



# WILD NEIGHBOURS

The Safety and Security of  
Ontario's Wildlife in Captivity  
Facilities

**WSPA**





# Tigers are dangerous animals

*that retain their wild instincts, and they must be treated with extreme caution. The large (and possibly growing) number of people who keep tigers is a cause for concern.*

*There is a significant danger posed by captive tigers, even when they are cared for by professionals and held in facilities that take all the required safety precautions. The risk of tigers causing human injury and death is highest when this risk is underestimated, such as when tigers are kept as pets, used as a prop for photographs, or people come in direct contact with them to feed, clean cages, or pet them—with or without a cage separating people and tigers.*

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Dangerous Animals in Captivity: Ex Situ Tiger Conflict and  
Implications for Private Ownership of Exotic Animals,  
Zoo Biology 22:573-586 (2003)



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# INTRODUCTION

On January 10, 2010, in the Township of Southwold, Ontario, big cat owner Norman Buwalda was killed by one of his pet tigers. Reportedly, 66 year old Buwalda entered the cat cage during feeding time and was attacked and killed. There were no witnesses. The Buwalda incident attracted widespread media attention and generated a great deal of discussion.

Many Ontario residents were surprised to discover that anyone in Ontario can acquire a tiger, lion or other potentially dangerous animal as a pet, as long as their municipality doesn't have a specific bylaw prohibiting it. No federal or provincial licence or permit is required. People were also amazed that Ontario has no comprehensive rules or regulations regarding wild animal housing and management to ensure wild animals are kept safely and securely.

The Township of Southwold in which Mr. Buwalda lived had its own bylaw prohibiting the keeping of big cats and other dangerous animals. In fact, it was an incident on Buwalda's property in 2004 that prompted the township to pass the law. In June 2004, a 10 year old boy was attacked by one of Buwalda's tigers after taking photos of the animal for a school project. The township didn't want another attack to occur, so they drafted a bylaw and moved quickly to pass it. Buwalda fought the bylaw in court and had it overturned. Many people believe if he hadn't, he might still be alive.

It's clear that many wild animals are dangerous. Few would doubt the potential risk posed by big cats, bears, wolves or venomous snakes, yet these animals are often kept in inadequate, unsafe conditions. One reason is because Ontario's wildlife in captivity regulations are not being properly enforced.

This lack of control has led to many potentially dangerous animals being kept in less than secure conditions, as well as unsafe management and handling practices by the people who own them, such as entering big cat cages during feeding periods or leash walking cats in public.

Ontario's seemingly steady stream of incidents involving potentially dangerous animals, which include numerous animal escapes, potentially lethal animals remaining on the loose for days or weeks, attacks on staff or visitors resulting in injury, including arms being ripped off, and several human deaths, should be more than enough to convince even the most uncaring skeptic that something needs to be done.

Zoo and exotic wild animal owners often claim their animals are no riskier than domesticated animals. In fact, some say dogs are far more dangerous. However, if the ratio of fatal attacks is compared, exotics, such as tigers, are far riskier than dogs. Adjusting for the much greater number of dogs in private hands, tigers are 360–720 times more likely to be involved in a fatal attack.

There is little doubt that until the Government of Ontario takes action to ensure potentially dangerous wild animals are housed and managed appropriately, the people who operate, work, volunteer, visit or live near Ontario's wildlife in captivity facilities will be at risk.



# ONE

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## BACKGROUND

Ontario is a hot bed for wild and exotic animal ownership in Canada. In addition to the half dozen or so larger, better publicized zoos, there are also a significant number of smaller zoo and zoo-type facilities in the province. In fact, out of the approximately 120 organized zoos and wildlife displays in Canada, more than 40% are located in Ontario. There are also thousands of private citizens who keep wild animals, ranging from exotic insects to tigers, as pets.

### **The Tiger (or Lion) Next Door**

At present, 18 of Ontario's zoos are home to approximately 100 big cats (e.g. tigers, lions, jaguars, leopards, cougars). In addition, an estimated 250–500 non-domesticated mid-sized and large cats are kept as “pets” in the province. Since there are no licensing or record keeping requirements for these animals, an exact number is difficult to establish. What is abundantly clear however, is that exotic animals of all kinds are cheap and relatively easy to obtain from a network of private breeders, dealers, roadside zoos, auctions and individual animal owners across the province. None of them need permission or approval to buy, sell or trade animals, including potentially dangerous species, such as tigers, lions or venomous snakes.

### **Zoos in Ontario**

The majority of zoos in Ontario are what are commonly referred to as “roadside zoos”. They are usually small, under-funded, occasionally ramshackle collections of animals that tend to be open seasonally from May until late September or early October and are often advertised by regional highway signs. Some roadside zoos may be nothing more than a few caged animals used to attract travelers to a gift store or garden centre, while others more closely resemble traditional zoos, housing a varied collection of animals available for viewing by a paying public. A few facilities offer interpretive programs, somewhat similar to those available in the larger, better-funded, zoos and outfit their staff and volunteers in much the same manner.

In recent years, a number of roadside zoos have tried to rebrand themselves as “sanctuaries,” but they often continue to breed, buy and sell animals (something accredited sanctuaries don’t do) and their quality of animal housing and care may still be poor.

Whether large or small, there is no denying that zoos in Ontario are poorly regulated and largely unmonitored. They are not required to adhere to any kind of professional standard, nor are they required to operate in a safe and humane manner. Instead, they are pretty much free to do what they want and that’s a major reason why the people who keep, view or live near captive wild animals may be at risk.

### **Zoo Visitors and Neighbours at Risk?**

Zoo visitors, employees, volunteers and local residents may be put at risk due to inadequate barriers, cages and enclosures that have been constructed with little consideration of the natural abilities and needs of the animals they’re meant to confine. Lack of knowledge and inadequate finances are additional factors that may contribute to potentially unsafe conditions. In Ontario, there have been numerous animal escapes over the years, including big cats jumping fences that were too low and cages that collapsed because they were too weak. Surprisingly some animal custodians appear to overlook, ignore or be unaware of the risks animals pose to themselves and others. That may be why some facilities don’t even erect stand-off barriers to keep visitors a safe distance from the animal cages or post warning signs reminding visitors that contact with animals can be dangerous.



**FIGURE 1.1** © 2005 Upton Photography/  
Bigstock.com

It sometimes seems as though many zoo operators just assume members of the public will not approach cages that contain dangerous animals, will not place their hands or arms into cages and will not try to touch animals. There have been numerous incidents in Canada (and around the world) of zoo owners, employees, volunteers and visitors being injured because they got too close to an animal cage. Many of these incidents have had tragic consequences for both humans and animals.

### **Animal Welfare Concerns**

While some of the people who keep and display wild animals appear to be caring and well-meaning, they often overlook, ignore or seem to be unaware of the biological and behavioural needs of wildlife in captivity. Barren, poorly designed cages, tiny spaces (some so small they provide almost no opportunity for natural movement or exercise), improper floor surfaces, lack of shelter and privacy, poor quality feed, filthy water containers, and excessive build up of feces or excess food items, such as decomposing carcasses from past feeding sessions, can be encountered during zoo visits in Ontario.

But even when clean conditions and decent food are provided, that may not be enough to prevent psychological and emotional suffering if animals have nothing to do. Many cages and enclosures in Ontario contain little, if any, enrichment, in the form of structural enhancements, furnishings, objects or activities to stimulate physical and mental activity. Animals may be kept in unnatural, inappropriate social groupings or highly social animals, such as primates, may be housed alone. The absence of adequate physical and mental stimulation can

cause animals to develop abnormal, sometimes self-destructive behaviours such as repetitive pacing and rocking, self-mutilation or hyper-aggressiveness. Poor welfare may also lead to increased attempts to escape.

### Provincial and Municipal Wildlife in Captivity Legislation

For the purpose of protecting public safety (and, in some cases, animal welfare), all Canadian provinces except Ontario have some form of policy or legislation aimed at regulating the keeping of wild and exotic animals in captivity. Ontario's lack of comprehensive standards, and lax enforcement of past and current laws and regulations, has resulted in a proliferation of roadside zoos, private menageries and exotic wild animals being kept as pets. Not surprisingly, Ontario has a disproportionate number of exotic and wild animals and zoos and zoo-type facilities compared to other provinces.

In an effort to address this regulatory void and protect their citizens, a number of Ontario municipalities have passed bylaws aimed at controlling wild and exotic animals within their jurisdictions. This has resulted in a cumbersome, inconsistent patchwork of municipal legislation that fails to address the root cause of the problem. Since so many municipalities have not passed bylaws, exotic and wild animal owners who encounter problems in one municipality can simply move to another municipality. Unfortunately, most municipalities lack the capacity, expertise and resources to deal with the problems that arise when wild animals, especially large dangerous species, are held in captivity in their jurisdictions.

In many Canadian provinces legislation has been enacted specifically to deal with the public safety concerns associated with wildlife in captivity. The most recent example is British Columbia's *Controlled Alien Species Regulation* (2009) which is designed to control the possession, breeding, shipping and release of non-native animals that pose a risk to the health or safety of people. These regulations were enacted after a woman bled to death after being mauled through a chain-link fence by her boyfriend's pet tiger. Other provinces have included both human safety and animal welfare requirements in their laws.

During the development of wildlife in captivity regulations, it is useful to look at the overall content and level of detail of existing standards in other jurisdictions. Each province's standards or regulations are different and some are better than others. In Alberta, anyone wishing to keep captive wildlife, including exotic species, must have a permit and comply with specific animal welfare and public safety standards. There are still deficiencies in the Alberta legislation that should be addressed, but overall the standards are more comprehensive than others.

Even though Ontario is significantly behind other provinces when it comes to regulating wildlife in captivity, Ontario has the benefit of being able to look at what has and hasn't worked in the other provinces, and therefore has the opportunity to use that information to create the most effective licensing and regulatory regime in the country, one that provides the best level of protection for the people who keep, display, visit or live near wildlife in captivity and for the animals as well.



