

POCKET GUIDE TO HUMAN WILDLIFE CONFLICT, EMERGENCY AND RESPONSE

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**EDUCATION
FOR NATURE**

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1. WHAT IS HUMAN-WILDLIFE CONFLICT (HWC) AND WHY DOES IT HAPPEN?

HWC occurs when **humans and wildlife compete for food or living/ nesting space**. Common conflict species are wild cats, crocodiles, owls, raccoons, coatis, raptors, parrots, snakes, opossums, bats and others. This conflict is a problem for humans and often ends with the animal(s) being killed.

CAUSES OF HWC: Habitat loss leads to less space for wildlife. As people expand their footprint, they encroach on wildlife habitat causing increased HWC. In fact, human activities ultimately cause most human-wildlife conflict.

A very common cause of HWC is “**accidental feeding**” because of improper garbage management. The garbage, dog food or debris provides a food source which attracts wildlife.

Another common cause for HWC is “**purposeful feeding**” of wildlife. Feeding is often used to create a tourist attraction. Some people feed wildlife and may be unaware of dangers this presents to their safety, health and property. Regular wildlife feeding leads to **habituation**, or animals losing their fear of humans, and receiving food from humans. A habituated predator can be dangerous or even deadly. Wildlife feeding is illegal for good reasons and education is key to changing this behavior in tour guides and the general public.

Another common cause for HWC is “**available access**” to nesting spaces in homes and other structures. For example: Holes in walls, broken/missing attic ventilation screens, and other construction gaps give easy access to birds, bats, rats and other mammals.

2. HOW TO AVOID HWC (*Be part of the solution.*)

People commonly do not realize that the animals are there, because humans have provided a good home with food or nesting space for the animal. Wildlife is attracted to man-built structures because they provide nesting space and garbage or other debris provides food. Often, education and a thorough assessment solve the problem without risk to human or animal safety.

There are many common wildlife-conflict species and scenarios. There are major health risks and dangers depending on the species and scenario. The Belize Wildlife and Referral Clinic (BWRC) has a 24/7 phone line to help with HWC assessment and advice (615-5159/632-3267). This guide provides general HWC advice and addresses a few common conflict species. The first and most important advice in almost all cases will be to **CALL A PROFESSIONAL BEFORE INTERVENING**, to ensure your and the animal's safety.

WHY SHOULD WE CARE:

- If wild animals are poorly managed, they can cause conflict, danger and economic losses for humans.
- Wildlife species are also important to ecosystem health, human health and Belize's Eco-tourism economy.
- Animals are an important part of the eco-system and provide many eco-system services.
- Animals part of Belize's natural heritage. Imagine Belize without it's remarkable wildlife.
- Coexistence with wildlife and sustainable use is possible. Humans should be responsible stewards of wildlife and their environment ensuring long term benefits for future generations.

-Religions of the world share the belief that animals are God's creation, and that humans should be stewards of the environment and the animals within it.

INVESTIGATE THE CAUSE OF WILDLIFE IN YOUR YARD OR HOUSE

- Find out what attracts wildlife to the yard or house.
- Eliminate the food sources such as food scraps and pet food left outside.
- Eliminate access to roosting area.
- Use deterrence techniques for example: Light shining into roosting areas, noise such as a radio played in roosting area to encourage wildlife to move out.
- Call BWRC 615-5159 to ask for advice.

GENERAL TIPS ON HOW TO AVOID/SOLVE HWC

- Secure garbage
- Keep food out of garbage.
- Keep yard clean
- Remove debris
- Remove branches that touch roof
- Always dispose of your trash properly (never leave it by the roadside as it attracts wildlife and causes it to get hit by car).
- Ensure closed walls and attics.
- Do not feed wildlife.
- Do not leave dog food outside at night.
- Secure pets at night.
- Build secure chicken house.
- Walk dogs on a leash and do not let them roam free outside the yard.
- Drive safely and slow down for wildlife.
- Turn your brights down when you see animal eye-shines on the roadside at night.
- Organize cleaning campaigns.

-Educate yourself and learn more about wildlife species in your backyard.

BWRC encourages non-lethal HWC resolution supporting co-existence of humans and wildlife, sustainable development and conservation for future generations.

3. HOW TO ASSESS HWC AND MAKE EMERGENCY REPORTS (*this is tricky*)

Determine and log: Name of person, telephone number, location, setting (rural/urban), problem encountered and suspected species.

Challenges in this assessment:

Determine: a) Species, b) Life Stage, c) Problem, d) Causes e) Possible Responses

Note that in many cases, this assessment may need to be conducted by a trained professional.

