

Emergency Preparedness for Herps

Disaster or emergency preparedness is an issue in which many pet owners and hobbyists of both reptiles and amphibians (collectively known as “herps” or herptiles) as well as other species of animals oftentimes do not expect, think about, or are prepared for. Fires, floods, power outages, hurricanes, tornadoes, snow and ice storms, earthquakes, and other forms of severe weather or natural disasters as well as air quality advisories, other adverse environmental conditions, toxic biological or chemical spills or accidents/leaks requiring cleanup or evacuation can all take place, and can cause significant loss and destruction particularly if one is not prepared for dealing with or handling such emergencies.

Reptiles and amphibians especially have specialized and oftentimes specific and/or varying husbandry needs depending on the species, and requirements that will still need to be met in at the very least their basic forms during any given emergency. These needs can include, but are not limited to still being able to fundamentally provide during an emergency the proper food and diets, housing/shelter/enclosures, lighting, heating, and temperatures, vitamin and nutritional needs, as well as the animal’s overall health, welfare, and well-being and any other requirements specific to the individual animal (such as any medications, age and health, reproductive status, etc). Some species are also venomous or can be potentially dangerous if maintained by inexperienced keepers. While there are many more specific voluntary and occupational related risks, protocols, and potential emergencies associated with keeping these species responsibly, the general purpose and intent of this article will be to mostly cover more general disaster and emergency procedures beyond one’s control or husbandry related conduct when it comes to keeping reptiles and amphibians.

Pets, whether they are dogs, cats, birds, reptiles and amphibians, or other species are members of the family for many, and their consideration in any personal or family emergency plans should take place. This article will cover and consist of the many different considerations, as well as steps that can be taken to prepare for the worst.

Food, Feeders, and Water

- Water is an absolute necessity to include in any emergency preparedness kit or plan of action. Without water, animals will be subject to dehydration, desiccation, and potentially further illness.
- It is recommended to have at minimum a two (two) week supply of water on hand for emergencies. Water should be stored in sealed plastic containers and stored at cool temperatures. Some caution should be used against using regular tap or distilled water, as this may contain chemicals that may be harmful or even toxic to your reptile or amphibian. Using dechlorinated water is preferable.
- The hydration requirements will often vary depending on the species. Some will require a water bowl, dish, pan, tub, or other container large enough for the animal to access and/or enter and be able to submerge in. Other species will drink primarily, or only from water droplets or condensation collected on their bodies or surroundings, in which case a spray bottle should be used to mist. Aquatic and semi aquatic species will also still require a pump and aeration system to help maintain the water as clean and sanitary as possible.

- Food is another vital component to any emergency preparedness kit or plan of action. It is generally recommended to have at minimum a two (2) week supply of food in addition to water. Any foods should be sealed and stored adequately to prevent spoiling, and be kept as freshly as possible.
- For herbivorous and omnivorous animals, fruits and vegetables should be kept as cool as possible, or otherwise frozen in a portable ice chest or cooler. Canned fruits and vegetables, as well as many commercially available pelleted diets can be used, but ensure that your animal will eat from these prior to an emergency. Any canned foods should be stored in waterproof, airtight containers that should be rotated every 2-3 months or so.
- Any live feeder insects used for insectivorous and omnivorous animals should also be considered during an emergency as well.
- Many reptile and amphibian species require additional dietary supplements such as calcium and vitamin D3 that should still be considered and provided during an emergency. Prolonged, or long term absence of these nutritional supplements can lead to poor or debilitating bone, muscle, and overall growth development.
- For carnivorous animals, frozen thawed rodents, birds, rabbits, or other feeders should be kept frozen whenever possible on ice in a portable ice chest or cooler to prevent spoilage. Packaging or containers for carnivorous feeders should be sealed and water proof. The needs of any live animals used as feeders should also be considered during an emergency. Most snakes, however, can fare with relatively less food for at least during short term emergencies lasting a few days to weeks.