**FIGURE 1.2** *This bear enclosure at Northwood Zoo and Animal Sanctuary lacks sufficient features to keep the bear physically and mentally engaged. As a result the bear has little to do other than pace back and forth at the fence-line.*



# TWO

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## THE REVIEW

This report is focused on how potentially dangerous animals (specifically big cats and bears) are kept in Ontario's zoos and whether or not they are safely and securely confined. A sampling of publicly accessible facilities were visited in the June–August 2010 time period. The proprietors were not notified of this review.

While six facilities are highlighted in this review, it is important to note that the issues identified are not exclusive to those facilities alone, but have been encountered in other zoos and zoo-type facilities across the province in 2010, as well as in past years.

While several aspects of each animal cage or enclosure were examined, the two core considerations were 1) is there a potential for an escape to occur due to insecure barriers that an animal could get through, under or over, and 2) is there a potential for members of the public to contact animals directly and/or to release them. Additional commentary is provided on other aspects of safety including, but not limited to, cage and enclosure design, barrier type, height, construction and strength, secondary containment (shift) areas, access doors and gates, public stand-off barriers, warning signs, on-site staff supervision and perimeter fencing.

Only those cages and enclosures deemed problematic have been included in this report and all measurements are estimates. While there is an obvious challenge in visually estimating barrier heights, several other difficulties were encountered, such as barriers that were not of a consistent height but that varied considerably at different parts of a cage or enclosure and whether or not flimsy, loose wire or hot wire extensions or sagging, poorly secured overhangs should be included in total barrier height, since they could do little to hold back an animal trying to climb over.

This review does not address the human safety risks posed by large reptiles, venomous animals or the risk of zoonotic disease.

A list of incidents involving dangerous animals in zoos, wildlife displays and private menageries is included in the appendices to highlight the human safety risks associated with the keeping of wild animals in captivity. Also included are the standards of the Canadian, American and European zoo associations.

The potential human safety risks identified in this report include, but are not limited to:

- Poor construction and rudimentary cage and enclosure design;
- Low barriers;
- Barriers that do not appear to be secured at ground level;
- Materials that appear insufficient to properly contain animals;
- Damaged barriers, doors and gates and public stand-off barriers;
- Lack of secondary containment (shift) areas to safely segregate animals;
- Lack of double-door entry systems into the cages and doors that open outward;
- Unlocked doors and gates;
- Lack of public stand-off barriers to keep visitors back from the enclosures;
- Lack of perimeter fencing;
- Lack of on-site supervision of zoo visitors.

# THREE

## BORN PREDATORS— BIG CATS & BEARS

Big cats have evolved incredible physical abilities that enable them to prey upon large mammals in order to survive in the wild. While many of the big cats in zoos have been captive bred, they retain the physical capabilities and instincts of their wild counterparts and therefore should be considered dangerous to humans, especially in close contact situations.

**Tigers** are the largest cats in the world and are renowned for their strength, speed and power. Weighing in at 165–675 lbs (75–306 kg) depending on their sex and species, tigers have evolved a perfect physique for capturing and killing large prey through stealth and sudden attack. Powerful limbs and a flexible backbone enable tigers to quickly chase and catch their prey over short distances. Tigers can clear up to 33 ft (10 m) with a single leap.

**Lions** are typically 4.5–6.5 ft (1.37–1.98 m) in length, and weigh between 265–550 lbs (120–249 kg), depending on their sex and age. Lions become capable hunters at two years old, and are considered fully grown at five to six years. Their jaws are short and strong, with long canine teeth that are used to quickly kill their prey, either by biting the neck and strangling, or by biting the nose and suffocating.

**Leopards** are the strongest climbers of all the large cats and are capable of bringing down prey larger than themselves. They are usually 4.5–6.5 ft (1.37–1.98 m) in length and weigh between 82–200 lbs (37.1–90.7 kg). Leopards are able to run in bursts up to 58 km/hr (36 m.p.h), leap 20 ft (6 m) forward in a single bound, and jump 10 ft (3 m) straight in the air. They are also incredibly strong, as they can climb as high as 50 ft (15 m) up a tree holding prey in their mouth, even prey that are larger and heavier than they are. One of the rarest subspecies is the snow leopard, which is able to jump as far as 50 ft (15 m). While rare in the wild, they are periodically found in zoos across Canada.



**FIGURE 3.1** *The claws, teeth, size and strength of many animals make them inherently dangerous.*  
© 2005 rykers/Bigstock.com



**FIGURE 3.2** Many big cats can move with lightning speed. © 2011 Nick Biemans/Bigstock.com

**Cheetahs** are the world's fastest land mammal, and can sprint from zero to 70 m.p.h (96 km/hr) in only three seconds. These cats are nimble at high speeds, and can make quick and sudden turns in pursuit of their prey. They are usually 3.5–4.5 ft (1.05–1.37 m) in length and weigh 77–143 lbs (34.9–64.8 kg) and in the wild prey on small antelopes. They get as close as possible before trying to outrun their prey in a burst of speed, and once they are closed in, they knock their prey to the ground with their paws and suffocate with a bite to the neck.

**Jaguars** are the largest cats in the western hemisphere, and have also been called the fiercest of all wild cats. Their name is derived from a Native American word which means "he who kills with one leap". The animals can grow up to 7 ft (2.2 m) long, and adult males can weigh up to 200–250 lbs (90.7–113.4 kg). Their muscular hind legs are longer than their forelimbs, making them formidable jumpers, and their forepaws are equipped with long, retractable claws to help grab and hold onto their prey. Their massive head and powerful jaws allow them to kill their prey with a single piercing bite to the skull and their powerful forearms and sharp claws allow them to grab their prey and deliver a suffocating bite to the neck. Jaguars are good swimmers and avid climbers—they often climb trees to prepare for an ambush and then pounce on their prey.

**Cougars**, also known as pumas, mountain lions and catamounts, are the second largest cat native to the American continents. They vary considerably in size and weight, depending on their location. In North America, adult males weigh on average 156 lbs (71 kg), with a body length of slightly more than two metres and females weigh on average 90 lbs (41 kg), with a body length of slightly less than two metres. Cougars are well adapted to hunt, with extremely strong forequarters and necks—their muscular jaws and long canine teeth are designed for clamping down and holding prey larger than itself, and its teeth are specially adapted for cutting meats. Cougars attack their prey with a lightning-fast charge and a fatal bite to the back of the neck. Victims are most often killed by suffocation with a prolonged bite across the throat, collapsing the windpipe. The prey's neck may also be broken with a single bite. From time to time, cougars attack people, statistics show that cougars usually attack children or solitary people and, on average, cougars attack about five people each year in North America, with generally one of those attacks being fatal.



**FIGURE 3.3** Bears are intelligent, curious and powerful. © 2009 Mihai Dancaescu/Bigstock.com

**Bears** are intelligent, powerful, wide-ranging carnivores. All species of bears can be dangerous due to their size, speed and powerful physique. Black bears grow to 4–6 ft (1.21–1.82 m) in length and can weigh up to 500 lbs (226 kg). All species of bears have powerful jaws, large teeth and strong paws with long claws that are excellent for climbing and digging. Bears have been documented using their powerful paws to pull down car windows to access food inside vehicles. Bears are typically not aggressive, but tend to be shy and defensive. However, stress and fear can transform any seemingly docile bear into a highly reactive animal that can be potentially dangerous. This is why captive bears are often seen as more dangerous than bears in the wild.



# FOUR

## THE COMPONENTS OF A SAFE ANIMAL ENCLOSURE

### Appropriate Planning

Human safety problems are often the result of badly planned facilities. In all cases, cages, enclosures and facilities should be planned and constructed to handle worst-case scenarios, particularly human error and animal escape. Failure to consider worst-case scenarios may result in dangerous situations and, eventually, animal or human injury or death.

When designing cages and enclosures, it's easy to underestimate the physical capabilities of animals creating a potential for escapes or other situations in which human health and safety are at risk. Even large accredited zoos may not always plan well enough. It should be recognized that if an animal is stressed or frightened, it may be capable of climbing or leaping higher or further than normal. Three recent incidents involving tigers illustrate what can happen.

- In December 2007, a 350 lb (158 kg) female tiger named Tatiana jumped out of her enclosure at the San Francisco Zoo attacking two young men, killing one of them. Many people were surprised to learn that the tiger had somehow jumped a wall reported to be 20 ft (6 m) high. It later became public knowledge that zoo management had exaggerated the height of the wall when commenting to reporters and that the actual enclosure wall was a mere 12.5 ft (3.81 m) high. Tigers had been kept in the enclosure for years.
- In September 2009, a tiger killed one zoo keeper and injured another after jumping over a 16 ft (4.87 m) high, electrified fence at a zoo in Hanoi, Vietnam.
- In August 2010, a 700 lb (317 kg) tiger jumped over a 12 ft (3.65 m) high fence in Miami, Florida and was loose in the zoo. At one point the tiger was within 15 ft (4.57 m) of a two year old child but the animal did not attack on this occasion.

These escapes are not surprising considering the physical characteristics of tigers and other big cats. Simple calculations reveal that a tiger only needs a little over 26 m.p.h (41.84 km/hr) to cross a 33 ft (10.05 m) moat and clear a 12.5 ft

(3.81 m) high wall. It is known that a tiger can attain a maximum speed of 35 m.p.h (56.32 km/hr), so even relatively small enclosures provide running space for a tiger trying to escape. Of course, many big cats can also jump quite high from a stationary position.

### Acceptable Animal Welfare Conditions

The most common problem encountered in captive wildlife facility design is little attention being paid to satisfying the physical, psychological and social needs of the animals. Failing to meet animal needs can result in stressed and frustrated animals who behave abnormally (e.g., hyper-aggressiveness) or who spend more time trying to escape.

Creating situations where animals can exert some control over their surroundings is vital for reducing the detrimental effects of captivity. Primary consideration must be given to allowing adequate space for animals to move about freely and to engage in species-typical behaviours, to obtain shelter and privacy and to feel safe and secure. Incorporating structural enhancements, furnishings (including vegetation and ground cover) and objects into animal living spaces will facilitate increased activity and exercise and enhance animal welfare.