SPECIAL NOTES ON HWC ASSESSMENT

- Misidentification of species is very common.
- Sometimes humans misinterpret normal animal behavior.
- Sometimes humans rescue animals that do not need rescuing.
- Kidnapping (of wildlife babies) is a common mistake.
- There are risks of injuries or disease transmission, making adequate training and use of proper protective equipment crucial.

Depending on species, location and situation, **there are about 10 different specialized wildlife organizations** and individuals in Belize that work with Forest Department to provide assistance for different species and problems. **BWRC staff (615-5159) will help determine the best possible response** for whatever problem you

encounter. In many cases, it is more important to know when not to intervene. In some cases, as described below you should call the Police, or Forest Department right away.

We hope you will continue to educate yourself about managing and avoiding HWC. Together we can decrease the incidents of HWC, improve wildlife emergency response, and learn to recognize common non-emergencies.

AN ANIMAL MAY NEED HELP IF

- It does not attempt to escape when approached.
- An adult can be captured easily. If you have to chase an animal to catch it, it may NOT need your help.
- It has an obvious injury (blood present, open wound, not using a leg, wing droop, unable to move).
- A bird remains on the ground when others fly away. (Exception: raptors are frequently seen feeding along a roadside with their wings at an odd angle and are sometimes mistaken for injured birds).
- It is entangled in something or it is trapped and cannot escape.



Before attempting to capture any animal, you should call BWRC 615-5159 to seek advice, as specialist assistance may be necessary.

4. COMMON HUMAN-WILDLIFE CONFLICT AND WILDLIFE EMERGENCY EXAMPLES IN BELIZE

4.1. Species Conflict Jaguar/Puma Livestock predation

Response: Call Forest Department “Jaguar officer” 822-1524

Prevention: There are several recommendations to help minimize jaguar attacks. Contact Panthera (www.panthera.org) for more information.

4.2. Species Conflict Crocodile Predation of domestic animals/ seen in swimming areas/canals/ponds

Response: Call Forest Department 822-1524. Several organizations assist the Forest Department in response to conflict depending on location, size and situation.

Prevention: Never feed or handle crocs, secure your garbage, do not swim in crocodile habitat between 6 pm – 6 am (prime feeding hours). Stay close to pets near shoreline in crocodile habitat. Contact the Crocodile Research Coalition (CRC) 660-4655 for further advice on crocodile conflict prevention.

4.3. Species Conflict Raccoon Eating trash, soiling yard, stealing dog food, nesting in walls, animal attacks, orphans.

Raccoons, in particular, are a serious public health concern. In addition to carrying rabies, they also carry *Baylisascaris* the raccoon roundworm, which can be extremely harmful; especially to children. Find “Why raccoons don’t make good pets” on BWRC Facebook page. The raccoon roundworm can lead to



severe neurological diseases including seizures, blindness and death in humans. Do not handle raccoons.

Response/Prevention: Secure trashcan lids as raccoons have very agile hands, eliminate all food sources around your house or property and don't leave dog food outside at night. Light and noise can be used as deterrence techniques. For animals nesting in walls please call for advice before using deterrence techniques and closing access. We want to avoid trapping animals inside walls.

4.4. Species Conflict Margay/ocelot Stealing poultry

Response/Prevention: Call Forest Department 822-1524. Build secure livestock caging. Lock up all small livestock at night (margays are nocturnal).

4.5. Species Conflict Owls Nesting in attic, false myths

Problem: There are many **myths** ☹ associated with owls. None of those myths are true! The truth is, that while their vocalizations sound scary, barn owls are the most efficient rodent hunter in the animal kingdom. They are usually attracted because of large rat populations present in an area. High rat populations can be caused by garbage or other food being available to rats. Owls often find access to attics. They gain access through faulty ventilation shutters or other holes giving access to attic.

Response: Call Forest Department 822-1524. There are several organizations that will help with owl relocations. Ensure new roofs are well sealed and any garbage is secured to manage rodent populations.



photos by Katherine Eggenson

4.6. Species Raptors

Conflict Stealing chicks, false myths

Problem: Raptors are sometimes unfairly suspected of stealing livestock. The truth is that most raptors help control rodent (rat) populations and there are many more reasons why these beautiful predators are important to the environment. Did you know that vultures keep the environment clean of dead animals and can even digest deadly disease agents like anthrax?

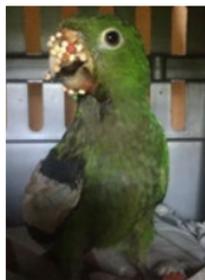


Response: Secure livestock. Use noise deterrence. Learn more about Belize's raptors through an educational tour at the Belize Zoo or the Belize Raptor Center. If you find an injured raptor, call BWRC for advice. Veterinary care may be required and handling can be dangerous unless you are trained and familiar with the species.