Housing, Enclosures, Furnishings, and Other Husbandry Supplies

- Primary enclosures and/or facilities should be secure, sturdy and structurally sound, and otherwise escape proof with adequate ventilation, and should not be able to be easily damaged or destroyed as a result of any falling or flying items or debris that may result from severe weather or a natural disaster.
- If there is adequate time or notice given beforehand of impending severe weather or other emergencies (such as impending storms or hurricanes in states and regions where they occur), steps should be taken to review, evaluate and assess the suitability of the animal(s) cages, enclosures, and overall facility, stock up on the necessary food, supplies, and other resources, and make changes or improvements wherever necessary to best withstand the emergency to prevent accidental escape or release into the environment (or move or transfer the animal(s) to more suitable enclosures or facilities).
- Any animals that are housed outdoors for any length of time during the year that coincides with any given weather or natural disaster emergency should be moved or transferred indoors for accountability when adequate warnings or notices are given of an impending emergency.
- Ensure that any household or facility sump pumps (to reduce basement and lower level flooding), pumps, electrical powered backup generators, emergency backup lights, and other forms of alternative power and lighting sources are currently working and operating effectively and efficiently prior to any emergency. If not currently owned or possessed, time should be taken now to invest in these extremely useful forms of backup for power and electricity for possible future emergencies.

- Housing multiple animals together in the same enclosure is typically not recommended in most cases, even during short term or temporary emergencies. Many different reptile and amphibian may have different, oftentimes incompatible husbandry requirements, or are carnivorous, predatory, or even cannibalistic in nature. There is also always the risk or possibility of any animals fighting, competing, and injuring or even killing one another over space, food, or other resources.
- Also ensure that any household and/or facility smoke detectors, fire alarms, carbon monoxide alarms, automatic doors, and other forms of home/facility safety and security are enabled, properly installed, and currently in good working order and regularly tested and inspected.
- The appropriate bedding or substrate should be used in temporary or emergency enclosures. Substrate should be spot cleaned when necessary of any feces, urates, uneaten food, or other soilings or debris. Spare substrate and disposable trash or garbage bags for wastes should be stored or kept on hand in the event of emergencies.
- All reptiles and amphibians are ectothermic, meaning they are unable to (for the most part) regulate or control their own body temperatures and instead are dependent on their surrounding environment. This means they must have adequate heating, lighting, and temperatures in order for optimal digestion, reproduction, and other behavioral and physiological activity during an emergency.
- Any heating, lighting, or temperature related element should always be used in accordance with a quality thermostat, rheostat, temperature gauge, or other controlling device or method to prevent the possibility of short circulating and/or electrical fires associated with the failure, malfunctioning, or misuse of husbandry equipment. This is a very important preventative measure to consider when it comes to emergencies.
- When it comes to fires, reptiles, as with other animals, can be subjected to smoke inhalation, although typically to a much lesser degree than mammals for example, due to their differing rates of respiration. They can still suffer from thermal burns or other heat related physical injuries during a fire or other related emergency though. As could also be expected, most amphibians are much more susceptible to smoke inhalation due to their sensitive and porous skins. Water from any water bowls, or in aquatic or semi aquatic species' setups can also be fouled or affected during fire emergencies as well where there is smoke, embers, ashes, or other hot debris that can become airborne.
- A temperature or thermal gradient should be provided that allows the animal or its species to select its preferred optimal temperature zone. If not provided, there runs as risk of the animal being exposed to either too cold or low of temperatures for prolonged periods of time, or too high of temperatures, and thus overheating.
- Do not leave any confined animal in direct contact with unregulated or uncontrolled sunlight or heat (such as higher temperatures within an enclosed vehicle without adequate shade or ventilation for example) to where it cannot escape or select its preferred thermal gradient. Even only a couple of minutes exposure to these conditions can be fatal for pets/animals.
- Depending on the species and situation, any number of heating elements or devices can be used during emergencies. These include submersible aquarium/water heaters (for aquatic and semi aquatic animals), overhead incandescent and UV (UV-A and UV-B) bulbs of appropriate strength and wattage in a portable overhead or clamp lamp, ceramic heat emitters, radiant heating panels, nighttime "red" lights and bulbs, and under tank heating pads. Florescent lighting can

also be used to provide lighting, but most do not generate much heat. Many of these will still require use of electricity and access to outlets, but there are some other heating methods that will also work during short term emergency situations such as hand warmers, 24-48 hour heat or cool packs, and other human heating pads. Although some of these are not intended for use on herps or other animals, they can be used in emergency situations if done so cautiously and under a controlled environment.