Some of the best large carnivore enclosures are located in professionally operated, accredited sanctuaries. These facilities focus on the needs of the animals, ensure that escape is not possible and incorporate all standard safety features and protocols. The enclosure design and care of large carnivores in accredited sanctuaries can be used as a benchmark for zoos wishing to improve their exhibits or for governments considering laws or regulations regarding the keeping of big cats in captivity.



**FIGURE 4.1** This African lion at Greenview Aviaries Park and Zoo has little to do in this enclosure and consequently spends time pacing along the fence line. The barrier also appears low, approximately 10 ft (3.04 m) high, and has no inwardly angled overhang to discourage jumping.



**FIGURE 4.2** The spacious lion enclosure at PAWS is an excellent example of an appropriate enclosure designed to meet the needs of the animal

Figure 4.2 depicts the lion enclosure at the Performing Animal Welfare Society (PAWS) sanctuary in California. It is an excellent example of a diverse, spacious enclosure designed to meet the needs of the animals. The entire enclosure is approximately 3500 ft<sup>2</sup> (325 m<sup>2</sup>) and includes a large exercise area for the cats as well as smaller 96 ft<sup>2</sup> (8.92 m<sup>2</sup>) shift cages (not shown in the photo) to allow for safe cleaning and maintenance.

A number of enclosures encountered during this review were spartan, with little to keep animals physically and psychologically occupied. For example,

Figure 4.3 and 4.4, taken at an Ontario facility in 2010 show conditions that stand in stark contrast to the lion enclosure at the PAWS sanctuary.

### The Anatomy of a Fence

The fencing that makes an animal enclosure must include a number of important components for it to be strong enough to reliably contain wild animals. Figure 4.5

shows the structure and components of a fence barrier. They must all be considered when planning a large carnivore enclosure.

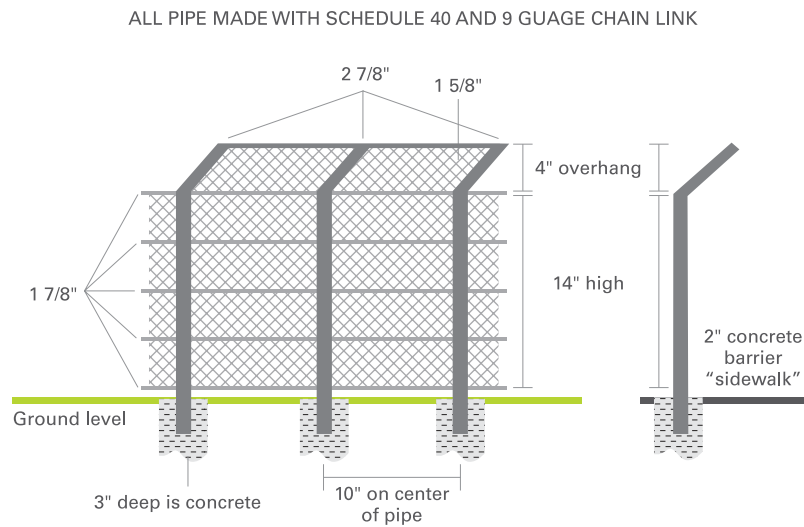


FIGURE 4.5

### Fence Height

Enclosures that house animals with known jumping or climbing abilities, such as tigers, jaguars or leopards, should ideally be enclosed overhead. If enclosures remain uncovered, the primary fence height should be approximately 18 ft (5.49 m), and should include a 4 ft (1.22 m) overhang angled at 45° inward at the top. Some zoo associations recommend a slightly lower minimum height of 16 ft (4.87) including overhang.

**Some big cat enclosures in the Ontario zoos included in this review had primary fence barriers estimated at less than 12 ft (3.66 m) high and were not equipped with overhangs or other preventative features to deter cats from climbing or jumping out.**

The following are examples of fence barriers encountered during this review that are below recommended zoo association standards.

- Northwood Zoo and Animal Sanctuary tiger and lion enclosure barriers are estimated at 10 ft (3.05 m) or less in height;
- The lion and tiger enclosures at Papanack Park Zoo are approximately 12–14 ft (3.65 – 4.27 m) high (excluding overhang), while the cheetah enclosure barrier is approximately 10 ft (3.05 m) high;
- Guha’s Tiger and Lion Farm has primary barriers approximately 10–12 ft (3.05–3.65 m) high;
- The uncovered big cat pens at The Killman Zoo are enclosed by fencing estimated at 12 ft (3.65 m) in height; and
- Greenview Aviaries Park and Zoo tiger and lion enclosure barriers are approximately 10 ft (3.05 m) high.



FIGURE 4.3 This African Lion enclosure at Guha’s Tiger and Lion Farm is severely limited in terms of space and complexity



FIGURE 4.4 This African Lion enclosure at The Killman Zoo also provides very little space and enrichment.



FIGURE 4.6 The primary fence of the tiger enclosure at Greenview Aviaries Park and Zoo, shown in the photo above, is approximately 10 ft (3.05 m) high and has no overhang.

## Fence Strength

A variety of barrier and fence types can be used when constructing animal enclosures. Fencing types can be combined to create more effective barriers (e.g. strong wire mesh fencing topped with an overhang and hotwire placed in strategic locations). While fencing is the predominant barrier type in Ontario's zoos, other kinds of barriers can be found, including moats (wet and dry), ditches, vertical or horizontal steel bars, glass, hot wires (electrified wires) and solid stone walls. No matter what kind of barrier is being used, it must be solidly constructed, with materials that are able to withstand the full strength and force of the animals pushing, pulling, scratching, biting or jumping at them.

Fence barriers can be an efficient method of containing large carnivores, however, fences can be damaged by animals, storms, falling trees and, when wood is used, moisture rot. All of this must be taken into account when considering the strength of materials needed and the placement of trees and other features both in and outside of the enclosure. Hot wire, or electrical fencing, should only be used in conjunction with another form of fencing to reinforce the primary barrier. In the event that the primary barrier fails, the hotwire serves as a secondary deterrent to animals trying to climb or jump out of an enclosure. While hotwire can be used as an effective deterrent, the possibility of power outages should always be considered, and the wiring system should be connected to a backup power supply. The entire setup should be frequently monitored and regularly maintained to ensure it is functioning properly.

In some cases in Ontario, it appears the type of fence barrier used is not based on strength, durability or ability to contain the species on display; but on cost. It sometimes seems one kind of fencing has been bought in bulk and then used to construct all the animal cages. This can result in enclosures that lack sufficient strength to effectively contain the animals. For instance, chain-link fence is made up of long strands of steel wire that are intertwined to resemble a net with large diamond shaped holes. The ability of chain-link fencing to withstand pressure, which is needed when housing large animals, depends on its mesh density and gauge. The strength of the fence increases with a tighter, denser mesh. Wire mesh fencing is priced according to gauge, with values between 13 and six, with 13 being the thinnest wire and six being the thickest. Anything weaker than a nine gauge chain-link fence will likely not withstand the pressure of large animals pushing on or jumping against it. Many large carnivore enclosures in Ontario's zoos appear to be constructed of relatively weak fencing that may not be sufficient to withstand a physical challenge or ongoing deterioration and damage.



**FIGURE 4.7** This relatively light gauge chain-link fencing is being used to contain a lion at The Killman Zoo.

In addition to chain-link fencing many enclosures in Ontario are constructed from wire mesh fence commonly referred to as deer fencing. While the name of the fence may be a clear give away that this type of fence is not appropriate to contain large dangerous animals, many zoos still use it to house large carnivores. Deer fence is made from long strands of wire that are welded together to form squares or rectangular holes. Because big cats and other large dangerous animals can reach through the holes in the fence, some facilities affix a tighter woven wire mesh fencing with smaller holes, often chicken wire, to restrict the ability of animals to reach through the fence with their paws or mouths. This adds little, if any, real strength to the deer fence and should not be considered a safe way to contain large cats, bears or other large, potentially dangerous animals.



The following two examples illustrate the kind of inadequate fence types encountered during this review.

- The lion enclosure at The Killman Zoo shown in Figure 4.8 is made from deer fence with a secondary weak wire barrier affixed along the lower portion of the fence.
- The tiger enclosure at Northwood Zoo and Animal Sanctuary is constructed of deer fencing approximately 8 ft (2.44 m) in height. It was not equipped with an overhang.

**Fences Must be Properly Secured at Ground Level**

Many animals have an ability to dig and others will pull at the bottom of a fence in an attempt to escape. For this reason, fence barriers must be firmly footed in the ground (see Figure 4.9). To be secure, fencing should be buried and/or cemented into the ground at least 3.28 ft (1 m) deep or 5 ft (1.52 m) for bears to prevent animals digging out.

The following are examples of improperly secured fences that we found during our investigation:

- A tiger enclosure at Northwood Zoo and Animal Sanctuary has 2–3” gaps (5–7.6 cm) beneath the primary fence, large enough to provide space for the animal to begin digging or to pull at the wire fencing.
- The black bear enclosure at The Killman Zoo, shown in Figure 4.10, is not entirely secured at ground level.

Figure 4.11 provides a comparison of tiger enclosure fence heights in various facilities. Heights indicated for Ontario facilities are the lowest estimated height of any tiger enclosure barrier or portion thereof encountered during the 2010 review.

The Jungle Island Zoo in Florida , San Francisco Zoo in California and Hanoi Zoo in Vietnam have had tigers escape by going over their barriers. The Jungle Island Zoo has since raised their barrier height from 12 ft to 20 ft.