4.7. Species Parrots

Conflict Eating corn/citrus/fruit /noisy/ common illegal wildlife pet

Problem: Parrots can be noisy and eat farmers' fruit and grains. Farmers use deterrents to scare them away. Parrots are among the most targeted species by poachers, and the most common wildlife pet. Remember that all wildlife is protected and wildlife poaching for the pet trade is illegal. Keeping parrots as pets without a Forest Department permit is illegal and punishable by fine and or imprisonment.



Response: Deterrence methods (noise) and or inter-planting with crops that attract parrots are possible solutions to conflict. Contact Belize Bird Rescue for more information on avoiding conflict with parrots. Contact the Forest Department 822-1524 with any questions on the captive wildlife pet permit.

4.8. Species Conflict
Woodpeckers Pecking on wood/noisy/nesting in walls

Problem: Woodpeckers eat insects. Note that a woodpecker pecking the side of your house may mean that the wood has termites and other insect food for the woodpecker. So this can be seen as a natural alert to insects in your wall.

Response: Check walls and ceiling for termites and other insect infestations. Sometimes woodpeckers peck for territorial display as well. A clear plastic foil over the place where the bird pecks will ensure the bird can no longer land and hang on. Please call BWRC for more advice.

4.9. Species Conflict
Bats Roosting under ceiling/biting livestock

Response/Prevention: Bats can be deterred with light and noise. Placing a light and/or a radio in the roosting space will cause them to move on. Once the bats have evacuated, eliminate access to your walls or ceiling. Otherwise, contact BWRC 615-5159 for further advice and recommendations for “pest” control service.



Note: that Belize is home to over 80 different bat species and they are crucially important to the environment. However, vampire bats pose serious health concerns and **can carry the deadly rabies virus**. If you see signs of bats bites on livestock please call BAHA **824-4872** immediately. If you find a bat on the ground, do not touch but call for advice first.

4.10. Species Porcupine

Conflict Dog attack, false myths

Porcupines are active at night and live in trees. Therefore, they are rarely seen. Unfortunately, many people believe that porcupines can shoot their quills. The truth is that, while being the porcupine's main defense, the quills are firmly attached and like a thick hair. The quills are the porcupine's main defense. The quills have barbs and when a dog bites a porcupine these quills will get stuck in the biter.



Response/Prevention: If your dog encounters a porcupine, keep your dog tied inside your yard and away from the porcupine. Let the porcupine move away on its own. When in doubt, call BWRC for advice.

4.11. Species Opossum

Conflict Stealing food/garbage/chicks

Opossums are attracted by food sources. Because people associate them with rodents, which they're not, they're often abused and killed. Their role in the ecosystem is under-recognized. They eat anything, including thousands of ticks and edible debris.



Response/Prevention: Eliminate access to your house or roof. Lock up all food sources, keep yard clean of debris.

4.12. Species Snake

Conflict Stealing chicks/in the wrong place

Response/Prevention: Eliminate access to your yard or chicken coup. Leave snakes alone. Remove dogs or cats that may cause a bite. Learn more about snake identification and especially the 8 venomous snakes of Belize. For



frequently encountered non-venomous snakes, a snake bag model can be provided. BWRC will provide a snake bag and basic snake ID training free of charge.

4.13. Species Iguana

Conflict Stealing farmed veggies/abuse victims/ illegal hunting

Response: Eliminate access to farm if possible using fencing or shade houses. Remember all species of wildlife are protected by the Wildlife Protection Act. Animal abuse is a serious issue and linked to human abuse and violence. Iguanas are listed as a game species, but have an open season, and a closed season for hunting from February to June. Iguanas should not be hunted during these months.



5. COMMON EMERGENCIES AND NON-EMERGENCIES:

-Please note that knowledge of an animal's normal behavior and biology is essential to assess a potential emergency situation.

-Often, situations are perceived as wildlife emergencies when they are normal.

-Sometimes an animal is dying and humans don't recognize it until it's too late.

-Humans commonly rescue animals that do not need rescuing, particularly young animals. In fact, it's kidnapping and causes more harm than good; despite good intentions.

-So in emergencies your first response should always be to **call for advice**, unless you are familiar with the



species and problem and are properly trained to assist. When in doubt **call BWRC at 615-5159**.

5.1. Hit by car. This is one of the most common causes of injury and death for wildlife.

Situation: The outcome varies a lot:

a) Animal keeps on moving out of sight or reach (no help needed)

b) Animal is only briefly stunned, and slowly recovers and moves on (keep a distance and give up to 30 minutes to recover).

c) Obvious broken bones or bleeding injuries (needs veterinary care, BWRC stands by provide this as a charitable service, as well as rehabilitation).

d) Death ☹️

Response: Ensure you can safely stop, assess from a distance, call **BWRC 615-5159** for guidance. If familiar with species and able to, move animal off road to safety. Follow instructions over phone on how to proceed.



