



Division of Research

SUBJECT: Wildlife Research	Effective Date: 8/05/2016	Policy Number: 10.4.26
	Supersedes: N/A	Page of 1 7
	Responsible Authorities: Vice President, Research Institutional Animal Care and Use Committee Director, Research Integrity Director, Comparative Medicine	

I. Background

Florida Atlantic University (FAU) currently has institution-wide animal care standards in place to ensure that all activities involving animals are conducted in a humane and ethical manner; that housing and care of animals is appropriate for the species; and that all persons working with animals are safe and protected (see Division of Research Policy 10.4.1A). While these standards are intended to cover all animals involved in research, existing policies and guidelines primarily address animals bred exclusively for research (*i.e.* “animal models”). Federal guidelines including but not limited to the Guide and AWA support not only the humane care and use of animals bred for research, but those animals used in research, teaching or testing activities which are free-living within natural setting (*i.e.* “wildlife”).

II. Purpose

To establish a policy that will enhance existing institution-wide animal care standards by providing improved guidance to Research Personnel and Animal Care Staff to accommodate the unique and diverse aspects of wildlife research, while still ensuring that the health and welfare of the research animals and personnel are maintained.

III. General Statement

1. The IACUC recognizes and acknowledges the following:
 - a. it is not always possible to predict at the initiation of field studies all potential observation or collection opportunities, the number of animals to be encountered, the species to be encountered, or the effects of research procedures.
 - b. no concise or specific compendium of approved methods for field research encompassing all species, settings, and methods is available, practical, or even desirable.
 - c. there is considerable variability among taxa of wild vertebrates in terms of their basic needs and how they should be handled, and that the PI is often the most qualified institutional authority on the biology of the species under study, and the techniques appropriate for the conduct of the proposed study.
 - d. the number of specimens required for a field investigation will vary greatly, depending upon the questions being explored.
 - e. field studies often require larger samples than laboratory studies because, 1) field studies have less control over biotic and abiotic conditions that produce variation, and 2) a number of specimens that is perceived to be large may represent only a small percentage of the actual wild population.

- f. state and federal wildlife agencies review applications for permits for their scientific merit and their potential impact on native populations, and issue permits that authorize the taking of specified numbers of individuals, the taxa and methods allowed, the period of study, and often other restrictions designed to minimize the likelihood that an investigation will have deleterious effects.
 - g. pain perception by many species of vertebrate animals may not be uniform over the various portions of their bodies, and that broad extrapolation of pain perception across taxonomic lines may not be appropriate.
 - h. field conditions will be variable and are often unpredictable
2. Despite these acknowledgements, the FAU IACUC affirms that the respectful use of animals, which includes the consideration for the well-being of the animal as well as the avoidance/minimization of pain and distress of animals, including wildlife, remains an ethical and scientific necessity.

IV. Definitions

1. **Field or Wildlife Research** is any behavior which alters or influences the activities of the animal(s) that are being studied, and which therefore require IACUC protocol review and approval. These may include, but are not limited to capture, tissue collection, marking or tagging, etc. These would also include activities such as placing baits to attract wildlife for observation or photographing, since the baiting constitutes an alteration or influencing of the animal's activity.
2. **Field or Wildlife Study** is any behavior that does not alter or influence the activity of the animal(s), therefore IACUC review and approval is not required. These may include, but are not limited to, observation, photography, collection of feces, etc. as long as the animal's natural activity is not altered or influenced in the process.
3. **Wild Animal, Wildlife**, for the purposes of this policy, refers to animals living in a natural habitat and not within the possession or control of humans, and includes both native and introduced species.