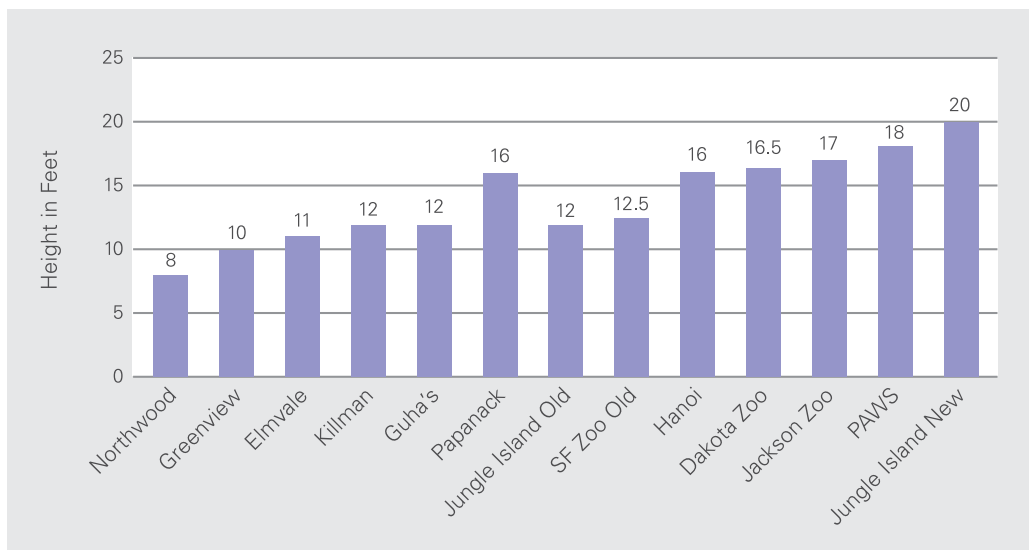
**FIGURE 4.8** This lion enclosure at The Killman Zoo is an example of a lion enclosure constructed of deer fence and a lower secondary layer of wire mesh.



**FIGURE 4.9** This fence at the PAWS sanctuary is fully secure at the bottom by strong posts being cemented deep into the ground



**FIGURE 4.10** The black bear enclosure at The Killman Zoo, above, has gaps at ground level.



**FIGURE 4.11**

The Dakota Zoo, Jackson Zoo and PAWS (Performing Animal Welfare Society) tiger enclosure barrier heights are provided for comparison.

Most zoo associations recommend barriers 16.5–20 ft high for tigers and other big cats or roofed enclosures.



**FIGURE 4.13** The wooden roof support post in the tiger enclosure at The Killman Zoo, shown in the photo above, has been damaged, presumably from scratching or biting.

### Support Posts

Support posts must be both secure and appropriately located and installed. Support posts should be installed on the outside of the enclosure fencing to ensure they cannot be damaged by large, strong animals. These posts provide critical support and strength to an enclosure and if they are not supported and secured properly will result in a compromised fence that lacks strength. (See Figures 4.13 and 4.14)

### Stand-off Barriers

Stand-off barriers are fences, walls or other barriers that surround enclosures to keep visitors a safe distance from the animal cages and to prevent human-animal contact. Visitors should not be able to put their fingers, hands or arms inside cages or make physical contact with the cage itself. Stand-off barriers are a simple and effective way of increasing the distance between animals and visitors, thereby protecting both. They also help prevent the transmission of diseases between humans and animals. In some cases, stand-off barriers may also serve to reduce stress on animals by keeping visitors at a distance that does not violate their flight response (the point at which a threatened animal wants to flee).

In some cases, big cats and other potentially dangerous animals can injure or even kill bystanders from inside their enclosures. There's a relatively long list of incidents in which people have been injured, sometimes seriously, when standing near the enclosures of big cats and other potentially dangerous animals. The following examples highlight this important point (for more examples see Appendices):

- In May 2007, a 32 year old British Columbian woman bled to death after being mauled by a tiger while she was standing next to the animal's cage. The cat was owned by the woman's boyfriend, who used the cat for public photo sessions on the property, as well as photo displays in shopping malls and at children's parties.
- In another incident in New Zealand, a zoo worker was attacked by a tiger that leaped up and grabbed the man through the barrier. This incident was one of several similar incidents in other facilities that were caught on camera.
- A 16 year old employee of the Dornoch Zoo in Grey County, Ontario was mauled by a female lion while conducting a tour of the zoo facility. The lion swiped at the girl through the bars of the enclosure cutting the girl's forehead and arm.

Despite a long list of incidents, cages and enclosures that lack public stand-off barriers are not uncommon. This situation increases the likelihood of human-animal contact and injury. Even when stand-off barriers are present, in some cases they are flimsy or poorly constructed, positioned too close to primary enclosure barriers, or structurally compromised and in a state of disrepair.

The following are examples of inadequate secondary barriers encountered during this investigation:

- At Northwood Zoo and Animal Sanctuary there were no stand-off barriers at one lion enclosure or at the lynx and serval enclosures. This facility had an incident in 1997 when a jaguar grabbed and bit a six year old girl after she reached into its cage.
- Other cat enclosures at Northwood Zoo and Animal Sanctuary had stand-off barriers that were only 3 – 4 ft (.91 – 1.22 m) from the primary fencing which is close enough for someone to poke something through at the animals inside.
- The stand-off barriers at the black panther and cougar enclosures at Papanack Animal Park Zoo were only 3 ft (.91 m) and 3.5 ft (1.07 m) high respectively.
- One lion enclosure at Guha's Tiger and Lion Farm had no stand-off barrier, while the stand-off barriers that were in place at other cages were as little as 3 ft (.91 m) from the primary fences.

### Gates, Doorways and Access Points

Gates, doorways and access points refer to entrance ways into the primary enclosure, secondary containment (shift) area or through stand-off barriers. Extra attention must be given to gates and doorways to ensure they fit properly within their frames and do not become warped over time. There should not be significant gaps between doors and gates and their mounts, and they should fit squarely into the frame when closed. Doors and gates should always open inwards, so they close when pushed from inside. Sliding barriers, doors and gates should be built so animals cannot lift them off their hinges or tracks.

Animal enclosures should ideally all be equipped with a double-door entry system, an access system where one door is opened, entered and then closed prior to the second door into the actual enclosure being opened. This system



**FIGURE 4.14** The wooden support post for this lion enclosure at Papanack Park Zoo, located on the inside of the fencing, is not reinforced with mid-level horizontal struts and the upper portion mesh is not well secured in places. Several of the support posts for this cage were tilted.



**FIGURE 4.15** © 2009 Karen Arnold/Bigstock.com



**FIGURE 4.16** A secure, properly constructed gate at the PAWS Sanctuary

helps prevent the inadvertent escape of animals that may sneak past zoo staff entering the enclosures. While this system is advisable for all enclosures, it is absolutely necessary for exhibits housing potentially dangerous animals, like large carnivores.

In addition, any enclosure used to contain potentially dangerous animals must be equipped with a secondary containment or shift area, which is a totally separate, secure area where animals can be segregated while their main enclosure is being cleaned or maintained. This area should be secured by a sliding door that can be safely operated from outside the enclosure by staff.

All enclosures should be locked, regardless of species. Not only does this prevent animal escapes, particularly with intelligent animals that can learn to open gates and doorways, but it may prevent entry into exhibits by trespassers, vandals and thieves.

If there are any signs of damage to fences or other barriers or if animals are actively seen trying to escape, the enclosure may not be suitable for the species being held and not effective in containing them.

The following are examples of inadequate entry points encountered during this review:

- Cat enclosures at Northwood Zoo and Animal Sanctuary did not have double-door entry systems. A lion enclosure was not locked and stand-off barrier gates at a tiger and a bear enclosure were not locked.
- The stand-off barrier gate to the lion enclosure at Papanack Animal Park Zoo was not locked.
- The adult lion enclosure at Guha's Tiger and Lion Farm had a 5" (12.7 cm) wide gap between the main fence gate and the side of the off-exhibit holding barn, large enough for the cat to reach its paw through.
- None of the cages at Guha's Tiger and Lion Farm had double-door entry systems and most were not equipped with shift areas (except interior accommodation).



**FIGURE 4.17** Secure big cat shift areas at the PAWS Sanctuary.

### Perimeter Fencing

Perimeter fencing refers to fences that surround the entire zoo property or all the animal enclosures. They work to discourage escaped animals from leaving the



grounds, as well as to deter feral animals and human trespassers from entering the property. Perimeter fences are an essential component of any captive wildlife facility security system. They should consist of a fence or a wall at least 8 ft (2.44 m) in height, preferably topped with inwardly and outwardly projecting barbed wire sections. The base of the fence should be buried into the ground to a depth of 3.28 ft (1 m) or affixed to a concrete curb or base. Large trees that overhang the fence should be maintained to ensure they do not fall, thereby creating openings that animals could escape through or that allow uncontrolled human access to the facility. Along with perimeter fencing, night lights and/or alarms should be added in key areas to enhance security. Perimeter fences should be checked daily to ensure they are not compromised in any way.

The following are some examples of inadequate perimeter fencing encountered during this investigation:

- At The Killman Zoo, the jaguar enclosure barrier appears to be a part of the perimeter fence surrounding the animal collection. In other locations, the perimeter barrier appears to consist of 4 ft (1.22 m) high deer fence.
- Guha's Tiger and Lion Farm has no perimeter fence.
- Greenview Aviaries Park and Zoo does not have a full perimeter fence. In places, 3 ft (.91 m) high deer fence divides the zoo from neighbouring farm properties.
- A 5–6 ft (1.52–1.83 m) high deer fence appears to be the primary barrier surrounding the Papanack Park Zoo property.

### Emergency Plans

Emergency protocols must be designed to deal with animal escapes, keeper or visitor injury, fire, natural disaster and other situations that may arise. Drugs to immobilize potentially dangerous, escaped animals and firearms should be on site and in good working order. All staff should be properly trained and familiar with emergency plans and equipment. An emergency procedures manual should be kept up-to-date and all staff should be required to review this material periodically. Regular drills should be conducted to ensure all staff are prepared in case of an emergency.

While we were unable to examine facility emergency plans, it is clear from past incidents that some zoos in Ontario do not have effective emergency plans and protocols in place. In many cases dangerous animal escapes are left to police to deal with. This is a less than ideal solution since police agencies typically have little, if any, training in dealing with dangerous exotic animals.

