

This Annex Suggests General Considerations and Best Practices for Animal Transportation and Evacuation

ARE YOU READY?

- *Which animals should be evacuated first in a disaster?*
- *If animals must be moved, where will they go?*
- *Have local emergency managers helped determine safe exit routes?*
- *Are animals crate trained to make transportation less stressful?*

Basic Steps for Writing and Implementing an Animal Transportation/Evacuation Plan

- 1. Conduct Preparation and Development**
- 2. Draft the Animal Transportation/Evacuation Part of the Contingency Plan**
- 3. Train for Animal Transport and Evacuation**
- 4. Schedule Trainings and Subsequent Evaluations**

Evacuation of a facility or habitat is a major undertaking with multiple variables to be considered. Some facilities may determine that it is in the best interest of the animals to shelter-in-place while others may not have an option and must transport animals out of imminent danger. Evacuations may take place before an event (e.g., storm, hurricane, flood), some may occur during an event (e.g., wildfire) and others may materialize after an event occurs (e.g., earthquake causing building instability).

Transporting managed wildlife may be very stressful to the animal as well as personnel. To avoid mishaps, the various elements of transporting animals should be identified and planned before an event occurs. Preplanning includes research on any special permitting, determining equipment and vehicles required, adequate and safe routes, relocation sites and identifying adequate personnel to care for the animals off-site. These temporary sites could be across the nation or at another location within the facility.

Both crate training of the animals and evacuation exercises practiced by humans are critically important for a successful outcome should an evacuation become necessary.

1. Conduct Preparation and Development

Before drafting contingency plans for animal transport or evacuation, the Facility Contingency Planners (FCPs) and/or stakeholders need to identify containment and equipment options, safe handling procedures for animals being transported, safe temporary sites and evacuation protocols. The following pages offer a variety of options to consider while evaluating and developing this portion of the contingency plan, as well as training strategies.

- Assemble the planning team and collaborators associated with animal transportation and evacuation (see page 3).
- Identify the potential risks. See *Risk Assessment Annex*.
- Identify and evaluate the current plan(s), options and capabilities for animal transportation or evacuation during an emergency.

2. Draft the Transportation/Evacuation Section of the Contingency Plan

After identifying and evaluating the current procedures for evacuation (1) draft or edit the contingency plan including well-developed decision-making criteria and evacuation protocols, (2) monitor the progress of writing the plan and (3) develop a system for application of the plan. Best practice information for the following topics is provided beginning on page 3.

- Whether to Evacuate or Shelter-in-place?*
- Animal Transport Procedures*
- Evacuation Site Animal Care Considerations*
- Personnel Considerations*
- Monitor the Drafting and Implementation of the Animal Transportation Evacuation Plan*

3. Train for Animal Transportation/Evacuation

- Develop the initial training to prepare animals for transport. See training considerations on page 8.
- Train animal care personnel on procedures to provide care in temporary facility, as needed.
- Train appropriate personnel on use of equipment and procedures to transport animals.
- Conduct exercises and drills to practice emergency procedures.

4. Schedule Training and Subsequent Evaluations

- Schedule training and emergency drills for all personnel and crate training for animals.

- Schedule testing of equipment.
- How did the plans work? Conduct post-event evaluations, and modify the plan, as needed.
- Revisit the plan as new equipment is acquired.

The following considerations are good business practices that may be helpful while developing the Animal Transportation/Evacuation plan. Contingency plans will vary, depending on the size of the facility, number of personnel, emergency equipment and other factors. Not every consideration is appropriate for all facilities.

Stakeholders and Experts to Consult on Animal Transportation/Evacuation

Stakeholders can assist in drafting or updating a well thought out plan. Meet with experts to discuss the best practices for evacuating and transporting animals. Evaluate any predictable disaster-type events prevalent to the area that may compel an evacuation or relocation of a high-value species. See [Risk Assessment Annex](#).