5.2. Attacked by dog or cat

Which species: All species of wildlife. This is one of the top causes for human-related wildlife injury. **Situation:**

a) Animal keeps on moving out of sight or reach (no help needed/possible).

b) Animal is brought in by dog or cat without apparent injury (likely veterinary help is required to give animal best chance at survival).

c) With severe bite wounds, bleeding lacerations or broken bones (definitely needs veterinary assessment and help).



Response: Try to contain the domestic predator (dog or cat), assess from a distance, **call BWRC 615-5159** for further advice. If familiar with species, able to capture safely and instructed over the phone, capture and transport to care.

5.3. “Lost” monkeys

Situation: With increasing habitat loss we see monkeys, particularly howler monkeys (or “baboons”) that wander into human-inhabited areas. There they are frequently harassed and chased by dogs into trees in the community. We also receive reports of monkeys in backyards or trapped in very small patches of remaining forest, with concerns of insufficient food. Dog attacks, being hit by cars and orphans are common incidents. Beware of poached babies illegally sold as orphans.

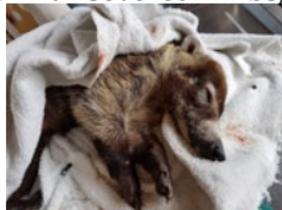
Response: call FD (822-1524). Wildtracks will respond to lost monkey calls countrywide and provides rehabilitation. BWRC provides veterinary care for primates, as well as relocation. BWRC can respond to monkey emergencies in the Cayo District. Remember that **it is illegal to keep monkeys as pets**. It is illegal to sell or buy monkeys and any orphans need to be reported immediately to give them a chance to survive.



5.4. Animal abuse

Situation: Wildlife is harassed, molested and tortured. Fatal cases seen include monkey beaten to death, iguanas with severed limbs, birds and reptiles injured by slingshot and animals peppered with pellet guns.

Response: Animal abuse is not to be taken lightly. Remember that there is a link between people who abuse animals and those that are violent, abuse humans and even murderers.



Reporting animal abuse may save a humans life in the future! Please **report animal abuse to the Police and FD immediately** so that charges can be pressed. Remember that all wildlife in Belize is protected by law under the Wildlife Protection Act.

Unless you have legal authority do not intervene but always keep your own safety the first priority.

5.5. Animal Trapped (for relocation)

Situation: Sometimes farmers will solve their own problems and trap an animal before they call the Forest Department. This is considered an emergency because a trapped animal might be injured, is certainly stressed, and can die in less then 1 day without proper response. Wildlife can get trapped in garbage.

Response: Depending on species and time of day, please call FD or BWRC immediately.

Why relocations rarely work: It is important to find the cause of the HWC rather than to relocate an individual animal. Why? If there is a food source or another attractant, another animal will fill the niche in no time. The relocated animal may not adapt to the relocation, or will disturb other animals where it was relocated. Finally, if a nuisance or conflict animal is relocated, this will most likely become somebody else's problem. In some cases they will even return to their original area. So it is always best to call for advice and to consider relocation a very last resort.

5.6. Baby animal found on the ground – are they orphaned?

Situation: A baby animal is found on the ground and is suspected to be orphaned.

Response: Assess animal from a distance. Take your time. Try to determine the species and life stage. Always look for parent and use the decision trees “Help I found a baby bird” and “Help I found a baby mammal” (provided as annex).

Look for parents. They likely are returning to the baby animal to feed it. If the baby animal is in danger from cats, dogs or predators, relocate it in it's suspected nest site and observe. For example, take note that

deer leave their offspring for up to 12 hours before returning. So finding a baby deer fawn does NOT mean it is abandoned. Removing the fawn is “fawn napping”. Also, take note that some **fledgling birds may spend up to a week on the ground** where they’re cared for by their parents before they are able to fly.

Remember, babies are always best off with their parents. **The myth that a “mom won’t take her baby back once humans have touched it” is FALSE.** She may just be waiting for you to step away. True orphans, especially very young ones (no fur or feathers, eyes closed) are considered an emergency. True orphans will need proper care within 24 hours to survive. When in doubt, call for advice. **Do not try to raise a baby animal on your own.**



A few words on wildlife rehabilitation: Humans, often with good intentions, collect animals with hopes to raise, rehabilitate and release them. **Rehabilitation requires specific knowledge** of the species habitat, feeding habits, health, life history and requires training for every species. This training is critical to ensure that the animal will survive captivity, and be suitable for release. **Baby animals reared in captivity may lack survival skills** if they are not taught them by other individuals of the same species and/or through careful human intervention. **Do not attempt to raise and release a wild animal unless you are trained.** Remember, you need a Forest Department permit to work with wildlife. Please contact **BWRC 615-5159** if you would like to learn more about wildlife rescue and rehabilitation, and become a certified wildlife rehabilitator. We can give you the knowledge to educate well-meaning humans about the risks humans pose to wildlife when unsuited raising and release practices are employed.