The following examples of escapes suggest that the animal custodians had no effective emergency plan in place:

- At Guha's Tiger and Lion Farm, a jaguar escaped and killed a dog on the property. The zoo owner did not have drugs to immobilize the animal or a firearm (kill rifle). The facility has no perimeter fence. Police arrived and shot the animal to death.
- A jaguar escaped its enclosure at The Killman Zoo and it was a zoo visitor that alerted staff. The animal was reportedly coaxed back into its cage with a bucket of ice cream.



**FIGURE 4.18** High fence topped with both inward and outward overhangs is effective for containing big cats.



FIGURE 4.19

- Two lions escaped from a barn in the Niagara region. The lion custodian and police monitored the animals and eventually captured them.

Additional incidents are included in Appendix III of this report.

#### **Professional Training**

Staff should be provided with professional education and training in relevant areas, such as animal husbandry, hygiene and disease prevention, safety/emergency procedures, visitor supervision, first aid, etc. Training manuals should be provided to each employee and be present in the facility. Supervisors should monitor staff and volunteers to be sure they are following protocols and regular emergency drills should be conducted to ensure all staff are prepared for emergency situations.

#### **Supervision of Visitors and Animals**

Staff and/or volunteers should be responsible for monitoring visitor behaviour during open hours, particularly in areas where potentially dangerous animals are housed. A visual inspection of all animals and enclosures should be conducted periodically (at least twice/day) as an added safety and security measure. Visitors who pose a safety or security risk or nuisance should be expelled.

There have been numerous incidents at Ontario facilities where injury to people and animals may have been avoided with proper supervision. See Appendix III of this review for examples.

#### **Warning Signs**

Signs warning about danger (Figure 4.19) should be posted in clear view along the perimeter of the property and at all enclosures that house dangerous animals. Regardless of secondary barriers, people should be warned to stay a safe distance from the animals and not to poke at or agitate them. In addition, where electric fence is present, signs should be posted to alert the public to the risk posed by electric shock. Finally, signs should be posted throughout the facility, especially near areas where people eat and at the entrance and exits, informing visitors of disease risks and recommending that they wash their hands.

While warning signs were present in some facilities, they were absent in others. Some were professionally produced, while others were simply handwritten on the actual cage itself. For example, at the Spruce Haven Zoo, a handwritten warning on a horizontal wooden strut at the lynx cage says, "Please keep hands out will bite." The words are easily missed.

#### **Maintenance**

Maintenance is not only important to ensure that animals do not escape from enclosures, but also to ensure their safety inside the exhibits and to safeguard visitors and staff who walk through or work at a facility.

During this review, facilities and/or equipment requiring repair or maintenance were encountered. Examples include:

- A tiger enclosure at Northwood Zoo and Animal Sanctuary had a chain-link gate that was damaged and fencing that appeared to have been pulled and

clawed. Damaged barriers were noted at other facilities this year, including the Oshawa Zoo and Spruce Haven Zoo.

- The chain-link overhang of the lion and tiger enclosures at Papanack Park Zoo was loose, sagging and appeared to not be properly secured. A damaged gate in the secondary barrier of an African lion enclosure was tied with a thin rope to hold it closed.

### Security and 24 Hour Monitoring

Around the clock monitoring is essential to ensure the safety of both animals and visitors. This can be accomplished by strategically placed video cameras (CCTV) on the property (with security staff monitoring the images) or by staff periodically walking the property. Remote and/or direct monitoring is an important component of a comprehensive safety and security program. The widespread availability and affordability of CCTV systems make them accessible to most facilities.

### Liability Insurance

Liability insurance ensures that captive wildlife owners are covered in the event that someone sues as a result of being injured while visiting their zoo or animal collection. One such lawsuit involved a young couple, mauled by a tiger at African Lion Safari in Ontario. During the trial, the issue of liability was examined closely. The judge in that case found the zoo to be "strictly liable" for the harm caused to the young couple. That means that even if dangerous animals are securely housed, if something goes wrong, the owners are still responsible. This was true even though the facility had signs posted warning of the risks. In Canadian law, wild animals of all types are deemed to be dangerous to humans. The onus, in this potentially dangerous situation, falls squarely on the owner to ensure that no harm comes to visitors. It follows that any harm done in the future to individuals by a wild animal or animals will result in a similar finding of strict liability for the animal owner or keeper. The presumption of danger applies to the entirety of a species and is not limited to a specific individual animal. For this reason, some provinces require anyone keeping potentially dangerous animals or facilities that are open to the public to maintain a minimum of one to two million dollars liability insurance.



**FIGURE 4.20** Security cameras can monitor both animals and people.



# FIVE

## RECOMMENDATIONS TO THE GOVERNMENT OF ONTARIO

The Province of Ontario should restrict the keeping of wildlife through a comprehensive licensing system. Anyone keeping wild animals in captivity should be required to comply with the following public safety and security requirements:

1. Facility and enclosure designs and animal management plans that actually address the biological and behavioural needs of the species being kept.
2. Solidly constructed enclosures made with materials sufficient to contain the species being housed.
3. Minimum 18 ft (5.49 m) barriers, that incorporate a 4 ft (1.22 m) inwardly angled top section, for all open top cages and enclosures housing big cats.
4. Wooden barrier support posts and struts located on the exterior side of fencing, mesh or other materials to reduce or prevent animal damage.
5. Barriers properly secured at ground level with features (such as buried fencing or ground level skirts) that prevent animals from digging out.
6. Roofs on cages and enclosures housing animals that have a known ability to climb or jump high barriers, such as leopards and jaguars.
7. Double door entry systems into all cages and enclosures, particularly those housing potentially dangerous animals.
8. Padlocks or equivalent locking mechanisms on all gates, doors and entranceways into cages and enclosures housing potentially dangerous animals.
9. Cage and enclosure gates and doors that open inward and are locked at all times when staff are not using them.
10. Secure secondary containment or shift areas that allow animals to be segregated during cleaning or maintenance.
11. Public stand-off barriers with a minimum height of 4 ft (1.22 m), positioned at least 6 ft (1.83 m) from primary barriers and constructed so that children are discouraged from climbing over them.
12. Perimeter fencing at least 8 ft (2.44 m) high topped with barbed wire or inward and outwardly projecting overhangs, surrounding the entire animal collection or property.
13. A facility wide maintenance plan that ensures all enclosures are kept in a

state of good repair and that a regular inspection process is conducted.

14. Warning signs in plain view of the public along the perimeter of the property, throughout the zoo and near the enclosures of potentially dangerous animals to warn people of the dangers.
15. Emergency plans in place and regular drills conducted to ensure staff are prepared in the case of an animal escape, fire, medical emergency or other emergency situations.
16. Professional training for animal care staff.
17. Sufficient staff to monitor visitors and animals while the facility is open to the public.
18. Security systems/protocols that ensure 24 hr/day monitoring.
19. Liability insurance coverage of at least \$2 million.

# SIX

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# APPENDICIES

# APPENDIX I

## Zoo Review Reports

### Greenview Aviaries Park and Zoo

Location	Ridgetown, Ontario
Animal Species	This private zoo houses a varied collection of animals, including large and small cats, primates, black bear, ungulates, domesticated livestock, and numerous bird and reptile species. Large carnivores include tigers, lion, cougar, jaguar and American black bear.
Primary Barriers	<p>The lion and tiger enclosures are both constructed from chain-link fence attached to metal support posts with wire twists (see Figure 7.1). The fences are approximately 10 ft (3.05 m) high and are not equipped with overhangs of any kind.</p> <p>The black bear enclosure is also constructed from a 10 ft (3.05 m) high, chain-link fence attached to metal support posts with wire twists. There is a 2 ft (.61 m) inwardly angled overhang comprised of 6 strands of barbed wire.</p> <p>The cougar and jaguar enclosures are fully covered and constructed from 15 ft (4.57 m) high, chain-link fence attached to metal support posts with wire twists.</p>



FIGURE 7.1

Gates, Doorways and Access Points	<p>The gates and doorways into the tiger, lion and black bear enclosures are positioned away from public view, so it was impossible to determine whether there were double-door entry systems or secondary containment (shift) areas in these enclosures.</p>
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FIGURE 7.2

The doors and gates into the cougar enclosure are located along the back fence in an area only accessible by staff. There was a small, apparently unlatched opening at the back of the enclosure, presumably a feeding access point, that was half open at the time of the inspection (Figure 7.2).

The gates and doorways into the jaguar enclosure are located in areas only accessible to staff. The enclosure did not appear to have a double-door entry system.

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Public Stand-off Barriers

The stand-off barriers in front of the tiger, lion and black bear enclosures are constructed from 6 ft ( 1.83 m) high, large gauge deer fencing attached to wooden support posts. They are positioned approximately 4 - 5 ft (1.22 – 1.55 m) from the primary enclosure fence.

The stand-off barrier surrounding the cougar and jaguar enclosures are approximately 5 ft (1.55 m) high and constructed from a combination of deer fence and chain-link, positioned 3 – 4 ft (.91 – 1.22 m) from the primary fences.

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Safety Concerns

The tiger and lion enclosure barriers do not appear high enough to prevent the animals from jumping out. Both tigers and lions are well known for their ability to jump and presumably it would be easy for them to jump the 10 ft (3.05 m) barrier, especially if they were highly stressed or frightened. The enclosures have little diversity, the only furnishings being the log structures and dirt mounds, some that appear relatively close to the barrier. In addition to the low barrier height, the large carnivore exhibits are located at the end of a dead-end pathway with little means for visitors to exit quickly. If there were an animal escape, zoo visitors could be trapped at the end of the pathway.

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## Northwood Zoo And Animal Sanctuary

Location Seagrave, Ontario

Animal Species Northwood Zoo and Animal Sanctuary is a private zoo that displays primates, birds, reptiles and large carnivores, such as African lions, tigers, jaguars, leopards, cougars, grizzly bears and wolves.