- Who are the potential stakeholders and consultants?
 - Facility management and owners
 - Animal keepers and veterinarians, and veterinary technicians
 - Registrars, curators, and shipping managers
 - Regulatory agencies (e.g., USDA, CDC, U.S. Fish & Wildlife, state veterinarians)
 - Local/regional emergency management agencies
 - Local law enforcement
 - Animal control or humane society
 - Local farms, ranches and Extension agencies, if applicable
 - Critical service providers
 - Public health
 - Current MOU/MAA transport providers
 - Sister institutions
 - Individuals familiar with International Air Transport Association (IATA) guidelines for shipping animals.
 - Additional collaborators to consider:
 - Affiliated associations (e.g., Association of Zoos and Aquariums¹, Exotic Wildlife Association, American Veterinary Medical Association, Species Survival Network, North American Zoological Conservation Organizations, local wildlife rehabilitators)
 - Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (Management Authority)
 - Non-governmental organizations (NGO) such as the National Animal Rescue and Shelter Coalition, members include International Fund for Animal Welfare (IFAW), and Code 3 Associates.

¹ Association of Zoos and Aquariums offers Animal Care Manuals for transporting some taxa.

Whether to Evacuate or Shelter-in-place?

Multiple elements will shape a decision whether to evacuate or shelter-in-place. For example, the size of a species or access to a safe alternative site may limit immediate evacuation options. High-priority species might be moved at the first warning as a precaution because the loss of high-genetic value individuals could represent significant loss to the population as a whole.

An additional consideration is the timing of an evacuation. If the decision is made to evacuate before an approaching hazard (i.e. hurricane) will the animal evacuation coincide with a mass human evacuation? Ideally, NO! In general, waiting until the last minute to evacuate will have the animals on the road the same time as people that are trying to flee. This may seriously decrease the ability to get the animals out in a timely fashion, or put staff members at risk. If transportation vehicles are not ideally suited to meet physiologic needs of the animal, animals may perish in the evacuation. A facility may need to make some tough choices in a crisis situation. Take as much guess work out of decision-making in crisis situations by developing plans ahead of time. Plans can provide a framework for response while still being flexible and scalable.

Decision-making criteria for evacuation will vary depending on the species, facility, available equipment, temporary site location, and pre-planning. After a thorough evaluation of options, (some of which are discussed below) and using the Risk Assessment as a guide, protocols for evacuation can be identified. Sheltering-in-place is discussed in the *Emergency Animal Care Annex*.

- Are criteria for the decision-making process established? Critical considerations include:
 - Does the nature of the incident allow preemptive evacuation?
 - What are the physical conditions affecting the animals such as outdoor temperature, humidity, distance, and traffic conditions? This will frame the decision to evacuate or shelter-in-place.
 - Has a veterinarian been consulted to determine the suitability of moving animals in specific conditions? (E.g. in certain seasons for certain species, climate controlled trucks may be vital for life support of animals being moved)
 - Is there adequate time to reach the alternative site(s)? Is a secondary evacuation site identified if the first choice is compromised or unusable?
 - How will the facility respond if the locality issues a mandatory evacuation?
 - Are there adequate personnel to provide care off-site?
 - Does the facility have readily available sedation/anesthetic or other supplies to facilitate evacuation?
 - Consider the animal's age, welfare and the potential stress levels.
- Are warning devices or notification procedures established for potentially dangerous conditions, which can provide adequate preparation time, if applicable? See *Risk Assessment and Facility Operations Annex*.