- Providing or having on hand an evacuation cage or enclosure is recommended during emergencies, particularly if the animal's primary caging or housing is too large or impractical to be easily transported or be portable. Having spare, or backup sets of appropriately sized aquariums, terrariums, snake bags or pillow cases for transport, Kritter Keepers, pet carriers, or other plastic containers is recommended, but they must be secure, structurally sound, escape proof, and have adequate air flow or ventilation. Any evacuation enclosure should also be large enough for the animal to comfortably fit into, as well as be able to move, stand, or be able to turn around in easily.
- Tubs or containers with a lid are oftentimes not sufficiently secure enough to act as stand alone enclosures to hold snakes or many lizards in without additional modifications to prevent escape. Lids or tops can be fastened and better secured on using tie wrap as well as selecting tub models with latches for instance.
- Providing additional cage accessories and furnishings during an emergency are oftentimes not essential, but can help ensure the animal's safety and security. These can include any hides or hide boxes, artificial foliage, logs, rocks, branches, perches, etc.
- Overall rooms, areas, or facilities should be kept clean and free of debris and obstructions that would impede or prevent movement, access, entry, or exit during an emergency or present potential tripping hazards or other possible injury during pressing times of distress. This includes all floorspaces, doorways and entry/exit ways, hallways and corridors, stairways, window ways, or other similar or potential passage ways for escape.
- Become familiarized overall with all emergency exits, safe areas, and emergency protocols and procedures of the residence, building, or facility in which one's animals are kept at or within.

General, and Other Considerations for Emergencies

- It is especially important to consider any medications or medical treatments your animal(s) may currently be undergoing during an emergency. If possible, there should be, at minimum, a two (2) week supply of medication stored and sealed appropriately according to the prescription's requirements/instructions for use and storage.
- An emergency first aid and supply kit for you and your animal(s) should be kept on hand in the event of an emergency. Some items to consider in an emergency first aid kit can include a flashlights with working batteries, anti-biotic ointments, Betadine solutions for cleaning and disinfecting, gauzes and cornstarch to address any bleeding, tweezers, forceps, spare hemostats, clippers, scissors, Q-tips, cotton swabs, pocket or utility knives, pliers, hand warmers, various tapes (scotch, masking, duct, etc.), marking pens, sharpies, or other markers, bungee cords or rope/twine, disposable trash or garbage bags for disposing of waste, spare blankets, rags, or towels, and any other items or supplies one feels would be useful or necessary. Keep and store any kits in an easily remembered and accessible location.

- These kits can be a backpack, duffle bag, handbag, suitcase, storage box or container, or other multi compartmented bag, container, or items of portable storage capability. Portable coolers, ice chests, or mini freezers with ice can be used to store food, medications, or other perishable items.
- Consider planning ahead now in the event of future emergencies. Have a (preferably written) emergency plan of where you and your animal(s) can safely evacuate to, what items or supplies you would need or bring, any escape or evacuation routes that can be taken, a plan of action in the event of emergencies both for where you cannot leave your home or residence and when you are away from home and cannot access or return to your home or residence.
- If keeping or working with venomous, or other potentially dangerous animals, it may oftentimes be wise to refrain from engaging in any nonessential or routine handling or husbandry tasks involving the animals until emergency conditions clear or improve. In the event of a bite, envenomation, or other accident or mistake, it may oftentimes become more difficult to access a hospital, emergency health care center, or other forms of assistance, or for help and assistance to reach you during severely adverse weather or other conditions. In most cases where there is not an urgent or immediate husbandry need, these animals will be fine during temporary adverse weather conditions outside.
- For proper consensus purposes during emergencies, any enclosures and facilities containing a venomous reptile or other potentially dangerous animal should be lockable and escape proof, and be clearly and legibly marked or labeled with the species' common and scientific/latin name(s), quantity or number of animals housed per enclosure, morph(s), age, sex or gender (if known), owner's contact and identifying information, and any other records or details pertaining to that enclosure. The same should also be indicated on any temporary enclosure or container (which should ideally be red in color or have red taping or sealing to indicate a venomous animal within) designated for transport of a venomous or other potentially dangerous animal. A current, up to date list of specimens should also be maintained at the entryway to any room or area of the facility in which said animals may be kept, housed, or accessed.
- Some hotels and motels may accept pets, but each one's pet and animal policies should be reviewed beforehand with regards to the types/species, sizes, and numbers of animals allowed. Do not try to sneak animal(s) into a location that does not allow them, particularly during an emergency or crises situation.
- Unfortunately, due to local and state health and safety laws and regulations, as well as space constraints, Red Cross designated shelters and facilities are unable to legally accept pets or other animals (particularly reptiles and amphibians) unless they are legitimate service animals for the truly handicapped or disabled.
- Local animal shelters, humane societies, veterinary clinics, and other boarding facilities oftentimes will already be inundated with animals or be unable to accept or board additional animals, especially if they are or have been receiving similar requests if the emergency or disaster is local or regional in nature. Furthermore, many may also still not be able to meet, house, or accommodate the specialized or specific needs of reptiles and amphibians, and are geared more towards dogs, cats, or the occasional pocket pets.
- The best safe locations are typically with a trusted friend, relative, family member, or other contact, preferably in a safe location outside of the emergency area who may be knowledgeable and capable of caring for your animal(s). Remember that any personal connections you may rely