Primary Barriers

The primary tiger enclosure fences are constructed from 8 ft (2.43 m) high deer fencing attached to metal support posts with wire twists. The type and strength of deer fencing used appears inappropriate for tigers and other large carnivores.



**FIGURE 7.3** Low barrier used to contain tigers.

One of the two tiger enclosure barriers has no inwardly angled overhang and instead was equipped with a single strand of electric wire positioned six inches (15.24 cm) above the top of the primary fence. The second tiger enclosure, shown in Figure 7.3, has an overhang made up of four strands of electric wire running along the top of the fence. In addition there is a single strand of electric wire, positioned about six inches (15.24 cm)

above the ground, running around the inside of the enclosure. At one point one of the tigers touched the wire with its nose and did not flinch, a possible indication that the hot wire was either not working or was on a pulse basis.

Tigers have been known to clear 16 ft (4.87 m) high enclosure barriers, so it would appear the relatively low barriers at this facility are inadequate for containment of these animals.



**FIGURE 7.4** Extremely low barrier at lion enclosure.

There are two types of African lion enclosure at this facility, one similar to the tiger enclosures using 8 ft (2.43 m) high deer fencing with no overhang and a hot wire running around the interior perimeter just above ground level. In addition, there is an elevated wooden platform located a short distance from the enclosure barrier that could potentially serve as a launching point for the cats should they be motivated to jump the fence.

The second lion enclosure is constructed of deer fencing attached to the interior of wooden support posts, with chain-link fencing attached to the exterior of the posts. Since there was no stand-off barrier at this enclosure it seems likely that the chain-link was added to prevent the cat from reaching out and clawing a visitor, however there was nothing to stop a small child from putting their hand through the fence. The main enclosure

fence is approximately 6 ft (1.83 m) high with an inwardly angled electric wire overhang, for a total height of about 8 ft (2.43 m). Three strands of electric wire ran along the interior of the lower section of the barrier. Given the known physical abilities of lions, it would appear the cats, if suitably motivated, would be able to jump out of this enclosure.

There are three cougar cages at this facility, each constructed of 10 ft (3.05 m) high, chain-link fencing attached to a metal-framed support structure with wire twists and fully covered over the top.

Two Amur leopard cages are constructed of metal framed structures with vertical metal bars – the cages are approximately 10 ft (3.05 m) high with peaked metal roofs. In addition, there are some sections along the fence that have small gauge deer fencing attached to the metal bars.

One of the two brown bear enclosures is constructed in a similar fashion as the tiger and lion enclosures using square deer fencing attached to wooden support posts with metal staples (see Figure 7.5). The fence is approximately 8 ft (2.43 m) high with a single strand of electric wire running along the top. This style and strength of fencing appears inappropriate for such a powerful animal, who, if suitably motivated, would presumably have little trouble pushing down or climbing over the fence. Other facilities have experienced bear escapes with far more robust barriers in place.

The second bear enclosure is built more securely, with a stronger wire mesh properly secured at ground level and a roof over the entire cage (see Figure 7.6). That said the lack of space and diversity is clearly problematic and the bear appeared frustrated and/or bored and spent most of their time engaged in stereotypic pacing.



**FIGURE 7.5**



**FIGURE 7.6**

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#### Gates, Doorways and Access Points

The gates and doorways into the tiger enclosures are located at the front, near the visitor viewing area. It appeared the gates on the primary barrier fences were locked with padlocks. There did not appear to be a double-door entry system into the enclosures, meaning there is risk of escape with such a large gate swinging open to allow staff inside the enclosure should they enter when animals are present. Also, the top of one of the chain-link gates was severely damaged, and looked as if the tiger had been pulling and clawing at it (see Figure 7.7). If this is the case, it is a clear sign that this animal has attempted to get over the barrier.

There appeared to be a secondary containment (shift) area, with a pulley operated entry door, in one of the enclosures. The others had only a travelling cage

inside the enclosure and there was no discernible way for staff to close these cages without being inside the enclosure.



**FIGURE 7.7**

children. This is extremely dangerous - all gates, whether a primary barrier or stand-off barrier, should be padlocked and secured to ensure visitors have no way of opening or entering enclosures.

In the larger of the two African lion enclosures, the gates were located at the front of the enclosure near the visitor viewing area. The gate into the enclosure was not locked, but instead simply secured with a chain and carabiner (Figure 7.8), which could easily be opened by zoo visitors, including

The gates to the Amur leopards cages are located in a "staff only" area, so they were not accessible to visitors. The cages did not have double-door entry systems.



**FIGURE 7.8**

The bear in this enclosure was anxiously pacing back and forth in front of this gated section of the cage.

The gate to the larger of the two bear enclosures is located in an area only accessible to staff. There did not appear to be a double door entry system and it could not be determined if there was a secure secondary containment or shift area. The smaller of the two bear enclosures had a separate containment area but no double door entry system.

#### Public Stand-off Barriers

One of the African lion enclosures had no stand-off barrier and no warning signs advising visitors to remain at a safe distance or to keep hands and fingers away from the fence (see Figure 7.9). An unsupervised child could easily be at risk.



**FIGURE 7.9**

The larger lion enclosure is surrounded by a 4.5 ft (1.37 m) stand-off barrier constructed from chain-link fencing positioned approximately 4 ft (1.22 m) from the primary enclosure fence. This barrier had some damage and exposed wire that could scratch someone walking past the enclosure or that poses a potential tripping hazard.



**FIGURE 7.10**

The stand-off barriers surrounding the tiger enclosures are constructed from 4.5 ft (1.37 m) high deer fencing positioned between 4–10 ft (1.22–3.05 m) from the primary enclosure fence (the distance varied in different sections). In some areas the fencing was damaged near the bottom leaving a significant gap (see Figure 7.10).

In addition, the gate on the stand-off barrier was unlocked and only secured with a carabiner and chain. During this review there did not appear to be any staff supervision of visitors, so anyone could easily move through this gate and access the primary barriers of the tiger and grizzly bear enclosures.

Perimeter Fencing	It was not determined if the entire property or the animal enclosure area was enclosed by a perimeter fence.
Safety Concerns	<p>Based on the known physical abilities of big cats and incidents in other facilities, it is possible that, if suitably motivated, the tigers and lions could leap out of their enclosures. As well, the barrier of one grizzly bear enclosure appeared flimsy and presumably the bear could breach it given the right circumstances.</p> <p>The lack of a public stand-off barrier in front of one of the lion enclosures as well as at the serval and lynx enclosures poses a safety risk to visitors who may put fingers or hands through the wire. Some existing stand-off barriers were damaged and in need of repair.</p> <p>A number of unlocked gates were noted, there were no signs warning of potential risks to visitors and there did not appear to be any staff supervision.</p> <p><b>INCIDENT NOTE:</b> On October 1, 1997, a six year old girl was attacked and left permanently scarred by a jaguar at Northwood Zoo and Animal Sanctuary. The jaguar grabbed the girl with its paws and bit her after she put her arm through the fence of the enclosure. The girl’s family was awarded more than \$31,500 in a lawsuit against the facility.</p>

## Papanack Park Zoo

Location Wendover, Ontario

Animal Species This private zoo houses a large collection of animals, including numerous primates, birds, ungulates, small mammals and large carnivores such as tigers, lions, jaguars, cougars, cheetahs, snow leopards, wolves and black bears.

Primary Barriers The carnivore enclosures are constructed from approximately 10–12 ft (3.05–3.66 m) high chain-link fencing with 3–4 ft (.91–1.22 m) overhangs (Figures 7.11 and 7.12). The fencing is attached to wooden support posts with metal staples. The overhangs are supported by wooden struts, approximately 4" x 4" (10.1 x 10.1 cm) or comparably-sized logs attached to vertical posts. The overhangs appear loose and sagging in places. The Siberian tiger enclosure barrier overhang did not look secured to the wooden support posts in some places, but rather, the chain-link appeared to be draped over top of the posts. The overhang of the primary lion enclosure barrier did not extend to the end of the support struts. Instead, strands of electric wire were strung along the top.



FIGURE 7.11



FIGURE 7.12



FIGURE 7.13

The jaguar cage is an arched structure entirely covered by chain-link fencing (Figure 7.13). The support structure for this enclosure is made up of different sizes and styles of wooden posts and metal bars with the chainlink affixed to the exterior. The cage is small, boring and shows signs of wear and tear, including rusting wire and a makeshift hole repair, a bit of wire mesh fence affixed over the hole using wire twists.



The cougar enclosure (Figure 7.14) is a wooden frame structure with assorted wooden boards, branches, logs and bark added in areas. The primary fence is chain-link and the enclosure is approximately 8 ft (2.43 m) in height and fully covered.



FIGURE 7.14

The timber wolf enclosure (Figure 7.15) is an open top paddock with a chainlink barrier that has an overhang extended by an additional 3 ft (.91 m). It is unclear why the additional overhang extension was added to this barrier. It was not determined if the fencing extended into the ground to prevent escape by digging.



FIGURE 7.15

The snow leopard enclosure is constructed from 15 ft (4.57 m) high chain-link fencing supported by a wooden frame and is fully covered.

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Gates, Doorways and Access Points

The gates and doorways in the large carnivore enclosures are not located within view of the public area, so there was no way to determine if they are secure or if there are double door entry systems and secure secondary containment (shift) areas in place.

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Public Stand-off Barriers

The stand-off barriers surrounding the large carnivore enclosures at this facility were all similar, varying in height from 3–5 ft (.91–1.52 m) and in distance from the primary fences from 4–8 ft (1.22–2.43 m). Most are constructed from chain-link fencing or wire mesh, some have horizontal support struts along the top, while others do not. The secondary barriers in front of the cheetah and cougar enclosures are made with deer fence. Supports for all barriers were a mixture of metal and wooden posts.

The stand-off barrier gate for the lion enclosure was not locked. Along this same stand-off barrier, there was a swinging gate that was hanging precariously on its hinges and was held closed with only a piece of thin, yellow rope (see Figure 7.16).