Animal Transportation/Evacuation Annex

- Have high-priority or endangered species been identified? Have specific plans been developed for these animals? Will these be priority species for evacuation? See Emergency Animal Care Annex.
- Are any species subject to US Fish and Wildlife Service, National Marine Fisheries Service, USDA rules, or any other state or federal regulating evacuation and transportation of managed wildlife?
 - Is the facility in regular contact with any relevant agencies?
 - Are necessary documents readily available in the event of an emergency transport situation?
- Is contact information readily available to determine specific health certificate requirements for the managed wildlife? (Contact State Veterinarians in both the sending and receiving states.)
- Has the facility identified any potential responsibilities for receiving in-kind services (such as offers of vehicles and employees from other facilities) and determined its policies for what it can accept? See Administration Annex.
- Does the facility have, or has it identified, adequate means and resources to safely conduct an evacuation? Good relationships with local and regional stakeholders are critical for finding resources on short notice. Some of the necessary equipment may include:
 - Sedation inventory
 - Animal handling equipment (e.g., slings)
 - Containment devices
 - Transport vehicles
 - Contracted vehicles
 - Licensed drivers
- Are proper containment devices available, possibly for a long duration? Consider:
 - Any taxon-specific requirements
 - Ample space for proper ventilation
 - Adequate temperature control
 - Ability to stand
 - Protection from sharp projections
 - Handles that prevent injury to personnel
- Are additional resources identified, including non-traditional sources, for equipment that may be adapted to suit particular needs and transportation modalities, and expertise that could assist in an emergency? For example, livestock trailers can be adapted to move certain big cats. See MOU / MAA Annex. These may include:
 - Farm Bureaus
 - Regional farmers or ranchers with livestock trailers
 - Neighboring and sister institutions
 - Licensed or registered commercial movers or transporters
 - Circuses
 - Racetracks
 - Equestrian centers
 - Stockyards or livestock facilities
 - Private companies
 - Dog clubs and breeder groups
 - Animal laboratories
 - State emergency management agencies
 - Humane society
- Are emergency 'go' kits prepared and readily available? Items to consider include:
 - Flashlight
 - Radio
 - Duct tape
 - Emergency contact list (laminated)
 - Batteries
 - Heavy gloves
 - Knife
 - Maps of local area (waterproof)

Animal Transportation/Evacuation Annex

- Plastic trash bags
 - Rope
 - Shovel
 - Water buckets
 - Blindfolds
 - First aid kit
 - Veterinary supplies
 - Any grooming supplies
 - Bedding materials
- Are safe exit routes from buildings/habitats to a staging area identified and mapped for loading animals onto transport vehicle(s)?
- Are potential evacuation sites identified for short-term evacuation? Long-term evacuation sites? Housing considerations include:
- Alternative space within the facility
 - Racetracks
 - Show grounds
 - Pastures
 - Stables
 - Local farm(s) with same species
 - Sister facilities
 - Fairgrounds
 - Equestrian centers
 - Boarding facilities
 - Warehouses with water and drains
 - Other animal-related facilities
- Are the identified evacuation sites adequate for providing proper care and treatment to the animals? See Emergency Animal Care Annex.
- Handling
 - Sanitation
 - Nutrition
 - Water
 - Ample electrical service
 - Veterinary care
 - Safety for animals and handlers
 - Protection from extreme weather and temperatures
- Are multiple evacuation routes identified and coordinated with state and national Departments of Transportation? Routes should be separate, if possible, from those evacuating people.
- Are transportation vehicles and equipment inspected regularly, kept in good working order and regularly maintained with a sufficient amount of fuel to reach an evacuation site? Are all vehicle compartments adequately ventilated? See Facility Operations Annex.
- Are professional animal transporters identified such as common carriers licensed and registered as animal carriers under the Animal Welfare Act? This includes airlines, railroads, motor carriers, shipping lines, and other enterprises.
- Licenses and the condition of equipment should be verified for any transporters, commercial shippers or handlers of regulated animals for long distance relocation.
 - Air travel-specific transport guidelines are published by IATA and CITES for protected species. See www.iata.org (a fee-based service for live animal regulations) and <http://www.cites.org/eng/res/10/10-21R14.shtml>.
- Have Memorandum of Understanding (MOUs) and/or Mutual Aid Agreements (MAAs), including financial arrangements, been signed with transport operators, trailer rental facilities, colleagues who will lend equipment to assist with an evacuation or temporarily house animals and personnel from other facilities to help with sedation or caring for animals? See MOU/MAA Annex.