upon should be given a key to one's house, residence, or facility or otherwise be able to have access.

- Have the emergency contact information for your animal(s) veterinarian, as well as for at least one or more trusted friends, contacts, or pet sitters on hand or readily accessible that may be able to access your home, facility, or residence during the event of an emergency and are familiar with the care of the animals or species you maintain, and that are able to easily follow any written directions or instructions. Making and establishing these networks and connections through your local, regional, or state herpetological society (such as MAHS) is often suggested and recommended. Listings of herpetological societies by one's state are available.
- Any contact information should include full names, addresses, phone numbers, email addresses, any fax numbers, or any other contact information that may be useful and is able to be included.
- Additional or spare sets of cleaning supplies should also be kept on hand in the event of emergencies. These can include bottles of hand sanitizer, soap for cleaning any bowls, dishes, or other furnishings, towels, tissue paper, or paper towels, bleach solutions or vinegar of appropriate composition and mixture for cleaning, and other disinfectants, etc.
- Other spare or extra sets of tools and handling and restraint equipment (such as snake hooks, snake bags, tongs, work gloves, nooses/capture poles, tweezers, forceps/hemostats, tubes, or other equipment) should also be stored or be kept on hand, particularly for handling or moving animals that may be venomous, defensive, or are otherwise more difficult or potentially dangerous to handle freely.
- Having heavy duty electrical extension cords and additional power strips for any lighting and heating elements are also advisable to have on hand for emergencies, particularly when access to outlets or electricity is still available, but less convenient or readily accessible. Extension cords and power strips that are suitable for both indoor and outdoor use are recommended.
- If privacy concerns are not an issue, a notice or list can be attached or fastened to a front and/or back door or other easily noticeable area of the residence or property. These notes or signs should notify any emergency first responders and personnel, or others that need access to your home or residence of animals inside, including a current list of the numbers, types/species, any identifying coloration/markings/morphs/or other features, and location being kept. There are signs and stickers that are available through various sources as options for pet owners of any species.
- Other information to include or have on hand for emergencies can include any veterinary records for your animal(s), a current color photograph of the animal or each animal, and/or microchipping options that can be performed by your veterinarian (both when practical and depending on the age, size, and species of the animal being microchipped) that can be used later in identifying the animal in the event that it escapes or becomes lost.
- Finally, it should be remembered that pets and other animals will oftentimes react or behave differently in potentially threatening or stressful situations or changes to their environment. Even an animal which may ordinarily be friendly, tame, or otherwise well-handled and socialized may react defensively by biting, clawing or scratching, tail whipping, or otherwise trying to escape, hide, or defend themselves. This is not because they are "bad", "aggressive", or "mean" animals, but rather simply because they are scared or frightened, and do not understand what is happening.

- During the course of any emergency, any animal(s) should be kept properly and securely contained and/or otherwise under the adequate control and supervision of a capable and responsible person at all times if the animal is to be taken out of its temporary enclosure for handling or examination.