V. Policy

1. **Permit Requirements:**
 - a. The PI must secure all relevant local, State, Federal and international permits required to work on wildlife species in the chosen field location prior to the initiation of the study.
 - b. The PI should inform themselves and their research team of the permitting requirements and initiate, where possible, the application process well ahead of proposed study start dates.
 - c. Signed copies of all permits and licenses must be furnished to the IACUC upon receipt. IACUC protocols may be submitted for review prior to final permit being issued to the PI however IACUC protocols will not receive final approval without a signed copy of the relevant permit on file.
 - d. Protected species and locations, including reserves and national parks, typically require more permits which often entail detailed review and thus can take several months to be approved.
 - e. International studies have a unique set of requirements that may require liaising with multiple departments within FAU as well as the US State Department. It is the PI's responsibility to determine the appropriate requirements for International Studies.
 - f. The Import or export of live, dead or parts of wildlife species are regulated under CITES and other Conventions, The US Fish and Wildlife Service, and US Customs and will require relevant permits and documentation.
2. **Training and Licensing requirements – FAU**

- a. Training policies for wildlife researchers must be consistent with FAU policies on training of personnel for animal studies (http://www.fau.edu/research/docs/policies/research-integrity/p22_researcher_training.pdf).
- b. The PI must ensure that all personnel are fully current with all training requirements that qualify them to conduct the proposed research. This involves compliance with all relevant Environmental Health and Safety and IACUC training. Other requirements may include, but are not limited to
 - i. scientific diving qualifications
 - ii. aircraft safety and evacuation training
 - iii. catching, restraint, sampling, tagging and release of wildlife species
 - iv. transport of wildlife species (http://www.fau.edu/research/docs/policies/research-integrity/Transport_Policy_Final.pdf)
 - v. method of euthanasia appropriate for the species (see below)
- c. The PI must ensure that all proposed work that requires approval of a daily schedule of activities, including float and flight plans, have the necessary plans filed ahead of time

3. Euthanasia

- a. Euthanasia of wildlife in the field can raise unique and challenging issues. The investigator should consult the Report of the AVMA Panel of Euthanasia, which includes considerations and techniques for euthanasia of wildlife. <https://www.avma.org/KB/Policies/Pages/Euthanasia-Guidelines.aspx>
- b. Methods of euthanasia must be consistent with generally recognized methods, for example those recommended by the American Society of Mammologists, American Society of ichthyologists and Herpetologists, American Fisheries Society, American Institute of Fisheries Research Biologists, Herpetologists' league, Society for the Study of Amphibians and Reptiles, Ornithological Council and the most recent AVMA Guidelines on Euthanasia.
- c. Policies for euthanasia of wildlife will be consistent with those specified in FAU policy on Euthanasia methods: (http://www.fau.edu/research/docs/policies/research-integrity/FAU_IACUC_Policy_10_4_11_Euthanasia_Final.pdf).
- d. Training of appropriate methods of euthanasia based on taxon is the responsibility of the PI. The training must be documented appropriately by the PI as described in IACUC policy 10.4.22 (http://www.fau.edu/research/docs/policies/research-integrity/p22_researcher_training.pdf).

4. Reporting Requirements

- a. The PI must report the use of all wild animals, and the number and variety of taxa used to Comparative Medicine at an interval appropriate to the study, but not less than twice per year. Differences from the original approved protocol in either taxon or numbers should be clearly noted in these reports.
- b. Mortality resulting from anything other than a planned euthanasia as described in the original approved protocol should be reported as soon as practical, but not more than 7 days from the date of the incident.
- c. Any injury to research personnel as a result of an encounter with a wild animal while in the course of conducting wildlife research, requiring medical attention by either a colleague in the field or a licensed medical provider at any location, no matter how minor the injury is perceived to be, should be reported to FAU's Environmental Health and Safety office as soon as practical, but not more than 2 days following the PI's return to campus. After reporting, EH&S will notify the IACUC of any reported animal related injuries.

- d. Any injury to research personnel while in the course of conducting wildlife research but not involving an encounter with a wild animal should be reported to FAU's Environmental Health and Safety office according to their guidelines and policies.
- e. The aforementioned reporting policies are in addition to the reporting policies of any other department, government agency, etc. and it is the responsibility of the PI to know what these other reporting obligations may be.