Animal Transportation/Evacuation Annex

- Are MOUs and MAAs reviewed regularly? See Administration Annex.
- Is a chain of command identified that has the authority to order a complete or partial evacuation, if applicable? See Administration Annex.
- Do appropriate personnel have full access and proper credentials to access the facility and cross blockades during an emergency? See Administration Annex.

Animal Transport Procedures

Suitable transportation vehicles are necessary to protect the health and welfare of managed wildlife. Regardless of the magnitude of the emergency, animal transportation should be conducted in a manner that is safe, well-planned and coordinated, and minimizes risk to the animal(s), personnel, and general public. To coordinate the logistics of an evacuation, a master chart of all readily-available equipment, crates and vehicles (including borrowed), and where the different animals might be relocated will be helpful. It is common for different species to be moved to different locations. Everything should be documented for potential insurance claims including in-kind services.

- Is a general plan established for preparing the animals for evacuation?
 - Begin a needs assessment at the first warning of a potential evacuation, such as commissary and water needs, inventory of pharmaceuticals, finalizing commitments on relocation sites, transporters, equipment, etc. Notify personnel and contact local emergency manager(s).
 - Prepare highest-priority animals first (if appropriate) and incorporate taxon-specific methods for handling.
 - Caretakers should be equipped with appropriate personal protective equipment. See Emergency Animal Care Annex.
 - Only qualified and experienced personnel should sedate and capture animals.
 - If an animal is immobilized, only qualified and experienced personnel should determine when an animal can safely be positioned, handled or moved.
 - Equip each container with animal identification, medical records and individual needs such as feeding, watering, and medical care. See Emergency Animal Care Annex.
 - Inventory animals before departure.
 - As animals are relocated, keep regulatory officials updated on animal movements as appropriate
- Are protocols established for the care of the animals during transport?
 - Provide adequate food, water, ventilation and medications during transit, as needed. (Note: depending on the type of disaster, some animals may have sustained injuries or in the event of fire, certain animals may be more sensitive to smoke and air quality. Mass mortality from inadequately ventilated compartments has been seen by USDA.)
 - Provide comfortable travel environment.
 - Provide adequate separation of animals and urine/feces.
 - Monitoring stress levels of the animal(s).
 - Trained animal care personnel should travel with the animals.

Animal Transportation/Evacuation Annex

- Consider traveling speeds, conditions of roads, limiting stops and noisy areas, avoiding sharp breaking or acceleration to eliminate injuries and lessen stress to the animals.
 - Record any injuries to animals in transit.
 - Inventory animals after transport, make sure this inventory at final destination matches the inventory manifest created at departure point.
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- What is the minimum amount of information that should accompany each animal during an evacuation? Including compatible cage or exhibit mates? Consider laminated or waterproof reference cards. (Velcro strips attaching such cards to enclosures and transport carriers and containers can make for easy transfer of this information with the animal). This can provide necessary minimum requirements should unfamiliar animal caretakers become responsible. See Data Annex for additional information. Important information might include:
 - Animal ID and photo
 - Pre-existing conditions
 - Current medications (dosages)
 - Drug idiosyncrasies
 - Behavioral idiosyncrasies
 - Specialized diet
 - Are safe and suitable transportation vehicles identified for transport? Which are on-site, and how quickly can others arrive at the facility?
 - For documentation purposes, recording all vehicle identification numbers (VIN) of those used for transport – owned, borrowed, hired and loaned – is recommended. See Business Recovery and Reimbursement Annex.
 - Are drivers identified, trained and licensed to drive the vehicles?
 - Are best driving practices established to eliminate injuries and lessen stress to the animals?
 - Are fuel sources identified along the evacuation route, if necessary?
 - Transit vehicles should be parked facing out for an easy departure after loading the animals.
 - If the emergency is fire-related, in general, vehicle windows should be temporarily closed for when driving through heavy smoke areas for better air quality
 - List the regulatory agencies (i.e. local, regional, state or federal wildlife, animal health, local SWAT (technical responders) to contact/notify if an animal(s) escapes during transport See Animal Incident Annex.
 - Are vehicles equipped with evacuation route maps to the evacuation site and/or site for transfer to a common carrier such as airlines or railroads?

