusion is consistent with example #4 in the USDA APHIS Research Facility Inspection Guide (section 14.1.10) except that death is intentional rather than unexpected. The Research Facility Inspection Guide pertains to laboratory animals rather than free-ranging wildlife, but euthanasia following a live capture that does not result in pain or distress is analogous to this example.

The *Guidelines for Preparing USDA Annual Reports and Assigning USDA Pain and Distress Categories* make clear that assignment of animals to a reporting category is done on a retrospective basis. Even though a trapping method might ordinarily comprise Category C, if a problem occurred in the field that resulted in pain or distress necessitating pain alleviation, then Category D is the appropriate reporting category for that particular animal. If live-trapping brings about pain or suffering that necessitates euthanasia, or if kill-trapping fails to bring about swift death and leaves a conscious animal in pain or distress, category D is again the appropriate reporting category. These situations are analogous to example #3 APHIS Research Facility Inspection Guide depending upon trap type, trap specificity, and trapping technique.

Field studies There has been a great deal of misunderstanding about application of the Animal Welfare Act to field studies.

Regulations promulgated by the USDA under the Animal Welfare Act exempt field studies from IACUC review [9 CFR 2.31(d)], where field study is defined as "any study conducted on free-living wild animals in their natural habitat" excluding "any study that involves an invasive procedure, harms, or materially alters the behavior of an animal under study" (9 CFR 1.1). None of these terms is defined in the regulation or in guidance documents issued by the Animal Care Program. The same regulation exempts from the inspection requirement of 9 CFR 2.31 "animal areas containing free-living wild animals in their natural habitat."

With regard to IACUC protocol review, the Public Health Service Policy on Humane Care and Use of Laboratory Animals makes no distinction between laboratory and field studies. Guidance from the National Institutes of Health Office of Laboratory Animal Welfare states, "If the activities are PHS-supported and involve vertebrate animals, then the IACUC is responsible for oversight in accordance with PHS policy. IACUCs must know where field studies will be located, what procedures will be involved, and be sufficiently familiar with the nature of the habitat to assess the potential impact on the animal subjects. Studies with the potential to impact the health or safety of personnel or the animal's environment may need IACUC oversight, even if described as purely observational or behavioral. When capture, handling, confinement, transportation, anesthesia, euthanasia, or invasive procedures are involved, the IACUC must ensure that proposed studies are in accord with the *Guide."* Other federal agencies have voluntarily adopted these same rules. For instance, the NSF Award and Administration Guide states, "Any grantee performing research on vertebrate animals shall comply with the Animal Welfare Act (7 U.S.C. 2131 et seq.) and the regulations promulgated thereunder by the Secretary of Agriculture (9 CFR 1.1 – 4.10) pertaining to the humane care, handling, and treatment of vertebrate animals held or used for research, teaching, or other activities supported by federal awards. The awardee is expected to ensure that the guidelines described in the National Academy of Science publication *Guide for the Care and Use of Laboratory Animals* (1996) are followed and to comply with the *Public Health Service Policy* and *Government Principles Regarding the Care and Use of Animals* (included as Appendix D to the NAS *Guide*)."

How the definition of field study corresponds to the USDA reporting categories is unclear. In most instances, protocols involving only procedures classified as category C are consistent with the regulatory definition of a field study. However, the lack of definition of the key terms in the definition of field study - harm, material alteration of behavior, and invasiveness - introduce sufficient ambiguity in application of the definition that further guidance from Animal Care would benefit the research community.

Citations

Animal Care Resource Guide: Animal Care Policy Manual. 1997. Washington, D.C.: Animal Care Program, Animal and Plant Health Inspection Service, U.S. Department of Agriculture. Retrieved 25 May 2010 from http://www.aphis.usda.gov/animal_welfare/policy.shtml.

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