FIGURE 7.16

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## Safety Concerns

A number of human safety concerns were identified at this facility, most notably several of the big cat barriers, including those holding lions and tigers. Some of the enclosure fencing looks poorly constructed and not very well supported and several barrier overhangs appear loose, sagging and/or poorly secured in some areas. There are gaps between the access door and door frame into the lion enclosure. The tiger and lion enclosures on one side of the zoo are located on a dead end pathway, so if an escape were to occur in this area, visitors could potentially have no alternative quick exit route for escape. A few enclosures have large, seemingly untrimmed, trees close enough to them that a severe snow, ice or wind storm could presumably result in branches falling onto the barriers resulting in damage. The lack of a proper perimeter fence is also problematic.

**INCIDENT NOTE:** On September 28, 2005, a tiger was found on a local highway after it had escaped from the Papanack Park Zoo in Wendover. According to news report, the cat was tranquilized and returned to the zoo.

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## The Killman Zoo

Location

Caledonia, Ontario

Animal Species

This private zoo houses a varied collection of animals, including several bird species, domesticated livestock, ungulates, primates, an American black bear and numerous big cats, including tigers, lions, cougars and jaguars.

Primary Barriers

The big cat enclosures are constructed of either chain-link fence or deer fence on wooden support structures. Several are covered, but the lion, cougar and jaguar enclosures are not (see Figures 7.17 and 7.18).



**FIGURE 7.17** *Lion enclosure without roof constructed from deer fence*



**FIGURE 7.18** *Cougar enclosure with roof*

Many of the smaller, roofed big cat enclosures have sliding doors that allow the cats access to a larger uncovered area. While this provides more room for the cats, the fences in these open-topped yards appear to be about 12 ft (3.65 m) high and some of the struts supporting the overhangs are broken, resulting in areas of sagging (see Figure 7.19).

In addition, there are gaps at the bottom of the fencing in some enclosures (see Figure 7.20), as well as areas that do not appear to be adequately secure.



**FIGURE 7.19**



**FIGURE 7.20**

The juvenile lion enclosure has a hole in the roof (likely used to drop food into the enclosure), that is only covered with a sheet of plastic.

The black bear enclosure fence is constructed from 10 ft (3.05 m) high deer fencing and is not equipped with an overhang, although there has been a 2 ft (.61 m) high strip of wire mesh added along the top (damaged and bowing in spots). There was a 6 inch (15.2 cm) gap between the bottom of the fence and the ground, and there didn't appear to be a skirt or other barrier to prevent the bear from digging underneath the fence.



**FIGURE 7.21**



**FIGURE 7.22**

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#### Gates, Doorways and Access Points

The access points for the covered enclosures for big cats are all similar, each is equipped with a swinging door. There did not appear to be any double door entry. At the rear of each cage there is a vertically-sliding, wooden door that can be raised and lowered by a pulley system that allows the cats to move into the larger yards.

Figure 7.23 shows a sliding door in one of the cougar enclosures that has been damaged, presumably from chewing.

The keeper access gates into the larger uncovered enclosures were not visible from visitor viewing areas, so it was impossible to determine if these had double door entry systems.



**FIGURE 7.23**

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Public Stand-off Barriers

The stand-off barriers at this facility were all similar in construction and materials. Each is made of either wire mesh or chain-link varying in height from 3–7 ft (.91–2.13 m). The chain-link stand-off fence in front of the juvenile lion enclosure was damaged along the top.

The stand-off barriers are positioned from 2–5 ft (.61–1.52 m) away from the primary barriers, with the closest being in front of the black bear enclosure.



**FIGURE 7.24** Damaged stand-off fence in front of lion cage



**FIGURE 7.25** Stand-off barrier in front of black bear enclosure

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Perimeter Fencing

Whether this facility is entirely enclosed by an adequate perimeter fence could not be determined. In some locations, it appeared that the zoo/property line barrier consisted of 4 ft (1.22 m) high deer fencing.

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Safety Concerns

The basic construction, extensive use of deer fencing, uncovered big cat enclosures, sagging overhangs and generally inadequate animal welfare standards are all problematic at this facility. Some sections of the big cat enclosure barrier (i.e., open yards) do not appear high enough to prevent the animals from leaping out.

**INCIDENT NOTE:** A Killman Zoo visitor spotted a jaguar that had escaped its enclosure and was wandering the zoo facility on July 28, 2000. The visitor alerted staff and the jaguar was reportedly coaxed back into its cage with ice cream.

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## Guha's Tiger And Lion Farm

Location	Utterson, Ontario
Animal Species	Guha's Tiger and Lion Farm is a small privately operated animal menagerie. Visitors are given a tour of the animal collection, which are displayed in cages situated next to the owner's residence. Eleven big cats were observed, including two adult lions, five juvenile lions, two adult cougars, one juvenile cougar and one jaguar. The owner stated that a female cougar had recently given birth to a litter of cubs (unknown number), which were not viewed.
Primary Barriers	There are two basic styles of enclosure at this facility. The first are the adult African lion enclosures which are open topped and constructed with 8 ft (2.43 m) high chain-link fencing, with an additional 3–4 ft (.91–1.22 m) inwardly angled overhang attached to metal support posts.



**FIGURE 7.26** Adult lion enclosure at the Guha facility.

The largest of these enclosures housed an adult male lion (see Figure 7.27). There was a large gap between the gate and the service building that the fencing was attached to.

There is a third uncovered enclosure which housed juvenile lions (see Figure 7.28). The barrier had no overhang and the top 2 ft (.61 m) consisted of deer fencing. There were also large gaps around the doors to this enclosure.

The second style of enclosure is a row of cages constructed from 8 ft (2.43 m) high chain-link fencing attached to metal support posts, each with a chain-link or wire mesh roof. These cages house the black jaguar and cougars (Figure 7.29 and 7.30). The roof on one of the cougar cages was sagging in some areas.

None of the enclosure barriers appeared to be securely fastened at ground level.



**FIGURE 7.27** Gap between gate and service building



**FIGURE 7.28** Gap at the gate to the juvenile lion enclosure



**FIGURE 7.29** Jaguar enclosure



**FIGURE 7.30** Cougar enclosure

Gates, Doorways and Access Points

Gaps between the gate and door frames of the juvenile African lion enclosure are large enough that the lions can reach through with their paws. There is no stand-off barrier and this is one of the first cages you come to as you enter the property. If someone were entering the property on foot from the road they could easily contact the lions without the owner being present.



**FIGURE 7.31**



**FIGURE 7.32**

None of the cages at this facility have double door entry access points and the gates all appear to open outward.

Some of the enclosures have no secondary containment (shift) areas, while others have vertically sliding wooden doors allowing access to other cage areas or service buildings that presumably can be used as shift areas. Many of the sliding doors are damaged at the bottom (Figure 7.31), creating gaps and edges that may facilitate cats pushing or lifting the doors upward.

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#### Public Stand-off Barriers

The juvenile African lion enclosure had no stand-off barrier, nor did it have any signs advising visitors not to get too close to the enclosure. Furthermore, as discussed above, the enclosure had large gaps around the doorway where the cats could reach out with their paws.

The stand-off barrier surrounding the adult male African lion enclosure is approximately 4 ft (1.22 m) high and positioned only a few feet from the primary fence. The gate on the barrier was not locked on the day of this review. Investigators were invited behind the barrier to take photos and video (Figure 7.33). This area is the same section that has a gap between the fencing and the service building large enough for the lion to get his paws through.



**FIGURE 7.33**

Each of the other enclosures have secondary barriers that are 4 ft (1.22 m) high and also positioned only 3 ft (.91 m) from each cage.

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#### Perimeter Fencing

This facility has no perimeter fence to keep the animals in should they escape or to keep native wildlife or human intruders out. It is in the middle of a densely wooded area with wildlife throughout. The owner claimed native wild animals regularly approach the enclosures and that, at times, he allows some of the cats to run freely in the adjoining forested areas. If there is any truth to his story, his practice of allowing cats to roam free is dangerous and poses a significant risk to his health and safety, as well as his family, neighbours and the community.

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#### Safety Concerns

The African lion enclosure barriers at this facility do not appear high enough to ensure the cats cannot jump or climb out. Some of the cages are poorly constructed and are equipped with doors that open outward. There are gaps around the doors of the juvenile African lion enclosure large enough for the cats to reach through and there are no stand-off barrier or warning signs in the vicinity of this cage.

None of the enclosures appear to be securely fastened to the ground leaving them vulnerable should the animals chew or pull at the enclosure or try to push or dig out.



A number of large trees are situated throughout the facility creating the potential during severe weather for falling trees or branches to damage cage and enclosure barriers.

Entry to this facility is by a single driveway, so there is no alternative exit in the event of an animal escape. The absence of a perimeter fence is also severely problematic.

**INCIDENT NOTE:** On February 12, 2008, a 400 lb (181 kg) black jaguar escaped from its enclosure. The cat attacked and killed a dog that was on the property. The Ontario Provincial Police were called to the property, where they shot and killed the jaguar. There was no evidence of any kind of emergency protocol or plan to deal with the situation.

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## Elmvale Jungle Zoo

Location

Elmvale, Ontario

Animal Species

This facility is a medium-sized private zoo that has a varied collection of animals, including a variety of birds, numerous primate species, ungulates, large carnivores (African lions, tigers and a jaguar) and other mammals.

Primary Barriers

This facility has two basic types of enclosures for big cats. African lions, white tigers and the jaguar are all housed in covered enclosures that are approximately 10–12 ft (3.05–3.65 m) high. The wall and roof barriers are thick gauge wire mesh sheets joined together with twisted wire and stapled onto wooden support frames.