5.7. Found a nest/tree on the ground – can I help?

Situation: An animal inside a nest is found on the ground.

Response: Look if there is any immediate threat from cats, dogs or other predators. Contain dogs/cats if possible. Lift nest up off the ground and quietly observe from a distance. Take your time. Look for parents and carefully secure nest back in the original or an adjacent tree. If nest is destroyed, but parents are there, you can provide an improvised nest. Please call BWRC for more advice.



5.8. Adult animal found on the ground – can I help?

Situation: An adult wild animal is found on the ground.

Response: If an adult wild animal does not try to get away from you, it is likely in critical condition. Please be careful and assess from a distance. Determine species and estimate age. Call for help for more specific advice. Remember that a wild animal could have the deadly rabies virus, so do not handle without instruction and proper protective equipment.

5.9. I found a Turtle/tortoise – can I help?

Situation: Turtle found on the road/in backyard/brought in by dog.

Response: If you can do so safely, you can help the turtle across the road. However, please move the turtle in the same direction as it was moving, otherwise it will turn around and keep moving in the same direction. If you see a turtle in your yard, tie dogs to prevent an attack, and let it move through. In some cases, you can move the turtle to the closest waterway in your backyard. But it is recommended that the turtle should be relocated within 1 mile of the site of origin. If you find a turtle that was hit by a car or bitten by a dog with visible puncture wounds, please call BWRC. BWRC receives, treats and rehabilitates injured turtles. And we can help you identify them as well.

HERE ARE SOME SPECIES WE HOPE YOU'LL RECOGNIZE

5.9.1. Critically endangered turtle – Hickatee

Many people's favorite! This species will soon disappear forever due to overhunting. **Note:** Hickatee is regulated by the Fisheries Department. No person may possess or use a net to take Hickatee. Selling hickatee meat, hunting more than one individual per person or carrying more than 3 in one vehicle is illegal. Any females must be between 15.2-17.2 inches. Buying hickatee meat is illegal. Because this species is nearly locally extinct, a national breeding program has been started at the Belize Foundation for Research and Environmental Education (BFREE). Confiscated turtles have been sent to BFREE to support the breeding efforts for future generations. BWRC provides veterinary care for injured, ill or rescued Hickatee.



5.11. And one more turtle species to recognize or be on the lookout for:

Invasive species turtle – Red eared slider - This species has been classified as one of the **100 worst invasive species globally** by the International Union for Conservation of Nature (IUCN). This species is imported by pet stores and sold to pet owners. Once owners grow tired of the turtle, they release them not understanding the ecological problems this turtle creates. If you find a red-eared slider turtle, please contact BWRC. Hold on to it and we can help to rehome it.



Please find an excellent guide to Freshwater turtles in Belize here <http://edis.ifas.ufl.edu/pdf/files/UW/UW37300.pdf>

5.12. Illegal pets/illegal hunting – how can I help?

Situation: It is illegal to possess wildlife without a Forest Department Permit. Wildlife is kept illegally in people's homes, yards, businesses and farms. Sometimes, wildlife is kept illegally as a tourist attraction. Wildlife poaching is always illegal. Hunting wildlife out of season for a particular species is illegal. **It is always illegal to poach, hunt, or keep monkeys as pets.** Selling wildlife or wildlife products is illegal. Sometimes hunting weapons are found on people without hunting license. Sometimes hunters are found in protected areas, or private lands closed to hunting. Sometimes hunters are found with non-game species, or with species that are out of season (See the guide "Wildlife and Law").

Response: Call Forest Department and Police immediately if you witness or suspect someone of wildlife poaching, trafficking, selling, displaying wildlife as a tourist attraction or illegally keeping wildlife as pets. Unless you have legal authority do not intervene but always keep your own safety the first priority.

Remember: wildlife ownership requires a permit and the owner should display the permit. For most wildlife species, pet ownership is illegal. When observing wildlife as a tourist attraction, ask for the captive wildlife permit. Note that in some cases, parrot owners are in the process of receiving their permits and they may not yet have them on display. Please contact the Forest Department or police to report observations of wildlife kept as pets or to find out about the legal status of a captive wild animal.

