Safe Work Practice

Handling Animals Infected with a Zoonotic Pathogen (*suspected or confirmed*) in the Field

1.0 Hazard Description

Field research activities involving the direct handling of feral or wild-roaming animals, or materials derived from these animals, may also involve the presence of zoonotic pathogens. If the animal species or population to be handled is reasonably suspected or confirmed to be harboring a zoonotic pathogen, then the Principal Investigator (PI) must include an assessment of the pathogens(s) involved in the Hazard Assessment for all activities involving the animal itself or derived materials as per the Animal Research, Teaching and Testing Projects Safe Work Practice (EHS-SWP-101).

1.1 Hazard Assessment Considerations

1. Contact the wildlife or fisheries management office or equivalent in the jurisdiction where the animal population to be studied resides to determine if a zoonotic pathogen needs to be considered.

2. Information packages with recommendations on how to safely interact with any animal populations affected by a zoonotic pathogen may be available from the local wildlife/fisheries management offices. If such material is available, it must be utilized in the hazard assessment and for the training of personnel.

3. Pathogen Safety Data Sheets (PSDS) for the zoonotic pathogen(s) involved must be utilized in the Hazard Assessment focusing on the sections that pertain to the context of the field work (such as, but not limited to, symptomology, epidemiology, and susceptibility to decontaminants). A copy of the PSDS is to be appended to the Hazard Assessment document. PSDS are available for most zoonotic pathogens at the Public Health Agency of Canada (PHAC) website (http://www.phac-aspc.gc.ca/lab-bio/psds-ftss/index-eng.php). If a PSDS cannot be found for a zoonotic pathogen, contact the Biosafety Officers at biosafety@ualberta.ca for assistance.

4. If a commercial vaccine exists against the zoonotic pathogen(s), consider vaccination of all personnel directly involved in the handling of animals and/or specimens. Contact Environment, Health and Safety (EHS) via ehs.info@ualberta.ca for assistance in determining the accessibility and recommended immunization schedule for the vaccine. The University of Alberta (U of A) strongly encourages the use of vaccines when available for all
personnel with the potential to come into direct contact with a zoonotic pathogen.

5. Appropriate means to safely and humanely restrain or tranquilize animals in the field must be incorporated into the experimental plan to minimize the risk of animal bites or scratches to personnel.

6. Safety engineered needles or blunt scalpels must be considered where applicable. If these safety devices are not feasible, other procedural mitigations must be identified to minimize the risk of sharps injuries.

7. In most cases, completed Hazard Assessments for field research do not require formal review. However, review and approval the U of A Biosafety Officers is required in the following circumstances:
   a. Field research involving non-human primates – Due to genetic similarities between humans and primates, zoonotic pathogens are of increased concern for personnel.
   b. Isolation & propagation of the zoonotic pathogen – Additional federal biosafety regulations apply and must be adhered to when a pathogen is isolated and/or propagated.

If conducting field research under either of these circumstances, send a copy of the completed Hazard Assessment to biosafety@ualberta.ca.

8. If live animals or animal tissue specimens are to be shipped to the U of A from out of province, contact the Biosafety Officers via biosafety@ualberta.ca at least eight weeks prior to departing for the field study to determine if federal or international permits will be required.

2.0 Minimum Hazard Controls

2.1 Elimination/Substitution

1. The PI should consider if an alternate disease-free population exists that could support the planned field research activities.

2.2 Engineering Controls

1. Field research occurs outside of established laboratory facilities. As a result field research is more reliant on Administrative Controls and Personal Protective Equipment than on Engineering Controls.

2. Once animals or specimens derived from animals are transferred back to the U of A they must be housed and handled in biocontainment facilities appropriate to the zoonotic pathogen involved. Consult the Animal Projects with Biological Materials SWP for containment details and options.
2.3 Administrative Controls

1. All materials (e.g., equipment, packaged waste, specimen containers, etc.) in contact with the animal must be wiped down with disinfectant effective against the zoonotic pathogen involved before they are loaded into a transport vehicle, brought back to camp or returned from the field. When in doubt, clean away any surface dirt or organic material, and subsequently surface decontaminate with 10% bleach (one part household bleach to nine parts water) for a minimum of 10 minutes. Note, metal items treated with bleach should be rinsed with water following decontamination to prevent corrosion.

2. All field waste disposal is to be discussed with the local wildlife/fisheries office. Animal carcasses, consumables and disposal personal protective equipment (PPE) must be collected and properly disposed of according to the wildlife/fisheries recommendations (i.e., in-field incineration, transportation to local municipal dump, etc.). No research-related waste is to be left on site.

3. Specimens derived from animals infected with a zoonotic pathogen must be packaged and shipped according to Transportation of Dangerous Goods (TDG) regulations. TDG training and certification are available through EHS at https://www.ualberta.ca/environment-health-safety/training.

2.4 Personal Protective Equipment (PPE)

1. Personnel directly handling potentially infected animals must wear disposable gloves at a minimum. Depending on the activities being conducted, bite resistant gloves should be considered.

2. Any additional required PPE identified in the Hazard Assessment must be utilized.

3. PPE must be upgraded during surgeries or necropsies conducted on animals in the field to include, at a minimum, appropriate Tyvek coverings to prevent blood and body fluids from coming into contact with an individual’s clothes or person.

4. Respiratory protection is not normally required when working outdoors with animals. However, if personnel will be working in enclosed spaces where urine, feces, and/or denning/nesting materials have accumulated, personnel are required to wear an appropriate fit-tested respirator.

3.0 Emergency Preparedness/Response

1. Field personnel must carry a first-aid kit with appropriate medical dressings for the type of injury that may be caused by the animal under study and topical agents effective against any potential zoonotic pathogens.

2. Select members of the group must have first aid training.

3. Individuals who are bitten or scratched while handling an animal, or have body fluids or fecal material from the animal come into contact with their eyes or mucous membranes, must receive immediate first aid.
4. If an injury is significant enough to warrant medical attention, the research group must disclose the nature of the work conducted and the possible associated zoonotic pathogen(s) to the attending physician.

5. If, following a field research expedition involving animals, a group member experiences a non-seasonal illness significant enough to warrant medical attention, the individual must disclose the nature of the recent field work and the possible associated zoonotic pathogen(s) to the attending physician.

6. As soon as reasonably possible after a field injury or associated non-seasonal illness, an Incident Report must be submitted as per the instructions at the EHS Incident Portal.

### 4.0 Applicable Legislation and Regulations

1. Canadian Biosafety Standard, Public Health Agency of Canada
2. Health of Animals Act, Canadian Food Inspection Agency
3. Human Pathogens and Toxins Act, Public Health Agency of Canada
4. Human Pathogens and Toxins Regulations, Public Health Agency of Canada
5. Occupational Health and Safety Act, Government of Alberta
7. Occupational Health and Safety Regulations, Government of Alberta
8. Transportation of Dangerous Goods Act, Transport Canada

### 5.0 Related Resources

1. Biosafety Guidelines, Environment, Health & Safety, University of Alberta
2. Safe Work Practice: How to Use Animal Safe Work Practices (EHS-SWP-100), Environment, Health & Safety, University of Alberta
4. Safe Work Practice: Animal Projects with Biological Materials (EHS-SWP-130), Environment, Health & Safety, University of Alberta

### 6.0 Document Management

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<th>Amendment Date</th>
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