

WVU IACUC Guidelines: Field Studies

Background

The IACUC is responsible for the oversight of all research, testing and training activities involving live vertebrate animals, including those taking place at field sites (either local or remote) where the activity alters or influences (directly or indirectly) the activities of the animals being studied. In the case of field studies, protocols *must* provide sufficient information such that the IACUC can evaluate the location and nature of the field site, impact on study animals, risks to other wildlife or to the surrounding environment, as well as the occupational health considerations for the participants.

Standards

In some cases, professional societies have published guidelines for field studies. The *Guide for Care and Use of Laboratory Animals (the Guide)* suggests these standards be used to assist in evaluation of animal use projects involving field animals. Standards that may be used for the evaluation of field study protocols include, but are not necessarily limited to, the following professional society guidelines:

- The Wildlife Techniques Manual (Wildlife Society)
- Guidelines for the Use of Fishes in Research (American Fisheries Society, 2013) download here: <https://www.asih.org/resources>
- Guidelines for the Use of Live Amphibians and Reptiles in Field Research (Herpetological Animal Care and Use Committee [HACC] of the American Society of Ichthyologists and Herpetologists, 2004) download here: <https://www.asih.org/resources>
- Guidelines to the Use of Wild Birds in Research http://naturalhistory.si.edu/BIRDNET/documents/guidlines/Guidelines_August2010.pdf (The Ornithological Council, 2010)
- Guidelines of the American Society of Mammalogists for the use of wild mammals in research <http://www.mammalsociety.org/uploads/Sikes%20et%20al%202011.pdf> (American Society of Mammalogists, 2011)

IACUC Approval

Certain projects may not require approval by IACUC if the field study activity does not directly or indirectly materially alter or influence the activity of the animals. Requirements of specific funding agencies may supersede this exemption. Researchers should contact the Office of Animal Welfare (iacuc@mail.wvu.edu) for assistance in making this determination.

Regardless of the requirement for an IACUC protocol, the investigator should be aware that they are responsible for the occupational health and safety of all personnel involved in the study, and for the assessment and communication of risks/hazards that may impact human health and safety.

The mitigation of pain and distress and the consideration of the 3r's (reduction, refinement, replacement) are applicable to field research as with all use of animals in research. Therefore, all activity should be developed with these considerations in mind.

Not all activities involving the use of warm-blooded wild animals (birds, mammals) in their natural habitat are exempt from the mandates of the Animal Welfare Act. Examples include:

1. A study that involves an invasive procedure, such as but not limited to:
 - major operative procedures
 - intra-cardiac blood collections
 - arterial/venous cut downs for catheter placement
 - surgical implantation of devices
2. A study that harms an animal such as instances where:
 - the animal experiences pain/distress above minimal and slight.
 - the animal experiences trauma, overheating, excessive cooling, behavioral stress, physical harm, or unnecessary discomfort as a result of handling.
 - the animal experiences death as a result of the work, in a manner that does not meet the regulatory definition of “euthanasia”.
 - the animal experiences impaired function such as amputation of a tail/digit used for digging or climbing.
3. Procedures that materially alter the behavior include but are not limited to:
 - use of hormones or pheromones to change mating or migration patterns for research purposes.
 - repeated nest/den disturbance during breeding and rearing of young.
 - relocation of migratory animals beyond natural migration routes.

Areas of Discussion

Location

A description of the Location of the animal use activities should be given and include identification of any hazards associated with the area that study personnel should be aware of.

Capture

Procedures for capture of wild animals should discuss the methods and equipment to be used, and any possible outcomes affecting the welfare of animals in the process. When addressing non-target effects of study activities, the researcher should indicate the general number and types of other species that may also become entrapped, and how they might be dealt with.

In cases where animals are captured, great care should be used to ensure the animals are not injured (including damage to their plumage) and are released in optimal condition (i. e. capable of exhibiting normal behaviors) under favorable environmental conditions, and always at their original site of capture.

NOTE: See information on minimizing pain and distress during capture.

Release

Capture procedures should indicate how animals will be assessed for their ability to be re-released into their habitat and include a discussion of any long-term effects associated with the objective of capture.

Tagging and Marking

The effect of any tagging or marking methods on the ability of the associated animals to maintain normal behavior in their environment should be addressed. Researchers should discuss the size, weight, and orientation of any type of attached equipment in relation to the natural movement and positions of the animal. Identification of prey species by predators may also be a topic of discussion where applicable.

Transportation

Protection and environmental considerations for transport of any animals should be indicated. Any zoonotic or other hazards for personnel associated with transportation activity should also be discussed.

Housing

Any wildlife protocol that requires animals to be held for greater than 24 hours requires a discussion of husbandry considerations in the protocol. As noted, the USDA/APHIS considers warm-blooded wild animals used in category D procedures to be subject to the requirements of the Animal Welfare Act. For these animals the IACUC *must* review husbandry information when they are held for longer than 12 hours. Researchers are encouraged to contact the IACUC prior to submission of protocols involving husbandry discussion or category D procedures.

NOTE: Wildlife held for greater than 12 hours categorizes them as laboratory animals whose care is defined by PHS Policy and *The Guide*. Whether held in the wild or on campus, these holding areas are considered satellite animal housing and require inspection and approval before use as with all satellite housing.