5.13. Surrendered Wildlife – what to do?

Law enforcement entities or some community ambassadors have to deal with wildlife that has been kept illegally as pets or hand-reared by well-meaning animal lovers. In these instances, you should contact FD/BWRC immediately for advice. Any attempt to return these animals to the wild without veterinary assessment and rehabilitation may cause suffering or death to that animal and/or is likely to result in HWC.

6. CAPTURE AND RESTRAINT

HUMAN SAFETY ALWAYS COMES FIRST - WORDS OF CAUTION ON THE RISKS OF WILDLIFE RESCUE , ZOO NOTIC DISEASES AND INJURIES

Human health and safety comes before that of the wild animal. If proper precautions are taken, the handler can avoid injury and illness, while maintaining the animal's safety. When human or wildlife injury does occur, it is usually due to improper handling and procedures. Only attempt to handle and restrain species with which you're trained and familiar, always assess the animal before handling, use common sense to avoid harm to yourself or the animal, and never do something with which you're uncomfortable.

Zoonotic diseases, bites, scratches and wound infections are serious concerns. It is crucially important to learn about a species biology and behavior, including its defenses, before attempting to capture or restrain an animal.

Personal protective equipment is designed to keep you safe when used appropriately. Any **injuries are to be cleaned immediately**; then consult a physician.

So what is zoonosis? Also called "zoonotic diseases", these are infectious diseases that can be transmitted from humans to animals or vice versa.

Some zoonotic disease examples by species

Warm-blooded animals (especially bats) – rabies

Monkeys – tuberculosis, intestinal parasites like giardia or worms, scabies

Parrots – psittacosis, bird lice

Coatis – intestinal worms, skin fungus

Dogs/cats – intestinal worms, fleas, skin fungus

RABIES! THE MOST IMPORTANT

Rabies can be transmitted THROUGH SALIVA to humans by any infected warm-blooded animal. Cases of rabies in wildlife have been reported in the past, and bats are common vectors. The Belize Agricultural Health Authority (BAHA) is currently dealing with a rabies outbreak in livestock. Rabies is transmitted through animal bites. Rabies shows few signs at first and by the time signs appear it is UNTREATABLE and DEADLY. **Bite prevention is absolutely essential and any bite by suspected rabies-infected animals needs to be reported and treated immediately.**

If you notice an animal showing unusually friendly and tame behavior OR furious behavior be mindful. Do not approach, unless you have the appropriate equipment and training. Paralysis is another possible indicator of rabies and can be difficult to differentiate from an injury or extreme weakness. This may be the most important reason to seek further training and advice, prior to taking action with appropriate equipment. If you suspect an animal may have rabies, call BAHA immediately. PHONE.

Safe Animal Handling: In order to stay safe, it is best to assume that any animal may have zoonotic diseases. The consequences of these transmitted diseases in humans can be severe or fatal. It is our responsibility to warn people of the risks and we urge you to ALWAYS practice diligent personal hygiene and always wash your hands after handling any wild animal. When working with wild animals, vaccinations such as tetanus should be up-to-date and rabies vaccination should be considered.

Note that **most diseases are contracted by bite wounds and/or direct contact with infected animals.** Zoonotic diseases in the animals are diagnosed and treated by veterinarians and the BWRC stand by to provide further training on this subject.

Scratches and Bites: If a scratch or bite occurs while handling a wild animal, wash the wounds IMMEDIATELY with antibacterial soap and warm water. For best results, wash thoroughly with soap and warm water within MINUTES of the scratch or bite. **Thorough washing can prevent UP TO 80% of disease transmission.** Contact your doctor after cleaning the wound.



Most importantly, know an animal's defenses before attempting to capture it. Defenses include the beak and talons of raptors; birds with long pointed beaks used as stabbing tools, teeth, claws, hooves and legs of mammals, and powerful jaws and fangs of some reptiles. Always point the animal's head and legs away from your body. Appropriate safety equipment such as gloves is essential to keep yourself and the animal safe.

PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CAPTURE TOOLS

Good quality equipment is important in wildlife capture, restraint and transport. The simplest things, like gloves, goggles, towels, blankets, bags and a box will be your most essential tools. If an enforcement entity, community ambassador or PA manager finds that they are receiving an increasing number of wildlife calls, they may wish to consider obtaining any of this equipment.

Gloves are your most important tools of capture, restraint, and handling. Gloves can protect against bites, scratches, and spread of disease.

Thin leather gloves (gardening type) are used for handling a number of different types of animals, including small but hard biting birds, gulls, small raptors, and some small mammals.



Heavier leather gloves (heavy welders or metal reinforced cat gloves) can be used to capture and handle various sized mammals and various sized raptors. Keep in mind that the heavier and thicker the gloves, the less control you will have in how tightly you hold the animal. Most wild animals can puncture through most types of gloves, so training in proper handling skills is absolutely necessary for the prevention of injury.