VI. Accountability

1. The Principal Investigator (PI) will be responsible for:
 - a. obtaining the necessary permits for the research described in the protocol from the appropriate agencies and submitting copies of applicable permits to the RI Office as supporting documentation with their IACUC protocol
 - b. assuring that procedures are performed as described in the corresponding IACUC protocol and if necessary submitting an amendment to the protocol and awaiting approval before new method(s) is(are) introduced
 - c. assuring that personnel complete IACUC required training per FAU IACUC policy 10.4.22 (http://www.fau.edu/research/docs/policies/research-integrity/p22_researcher_training.pdf), and providing personnel with species appropriate training for field research procedures
 - d. following the procedures set forth in this policy in regards to wildlife research
 - e. reporting to EH&S any injury to research personnel involving wildlife animals no matter how minor the injury
2. The IACUC will be responsible for:
 - a. reviewing and approving, requiring modifications (to secure approval), or withholding approval of IACUC protocols and/or amendments including addition of personnel
 - b. providing continued guidance for active wildlife protocols
3. The Research Integrity office will be responsible for:
 - a. administrative support of the IACUC members to facilitate their regulatory function
 - b. maintaining policy and assure regular review and update as necessary by the IACUC
4. The Office of Comparative Medicine (CM) and Attending Veterinarian (AV) will be responsible for:
 - a. providing consultation to the PI and to the IACUC regarding specific procedures impacting the health and welfare of the animal(s), especially as it relates to anesthesia/analgesia, aseptic techniques of sampling and surgical procedures and use of antimicrobials.
 - b. contributing to the review of wildlife protocols and to the determination of specific requirements for training of personnel
 - c. contributing to review of procedures for transporting animals onto any FAU campus, and for procedures for monitoring the health and well-being of these animals

VII. Procedures

A. Representative Member: IACUC membership should include one or more biologists qualified to provide the IACUC with an understanding of the nature and impact of the proposed field investigation, the housing and care of the species to be studied, and any possible risks associated with handling or housing the species involved

B. PI Assurance: The PI must assure the IACUC in their wildlife application that their field study and laboratory use of wild animals will be in accordance with one or more of the following, as applicable:

- 1) Public Health Service (PHS) policy, Animal Welfare Act, The Guide for the Care and Use of Laboratory Animals, DEA regulations and IACUC Principles & Procedures

- 2) The 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>)
- 3) Guidelines for the Use of Fishes in Research (http://fisheries.org/docs/policy_useoffishes.pdf)
- 4) Guidelines for Use of Live Amphibians and Reptiles in Field and Laboratory Research (<http://www.asih.org/sites/default/files/documents/resources/guidelinesherpsresearch2004.pdf>)
- 5) Guidelines to the Use of Wild Birds in Research (http://www.nmnh.si.edu/BIRDNET/documents/guidlines/Guidelines_August2010.pdf)

C. Expertise and Responsibility: The PI and associated research staff should be familiar with the animals to be studied and their response to disturbance, sensitivity to capture and restraint, and requirements for captive maintenance to the extent that these factors are known or applicable to the study. The PI and associated staff should have adequate experience, training, and knowledge regarding the housing, feeding, and care requirements of the animals to be studied, to the extent that these factors are known or applicable. If animals are to be held at field sites, the living conditions should be appropriate for the involved animals, and contribute to their health and well-being. In each of these instances it is ultimately the responsibility of the PI to direct these field activities.

D. Capture and Restraint: The IACUC acknowledges that although some field studies consist of direct observation of free-ranging animals under natural conditions, the objectives of many field studies mandate that individual animals be captured one or more times. In these instances, capture techniques that have minimal impact on the animal and which are environmentally benevolent should be used whenever possible. In addition, the potential for return to the natural environment should be incorporated into the sampling design whenever feasible.