Evacuation Site Animal Care Considerations

Each animal will continue to need basic care and enrichment at an evacuation site. Caretakers should be assigned to stay with the animals while off-site. See Emergency Animal Care for additional information.

- Additional care for the animals may include decontamination, injuries, stresses and illness, and setting up site(s) for medical care.

Animal Transportation/Evacuation Annex

- The evacuation site will need protocols that will allow continued care for the animals. Plans will no doubt change, as the duration of the temporary evacuation may be spread out in longer term disasters. Some of the immediate needs will be:
 - Arranging for necessary animal care staffing (see below under Personnel Considerations)
 - Arranging for delivery of feed, bedding, water, medication, etc
 - Maintaining necessary biosecurity for animals and staff
 - Identifying safety practices that may have changed with different housing
- Have arrangements been made for a refrigerated/freezer truck to keep at the evacuation site for storing meat and fish or other perishables?
- Considerations for the animal's return or re-introduction process to the original facility.
 - Prioritize the animals for return as conditions progress to a more normal state at the facility.
 - Arrange for the basic needs to be in place before re-introduction.
 - If animals are out of state, determine what health certificates or special permits may be required.
- If this is a federally declared disaster, and the facility qualifies for FEMA reimbursement, the return trip is not a reimbursable expense. See *Business Recovery and Reimbursement Annex*.

Personnel Considerations

Personnel will be required to prepare the animals for transport, care for the animals during transport and while at an evacuation site. The needs will vary depending upon the species and the temporary location. During a catastrophic event, help from local authorities should not be anticipated as they will be focused on the people in the community.

- Generally, anyone taking custody of regulated animals in connection with transporting them on public carriers such as airplanes should be registered as an intermediate handler. Be aware that during an emergency, regulations may not be able to be fully followed.
- Multiple drivers may be needed on longer journeys.
- In addition to animal care personal, what other roles and responsibilities are needed at the temporary site(s)?
 - Consider designating an on-site evacuation coordinator as the person in charge to keep an incident log for documentation and to liaise with local/regional emergency manager(s).
 - The on-site coordinator will need access to credit cards or cash. See *Lessons Learned*.
 - Consider designating an off-site evacuation manager to take charge of all issues and concerns.
 - Consider designating personnel to accept donations and supplies.
 - Identify adequate and well-trained personnel that will travel with the animals and be equipped to handle emergencies that may occur during transport.
 - Provide traveling personnel with adequate credentials to cross blockades beyond the facility, if necessary.

- Facility evacuation affects personnel, infrastructure and business continuity as well. The following broad topics are discussed in other annexes.
 - Evacuation of personnel and visitors, including those with special needs, is discussed in the Facility Operations Annex.
 - Staff concerns such as compensation and continuation of benefits is discussed in the Administration Annex.
 - Designate personnel to manage a staging area for receiving donations and supplies. See Administration Annex.
 - Fatigue of personnel is discussed in the Administration Annex.
 - Economic impacts resulting from temporary closure of the facility is discussed in Business Recovery and Reimbursement Annex.
 - Preservation of data is discussed in Data Management Annex.
 - Eligibility of FEMA public assistance grant after a disaster and the requirements should be discussed with a regional FEMA representative prior to an event. This is discussed in the Administration Annex and the Business Recovery & Reimbursement Annex.