Latex gloves may be required for handling certain animals and used for cleaning to protect against the possibility of disease.

Safety goggles/glasses should be worn when capturing and restraining any adult mammal and any size water bird or raptor. The goggles will protect the handler's eyes and prevent any serious injury that may occur during the capture.

Towels / Blankets These items may prove to be some of your most important tools. Towels, sheets, or blankets can be used to capture most animals. Approaching an animal slowly with an outstretched towel or blanket and then tossing it over an animal is an easy way to manage and restrain an animal. The darkness of being covered by a towel/blanket calms the animal. Covering its eyes after the animal is caught and restrained reduces stress. Likewise, covering transport box reduces stress. Towels/blankets can also be used to create barriers when attempting to capture a fleeing animal. They can also be used to provide padding within a transport box, draped over a box to keep it dark, or used for warming the animal.



These tools are basic, simple, and essential to capturing and handling wild animals. **Note that sometimes animals can be captured without even touching them.** A broom, mop or shovel

can sometimes be used to gently scoop or slide an animal into a box. Nets, cat tongs and rabies poles are additional tools to aid in various circumstances but require training to ensure safe use. Please consider requesting further training in wildlife capture.

Snake hook (snake grabber or snake tongs): A snake hook is recommended for more experienced handlers. It is a tool used for handling and lifting most snakes. For venomous snakes and for inexperienced handlers, snake tongs are recommended. The **snake tongs** allow you to grab the snake around the neck and control the head with the tongs; thereby physically restraining the snake. Snake tongs come in different models.

Snake bag: Please request simple model description for a locally made snake bag. You can use a snake bag to relocate non-venomous snakes. Remember that even non-venomous snakes can bite causing injury and infections. Most snakes want to flee humans and if given a safe escape into a bag NO handling may be necessary. Reptiles should be relocated within 1-mile of the rescue site for best chance of survival. Do not hesitate to ask for more information or a brief training on basic snake identification.

Additional handling and restraint equipment includes

- Bolt/wire cutters and scissors for entangled animals
- Flash light for night rescues
- Human first aid kit
- Newspaper for box lining
- Ventilated transport boxes (cardboard or pet carrier style)
- Orange blaze vest for roadside rescues.
- Duct tape
- Broom/mop/shovel (for coaxing or shoveling injured animal into box).

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CAPTURE

Once you have determined that the animal needs rescue and capture; you need to prepare and plan before acting! Capture has to be done by experienced individuals. Please contact BWRC for training on wildlife capture, handling, restraint, transport and zoonotic disease transmission prevention.

Remember that **capture causes extreme stress** to an already debilitated animal. Remember that the stress can cause shock and death to the animal you are trying to rescue. **Remember to remain calm** at all times, keeping sounds and gestures to a minimum. Minimize background noise, talking, and tell onlookers to be quiet and keep their distance. **Be confident**, as an animal can sense when an approaching person is stressed and anxious. **Be deliberate**, but cautious. Do not act impulsively. **Know your limitations** and don't hesitate to get advice or assistance when needed.

Evaluate the space around you and look for possible escape routes, barriers, or dangers to yourself or the animal (i.e. roads). If possible, use the buddy system. Some animals should never be captured by one person (i.e. eagles and medium to large mammals). Starting with a good plan will help keep the handler in control of the situation and ensure the safety of the handler and the animal.

When dealing with wildlife, never make assumptions about the animal's behavior. **Always expect the unexpected.** You need to know normal animal behaviors (i.e. diurnal vs. nocturnal, playing possum, fight or flight), but be prepared for the unexpected. **Remember, the animal thinks you want to eat it.**

TO KEEP THE STRESS OF CAPTURE AS BRIEF AS POSSIBLE

1. **FIRST** call BWRC to get species-specific advice for assessment, capture, handling, restraint and transport.

2. Know where your taking the animal.
3. Gather protective gear, capture, handling equipment and transport box.
4. Select the best person or team for the capture.
5. Plan your approach. Have situational awareness of dangers such as roads, obstacles, etc.
6. Then move swiftly.

Always try to cover an animal's vision with a sheet, towel or shirt and work quietly but efficiently to reduce the stress.

SOME EXAMPLES OF SPECIES, THEIR DEFENSES AND APPROPRIATE PPE

Jaguar, puma, tapir, peccary – Do not try to handle these species. They require a tranquilizer administered strictly under veterinary supervision.

Small carnivores (Coati, fox, margay, ocelot, jaguarondi, tayra, grison, otter) – Do not try to handle these species without proper training. These species can inflict severe bite injuries and can be vectors for rabies. Please call before you intervene. PPE: Thick leather gloves, towels and possibly needs chemical restraint to ensure human safety)

Parrots - use their beaks to bite. PPE includes towels, sheets or nets. Parrots can be handled with gloves (basic bird hold demonstrated). PPE: Gloves, towels, nets.