Capture techniques that are generally considered to have more than a minimal impact, and which may therefore require additional scientific justification for use, include:

- 1) fish: gill netting, electrofishing, the use of ichthyocides, and the use of longlines, hooks or other fishing gear or spears
- 2) amphibians and reptiles: trapping and netting
- 3) birds: trapping and netting
- 4) mammals: trapping, netting, and capture darts which deliver an immobilizing drug

Capture devices such as nets and traps should be checked frequently to prevent animal injuries or mortality.

E. Marking: The IACUC acknowledges that the marking of wild animals is a basic method of many field studies, which provides a way of determining the movements, abundance, and population dynamics of wild animals. PIs should carefully consider the nature and duration of restraint required by the marking technique, the amount of tissue affected, whether distress is momentary or prolonged, whether the animal after marking will be at greater than normal risk, whether the animal's desirability as a mate is reduced, and whether the risk of infection or abscess formation is minimal. Acceptable marking techniques generally include:

- 1) fish: fin-clipping, freeze branding, electro-cauterization, tagging, radio telemetry, or radioisotopes
- 2) amphibians and reptiles: scale clipping, banding, tagging, shell marking, radio telemetry, tattooing, electro cauterization, branding, or radioisotopes
- 3) birds: banding, dyes, collars, tagging, radio telemetry
- 4) mammals: tagging, banding, radio telemetry, tattooing, spot-shaving, radioisotopes, or freeze branding

The PI should consider the potential for pain and discomfort associated with each of these techniques, and whether they should be preceded by a general or local anesthetic, and/or followed by a topical antiseptic.

F. Tissue Sampling: Methods used for sampling tissues or specimens from wild animals should be designed to obtain the maximal amount of scientific data, with the least amount of animal handling, restraint, and distress, involving a minimum number of animals. Methods that cause more than slight or momentary pain or discomfort require the use of appropriate anesthetics and/or analgesics. Aseptic sampling techniques and surgical procedures should be utilized. PIs should consider in consultation with a veterinarian whether antimicrobial drugs should be administered following sampling or surgical procedures. The applicant PI is referred to IACUC Principles and Procedures (http://www.fau.edu/research/docs/policies/research-integrity/FAU%20IACUC%20Policy%20On%20Surgery%2010%204%206_Final.pdf) regarding appropriate aseptic surgical techniques.

G. Experimental Procedures That Cause More Than Momentary or Slight Pain or Distress Without Relief(i.e. USDA Category D or E): Research situations in which the PI feels that administering sedation, analgesia or anesthesia to relieve pain or distress that is more than slight or momentary will interfere with the integrity of the research or introduce an even larger risk of predation or other factor for survival in the wild, scientific justification should be provided to and approved by the IACUC.

H. Transport: Transport of wild animals in any manner or for any purpose will comply with the existing FAU Transport Policy (http://www.fau.edu/research/docs/policies/research-integrity/Transport_Policy_Final.pdf)

I. Field Staff Safety: All research in field settings and with wild animals are potentially hazardous to research staff, either from traumatic injury, infectious disease, venoms, or poisons etc. The PI should therefore ensure that the design of the field study does not compromise the health and safety of the staff working in the field. In addition, staff working in the field should consult with their physician to determine whether they should receive tetanus or other immunizations and have either record of those immunizations, and be enrolled in FAU's Occupational Health Program. Those working with carnivores or bats should also consult with their physician to determine whether they should receive rabies or other immunizations and have either record of those immunizations.

J. Holding or Housing of Wild-Caught Animals: Maintenance of wild animals in their natural setting should incorporate, as much as possible, those aspects of the natural habitat deemed important to the survival and well-being of the animals such as natural light, ventilation, temperature, and humidity, unless these are factors under investigation. Adequacy of maintenance should be judged by monitoring factors such as appearance, activity level, general behavior, rate of growth, change in body weight, breeding success, and rate of survival. Nutritionally balanced diets should be provided, or natural foods should be duplicated as closely as possible.