Habitat manipulation

Manipulation of wildlife habitats can have significant effects on the population of the species of interest, as well as other associated species living in that habitat. Researchers should consider both when describing the expected impact of such manipulations. This would include impact on the predator-prey relationships established in these areas.

Field Pathogen Reduction

Researchers should recognize that study activity can create an increased possibility of spreading pathogens between wild animals and between wild animal populations which might otherwise not come into contact. Researchers should indicate the materials and methods used to mitigate the spread of disease including the decontamination of equipment. Researchers should sterilize surgical equipment in accordance with IACUC standards and employ decontamination procedures between individual animals in processing.

Post Approval Monitoring

Researchers *must* report any animal welfare concerns associated with their approved work, including unanticipated mortality. Researchers should document and maintain records of surgical procedures as well as the assessment of animal ability before release after capture. These records should be made available to the IACUC when requested.

Permits

It is the responsibility of the researcher to understand and abide by all local, state, and federal legal restrictions associated with their projects. They should indicate for the IACUC that they will have obtained all necessary permissions prior to the start of the activity. Consideration should be given to the species that are the focus of the work, but also associated species that might also be affected.

Selection of Drugs and Substances

Beyond the specific and prolonged effects upon the animal of the drugs used as part of research, field researchers need to also consider the possibility of drug effects when animals fall victim to predators or become carrion for scavengers. Use of chemicals in fish, deer, and other species of interest to sportsman, needs to be carefully planned.

Minimization of Pain and Distress During Capture

1. When animals are held in traps, they should not be held any longer than necessary, but not to exceed 12 hours. During trap placements and processing, if the traps are not directly observed at all times, adequate provisioning for high radiant exposures (out of the sun; work during the cool periods of the day); flooding (proper location or floatation use) and freezing temperatures (adequate bedding and food if below 0 deg C), should be ensured.
2. Leg-hold traps should only be used under special circumstances. Although it is preferred that leg-hold traps be directly observed at all times, have jaws that are suitably designed or padded to avoid unnecessary injury, and the chains are equipped with multiple swivels, there may be circumstances that necessitate the use of leg-hold traps where direct observation is not practical or feasible.
3. Mist nets carry the same concerns as leg hold traps, and should be attended continuously to avoid excessive trauma, excessive environmental exposure, and predation.
4. Fish capture methods should also minimize by-catch. Adequate training and personnel safety should be observed with electrofishing or chemical agent use. Federal and state regulations may apply to the use of chemical agents in certain water bodies. These laws should be carefully observed.
5. Whenever baits, oral agents (e. g. Alpha-chloralose; oral poisons*, etc.) or generic capture methods such as electrofishing, use of nets (e. g. Trammel, hoop or gill nets) or mist nets are used, a description of how to minimize by-catch and unintended losses of animals not under study is expected. Adequate experience or prior training is of considerable importance before used nonspecific methods.

**For example, for terminal fish collections with rotenone, as might be used during population studies, rotenone application should follow standard protocols and should only be used in relatively still water or in blocked off coves where rotenone exposure can be segregated.*

United States Department of Agriculture classifications as applied to animal capture and noninvasive field procedures

1. The WVU IACUC uses USDA pain categorization for all species regardless of coverage under the Animal Welfare Act.
2. Mammal capture devices are designed either to hold the animal unharmed (live traps) or to kill the animal outright upon capture. 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. Pain or distress, as described in the Animal Care Resource Guide: Animal Care Policy Manual (Animal Care Program, USDA, APHIS 1997), is unlikely to result from the simple capture of free-ranging mammals using most live traps or capture techniques approved by the ASM, so animal usage in these instances **is consistent with USDA Category C**. Capture of free-ranging mammals in properly functioning kill traps is also **usually consistent with USDA Category C**. *Note:* Animal injury from malfunctioning live traps or animal pain or and distress caused by malfunctioning kill traps should be reported to the IACUC as an unexpected outcome.
3. 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.
4. **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.
5. Any method recognized as an approved method of euthanasia by the AVMA is consistent with Category C. Because neither the AWA nor its implementing regulations reference the AVMA's Guidelines for the Euthanasia of Animals, for those methods not approved by the AVMA for euthanasia, the IACUC is the deciding body as to whether the method of death meets the regulatory definition of euthanasia as defined by the AWA.

Surgical Considerations

1. If surgery is required, the use of non-sedating (e. g. non-steroidal anti-inflammatory drugs, local anesthetics, etc.) at the surgery site may be preferred over more debilitating systemic drugs.
2. All surgery procedures should employ an intradermal pattern and absorbable suture and/or tissue glue (small incisions < 1 cm, or when combined with absorbable suture) remove the need for recapture for suture removal.
3. Surgical procedures should only be performed by trained or experienced personnel using appropriate anesthetics, and in consideration of applicable withdrawal times where relevant. Recovery should be complete before anesthetized animals are released.
4. Muscle relaxants are not adequate for painful procedures during wildlife immobilization.

References

[PHS Policy on Humane Care and Use of Laboratory Animals](#)
[Guide for the Care and Use of Laboratory Animals](#)