Raptors – use their talons and/or beak to defend themselves. PPE includes nets, towels and sheets to capture and thick leather gloves to handle.

Water birds (pointy long beaks) – use their dagger like beaks and long necks to stab, often towards face and eyes. Can lead to serious injury. They may hit with wing and cause bruising. Capture with nets and sheets, protect face and eyes with safety goggles and restraint neck and head first, with a sheet over the wings to protect handler and bird. PPE: Gloves, goggles, towels/sheet, net.

Rodents (agouti, gibbon, squirrel) – use their long rodent teeth to inflict serious bite injuries (to the bone). Capture with thick towel and gloves or use broom and box. PPE: Thick towels & thick gloves.

TRANSPORTING WILD ANIMALS (*safe/quiet/dark/quick*)

Once a wild animal has been captured, safe and humane transportation may be vital in ensuring its safety and survival. Overheating, too much stress and delayed transport may lead to DOA (dead on arrival) cases.

Remember the most important is to keep the animal dark and quiet and at an appropriate temperature (not too hot nor too cold depending on the animal and situation)

1. Be in contact with FD or BWRC 615-5159 before attempting capture, restraint and transport.
2. Be in contact with FD and BWRC to determine to where the animal should be transported.
3. Record history of the animal. Make note of any care given to the animal. Be as specific as possible. Make note of species, body condition, age, sex, location animal was found, circumstances, date and time.
4. Record name of rescuer and their contact information.
5. Once captured place the animal in a secure, dark, ventilated box/holding container. Choose a box size appropriate for the size of the animal. Note too large a box can cause further injury to the animal. Don't use a box that has been used for domestic animals unless it has been well-sanitized.

6. Do not leave a water bowl or unnecessary items in the box while transporting an animal. The items might harm the animal.
7. Do not feed or handle the animal unless instructed to do so by a wildlife veterinarian or FD partner professional.
8. The best place for the box/holding container is on the floor in the back of the vehicle.
9. Use only newspaper or a soft cloth to line the box.
10. Keep the animal out of direct sunlight.
11. Keep talking, music and noise to a minimum during travel.
12. Keep domestic pets out of the vehicle while transporting ANY wild animal.
13. Remember that wild animals carry a variety of diseases that are detrimental to your pets as well as yourself, therefore limit contact between yourself and these animals.
14. If transport will take more than 30 minutes and you are transporting babies that have no fur or feathers, you might have to provide a heat source external to the box/holding container (i.e. heated dry rice in a sock).
15. Transport the animal directly to the appropriate location. This includes Forest Department, BWRC or another FD wildlife partner.
16. If the animal must be held temporarily at another location, ensure that it is not held near, within sight or sound of dogs and cats. The stress caused by captivity in close confines with a predator can contribute to suffering and cause death. The animal should be kept in a quiet dark area and not handled, looked at or touched. A registered and qualified wildlife veterinarian should see the animal as soon as possible. Any delay will contribute to suffering and may lead to death.
17. It is illegal for baby animals to be kept and hand reared by humans unless under special permits. Hand reared wildlife, unless raised in a specialist rehabilitative environment, will become habituated to humans and will be unsuitable for release as adults.

Important Telephone Numbers

Belize Forest Department (FD) - Wildlife Program - 822-1524 **Call for:** All illegal wildlife reports, conflict reports for jaguars and crocodiles, pet permit applications and more. Note that this phone number is only available during office hours.

Belize Wildlife & Referral Clinic (BWRC) - 615-5159, 632-3257 This phone number is available 24/7 (call repeatedly in case we are briefly out of reach). **What we do:** Wildlife conflict, injured wildlife and emergency advice for all species. Registered veterinarian and certified wildlife rehabilitator. Further training upon request via bzwildlifeclinik@gmail.com . Further resources on species ID and conflict/emergency assessments and avoidance to be listed on www.bzwildlifeclinik.org

Belize Agricultural Health Authority (BAHA) Central Farm 824-4872, Belmopan 822-0818 **Call for:** Bat bites observed on livestock, bats on the ground, suspected rabies case in an animal.

Wildtracks - Office 650-6578, Mobile 660-4820, office@wildlifetracksbelize.org Wildtracks will respond to distressed monkey calls nationwide. Manatee rescue and rehabilitation.
Further numbers (*Feel free to fill in your local enforcement officers numbers*)

Please contact BWRC for further reference articles, books and other recommendations and a complete list of current partner organizations to the wildlife program



WILDLIFE
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