Whenever wild-caught animals are brought into a laboratory, they should be maintained under conditions that comply with either the Guide or one of the accepted taxon-specific guides (see section C), unless the purpose of the study requires the simulation of the natural setting. In instances where the study requires the simulation of the natural setting, the design of enclosures and methods of care should incorporate, as far as possible, those aspects of the natural habitat deemed important to the survival and well-being of the animals. PIs should consider whether newly captured animals that are brought to the laboratory be quarantined from resident animals by a method appropriate to the taxon

and the laboratory environment. Policies for relocating animals onto any FAU campus will be consistent with existing FAU policies regarding the housing of animals in either Comparative Medicine or PI managed facilities, including policies regarding the use of satellite facilities (http://www.fau.edu/research/docs/policies/research-integrity/IACUC_POLICY_10_4_4_Satellite_Facilities.pdf).

K. Release of Wild-Caught Animals: Whenever practical and ecologically appropriate, as soon as possible after capture or upon completion of the study, wild-caught animals should be released at the site of the original capture, provided that:

- 1) their ability to survive has not been impaired
- 2) they can be expected to function normally
- 3) environmental and habitat conditions at the time of release are conducive to their survival
- 4) their release is not likely to spread pathogens to a naïve population
- 5) no laws or regulations prohibit their release
- 6) their release is not detrimental to the well-being of the existing native animals

L. Preserved Specimens: The collection of live animals and their preparation as museum specimens is necessary for research and teaching activities in systematic zoology. However, each animal collected should serve as a source of information on as many levels as practical (e.g., behavior, morphology, genetics, etc.) to assure the maximum utility of each animal, and to minimize instances of duplicate collecting.

Note: Formalin fixation of dead specimens is acceptable, however euthanasia of un-anesthetized specimens by immersion in a formalin solution is unacceptable.

M. Shipping and Receiving of Biologics: The shipping or receiving of animal specimens, wholly or as tissue samples, should be conducted in accordance with federal safety and importation guidelines and regulations. The PI should act in accordance with the United States Department of Agriculture, Animal and Plant Health Inspection Service regulations regarding the limits on importation of animals or biologics that may have been exposed to an exotic livestock or poultry disease agent, and the limits on the importation of plants and other vegetable matter. The PI should act in accordance with the Public Health Service Foreign Quarantine Regulations (42 CFR 71.54) which govern the importation and transfer of etiologic agents and vectors of human disease.

Note: The movement of non-infectious materials such as formalin-fixed tissues, sterile cell cultures, and other preserved tissues or materials where no evidence or indication exists that they contain an infectious agent of animal or public health significance are not governed by these regulations.

VIII. References

1. Public Health Service (PHS) policy (<https://grants.nih.gov/grants/olaw/references/phspol.htm>)
2. Animal Welfare Act
(https://www.aphis.usda.gov/animal_welfare/downloads/Animal%20Care%20Blue%20Book%20-%202013%20-%20FINAL.pdf)
3. The Guide for the Care and Use of Laboratory Animals
(<https://grants.nih.gov/grants/olaw/Guide-for-the-Care-and-use-of-laboratory-animals.pdf>)
4. IACUC Principles & Procedures (http://www.fau.edu/research/docs/policies/research-integrity/FAU%20IACUC%20Policy%20On%20Surgery%2010%204%206_Final.pdf)
5. The 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>)
6. Guidelines for the Use of Fishes in Research (http://fisheries.org/docs/policy_useoffishes.pdf)

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7. Guidelines for Use of Live Amphibians and Reptiles in Field and Laboratory Research
(<http://www.asih.org/sites/default/files/documents/resources/guidelinesherpsresearch2004.pdf>)
8. Guidelines to the Use of Wild Birds in Research
(http://www.nmnh.si.edu/BIRDNET/documents/guidlines/Guidelines_August2010.pdf)

POLICY APPROVAL

Initiating Authority

Signature: _____ Date: _____

Name: Daniel C. Flynn, Ph.D., Vice President for Research

Executed signature pages are available in the Initiating Authority Office(s)