Monitor the Drafting and Implementation of the Animal Transportation and Evacuation Plan

- FCPs should monitor the progress of writing and applying the key elements for the Animal Transportation/Evacuation plan.
- Assign specific tasks, such as procuring any equipment, acquiring special licensing and negotiating MOUs or MAAs to ready the plan.
- For effective follow up, establish a timetable chart, or checklist, to complete the various elements of the plan and the responsible person(s) or group.
- Make the plan available to all personnel as appropriate.

Training Considerations for Animal Transport and Evacuation

Training exercises and practice drills will increase the likelihood of a safe evacuation. The following considerations relate specifically to transportation and evacuation. See the Training Annex for general training guidance.

Train both animals and animal caretakers for transportation and evacuation procedures.

Best practice emergency evacuation training considerations for animal training. See Emergency Animal Care Annex for additional information.

Animal Transportation/Evacuation Annex

- Train the animals to enter crates, slings, etc. to avoid injury and additional stress in the event of an evacuation.
- Where possible, train animals for manual injection of sedatives to minimize stress and trauma associated with darting.

Best practice emergency evacuation training considerations for **animal care personnel**.

- Train appropriate personnel to drive vehicles and operate equipment required for movement and transportation of animals.
- Additional requirements may be applicable for any transportation training of regulated animals according to state or federal laws.
- Train designated personnel for special responsibilities related to off-site management of animals or supply distribution center(s).
- Conduct additional training as new species, equipment, materials or processes are introduced.

Sample Table-top Scenarios

Responses to emergency scenarios during a table-top exercise may vary depending upon the location of the 'incident,' time of day or night and the animals that might be involved. Develop and personalize multiple scenarios for discussions that reflect the facility and its environment, based on the Facility Risk Assessment. These could then be modified for drills and exercises. See the Training Annex for more information on Tabletop exercises. The following are sample transportation and evacuation scenarios.

- ❖ **Flooding River**: The facility receives warning that a nearby river is reaching the flood stage and the Army Corps of Engineers needs to release more water to protect the levees from breaching. The flood level is expected to reach the facility in five days. The water is predicted to cover three-fourths of the facility. The facility determines it is best to evacuate most of the animals.
 - What are the priorities and responsibilities of personnel related directly to animal transport and evacuation?
 - What additional priorities and responsibilities come into play for such areas as management, animal care personnel, security detail, information officer, office and grounds personnel, store personnel, volunteers and any other personnel not directly involved?
- ❖ **Animal escape**: During transport of endangered species, a minor accident occurs in an unpopulated area. No one is seriously injured; however, one of the animal cages is jarred open and the animal escapes. The driver is able to maintain visual contact.
 - What are the priorities and responsibilities of personnel on the accident scene?
 - What are the priorities and responsibilities of: management, information officer, animal care personnel at the facility?
- ❖ **Wildfire**: Firefighters have a nearby fire fifty percent contained, but the winds are shifting and the fire is moving rapidly toward the facility. Transportation is limited as roads are

becoming congested but, several species are of very high value. There are several vehicles at the facility that could transport a limited number of animals.

- What are the priorities and responsibilities of: management, information officer, animal care personnel at the facility?

Schedule Training, Testing and Subsequent Evaluations of the Plan

- Schedule facility-wide training for the animal evacuation plan for appropriate personnel.
- Adapt the new-hire orientation program to include the evacuation contingency plan training for appropriate personnel.
- Determine the frequency and schedule a long-term training program for animal care personnel on evacuation procedures and best practices for training animals to enter crates, etc. Include table-top drills and single exercises on various elements of the emergency procedures and full-scale exercises.
- Schedule on-going crate training exercises for the different animals.
- Determine the frequency and schedule a long-term testing program for transport vehicles and equipment.
- Meet with other institutions and stakeholders to discuss best practices for evacuation based on the species.
- Meet with personnel to identify any lessons learned after evaluating training exercises; change or modify the plan accordingly.

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Animal Transportation/Evacuation Annex

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