FIGURE 7.34

The Bengal tiger enclosure (which also contained at least one juvenile lion during this review) is a larger, uncovered, grass floored pen. It is constructed from 8 ft (2.43 m) high deer fencing attached to wooden posts, with an added section of light wire mesh along the lower portion and an additional 3 ft (.91 m) high section of wire mesh added along the top, increasing its total height to approximately 11 ft (3.35 m) near the visitor pathways. However the back of the enclosure is lower and appears to be approximately 8 ft (2.43 m) high. There are two strands of electric wire strung around the inside of enclosure approximately 8 ft (2.43 m) above the ground. There is no angled overhang to discourage the animals from jumping out and there did not appear to be any reinforcement around the bottom to prevent animals from pulling up the fence.

Public Stand-off Barriers

The stand-off barriers in front of the cat enclosures are constructed of wire mesh fencing attached to wooden posts. They are positioned 3–6 ft (.91–1.83 m) from the primary barriers. Each had a swinging gate, the one at the jaguar cage being unlocked with just a piece of twisted wire holding it shut.



FIGURE 7.35 Bengal tiger enclosure

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## Gates, Doorways and Access Points

None of the cages have double door entry systems. Each of the roofed-enclosures have a small, steel mesh door in a wood frame to allow staff to enter the cage (see Figure 7.36).

Each of these enclosures is attached to a small shed with one or two vertically sliding metal doors that allow the cats to enter the shelters (see Figure 7.37).

The shelters may be used as secondary containment (shift) areas in some cases. The mechanism for operating these doors was not determined.

The uncovered Bengal tiger enclosure had a swinging gate made of deer fencing on a wooden frame. The gate was locked with a chain and padlock, however it was crooked and leaning badly in the frame leaving substantial gaps around the door.



FIGURE 7.36



FIGURE 7.37

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## Safety Concerns

The Bengal tiger enclosure is not secure. The height of the main barrier fence was estimated at 11 ft (3.35 m) or less with no inwardly angled overhang. The fence height at the sides and back of the exhibit were even lower. A double strand of hotwire was situated at approximately the 8 ft (2.43 m) level on the main fence. It is unlikely to serve as a deterrent since cats attempting to jump out of the enclosure could easily clear that height. The top section of the main fence, estimated at about 3 ft (.91 m) in height, is a makeshift add-on that has been attached to the existing, rather flimsy looking primary fence. It is doubtful that the upper portion would hold back a tiger jumping onto or into it. Given the known abilities of tigers, there is little doubt that the cats are capable of jumping out of the enclosure should they be sufficiently motivated to do so. In addition, the main gate into the enclosure does not properly fit the gate frame leaving substantial gaps and some fencing does not appear to be secured at ground level.

**INCIDENT NOTE:** On December 5, 1996, four tigers escaped from their enclosure at the Elmvale Jungle Zoo allegedly after vandals broke the lock of their enclosure. One of the tigers jumped a 8.2 ft (2.5 m) high enclosure fence and began attacking a camel. The tiger bit into the camel's leg and the commotion caught the attention of a zoo keeper. The tiger was shot and killed by zoo staff and the other three tigers were retrieved and returned to their enclosure shortly after.

## APPENDIX II

### Escapes and Attacks Involving Large Carnivores in Ontario

# 2010

On **January 11, 2010**, Norman Buwalda, a private collector of exotic pets, was killed at his property near London after he entered a cage to feed his Siberian tiger, one of many big cats that he owned. Mr. Buwalda's 80-acre property was not fenced to protect the general public and nearby neighbours from possible animal escapes. In June 2004 a 10 year old boy was also attacked by a tiger owned by Norm Buwalda. Reportedly, Buwalda was leading an adult tiger out of its cage on a leash so the boy and his family could take photographs and the tiger lunged at the boy. The boy turned to run away and was attacked in the back of the head and neck, where he sustained serious injuries and was rushed to hospital.

# 2008

On **February 12, 2008**, a black jaguar escaped its chain-link fence enclosure at Guha's Tiger and Lion Farm in Utterson and attacked and killed a dog on the property. The 90+ acre property is not enclosed by a perimeter fence that would discourage escaped animals from leaving the area. The Ontario Provincial Police were dispatched because the owner, apparently did not have a firearm, tranquilizer gun, or any other device appropriate for the situation, so he remained inside his house. Given this information, it seems there was not a thought-out emergency plan to deal with escaped animals, and has no way of protecting the visiting public or his neighbours from escaped animals. The jaguar was shot and killed by police, and the owner insisted that the chain-link fence enclosure was cut by vandals.

On **March 20**, a martial arts teacher was knocked over by a lion during a photo shoot at the Bowmanville Zoo. The woman said she was happy to have come away with four broken ribs and a bloodied lung. "To be honest, the sensation I have is a great deal of gratitude to be alive," Gitanjali Kolanad said. In the video, one minder kicks the young lion in the neck while the other handler pulls on the leash. The lion then took a second, unsuccessful lunge at Kolanad as she laid gasping, before the lion was hauled out the door. "I couldn't breathe – that was the terrifying part. The muscles in my chest seized up and they didn't relax until I was in the emergency room and they gave me a muscle relaxant."

# 2007

On **August 7, 2007**, a Syrian brown bear escaped from Zoot Nature Park in Stevensville, which has since changed its name to Safari Niagara. The bear dug a tunnel underneath the fence of its enclosure and was not found until 15 hours later. Police services estimated that the cost to recapture the escaped bear was \$7,740.

On **June 29, 2007**, a privately-owned serval, a mid-sized exotic cat, escaped from its enclosure in Prince Edward County. The Ontario Provincial Police warned the public not to approach the cat, as it might be dangerous.

A bobcat escaped from the Riverview Park and Zoo in Peterborough on **August 20, 2006**. The bobcat was still reported missing two months later, on **October 17, 2006**, when the Kawartha media posted information about the incident for public knowledge. The same bobcat had escaped from the same enclosure in 2005, and the zoo had reportedly not modified its enclosure to prevent escape.

# 2006

A wolf escaped from its enclosure at Chippewa Wildlife Exhibit in Thunder Bay, Ontario on **June 12, 2006**. The wolf climbed over its 8 ft (2.43 m) high, barb wire-topped enclosure fence. The wolf could not be located and was on the loose for one week, after which it was shot to death on the Fort William First Nation Reserve.

On **September 28, 2005**, a tiger was found wandering down the highway after it had escaped from its enclosure at the Papanack Park Zoo in Wendover. According to news report, the cat was tranquilized and returned to the zoo.

# 2005

On **November 15, 2003**, a jaguar that was privately-owned by a magician escaped from its cage near Niagara Falls. The cat had been used in magic shows. The jaguar was on the loose for six hours before it died of a heart attack suffered during its recapture.

# 2003

Visitors at the Toronto Zoo found themselves face-to-face with a 330-lb (149 kg) Siberian tiger on **December 26, 2003** when the gates to her enclosure were left open by a staff member. The tiger roamed between the main fence of the enclosure and the lower stand-off barrier. Staff eventually coaxed the female tiger back into her enclosure without further incident.

A 16-year old employee of the Dornoch Zoo, in Grey County was mauled by a female lion while conducting a tour of the zoo facility. The lion swiped at the girl through the bars of the enclosure, cutting the girl's forehead and arm.

On **May 16, 2003**, three coyotes from Bergeron's Exotic Animal Sanctuary in Picton, Ontario were destroyed. One of the coyotes had bitten a two year old boy who had climbed over a stand-off barrier and wandered towards the chain-link enclosure fence.

A privately-owned 500 lb (226 kg) tiger, which was used for photographs with small children and exotic dancers, snapped her tether and escaped from a Pickering backyard on **January 17, 2002**. The female tiger wandered the streets near Toronto, alarming residents. More than half a dozen police cruisers and a police helicopter were dispatched to locate the escaped tiger, which was not caught until 24 hours later.

# 2002

# 2001

# 2000

# 1999

# 1997

On **May 15, 2001**, a woman visiting the Aspen Valley Wildlife Sanctuary in Rosseau, was bitten by a lion that she attempted to pet. The woman had stuck her hand and arm into the cage in an attempt to touch the lion, and the lion turned and bit her arm.

A visitor at The Killman Zoo spotted a jaguar that had escaped its enclosure and was wandering the zoo facility on **July 28, 2000**. The visitor alerted staff and the jaguar was reportedly coaxed back into its cage with ice cream.

On **July 30, 1999**, a serval escaped from its enclosure at Bergeron's Exotic Animal Sanctuary in Picton, Ontario. Following many animal escape incidents, and various legal and neighbour conflicts, this roadside zoo facility has since shut down.

On **April 1, 1997**, a tiger escaped from a private menagerie called the Bear Creek Sanctuary in Barrie. The tiger was on the loose for two days before it was found and tranquilized.

On **July 18, 1997**, two Siberian tigers escaped from their enclosure at Lickety Split Ranch in London after they were allegedly scared by zoo visitors passing their enclosure in wheelchairs. The tigers jumped onto and knocked over the enclosure barrier. More than 15 zoo visitors attempted to run away from the escaped cats, and ran into their cars. The tigers returned to the zoo and to their enclosures four hours later.

On **July 31, 1997**, a privately-owned tiger escaped its trailer—the second time in two weeks. The trailer was in the parking lot of an adult entertainment facility in Etobicoke and was not properly locked. The tiger escaped and wandered the streets for nearly an hour, and into a factory full of workers, before the cat was caught.

On **October 1, 1997**, a six year old girl was attacked and left permanently scarred by a jaguar at Northwood Zoo and Animal Sanctuary in Seagrave. The jaguar grabbed the girl with its paws and bit her after she put her arm through the fence of the enclosure. The girl's family was awarded more than \$31,500 in a lawsuit against the roadside zoo.

# 1996

On **October 19, 1996**, a woman and her boyfriend were mauled by a tiger at African Lion Safari, in Cambridge. The tiger pulled the window of their car down in the drive-through enclosure. The woman was severely mauled and bitten on the hip and scalp and almost dragged out of the passenger-side window. Two other tigers attempted to climb through the driver-side window and the man was severely bitten on his arm. The woman was hospitalized for 16 days and required surgery, while the attack mutilated the man's left arm. The couple was awarded more than \$2 million (US) in damages.

A woman who had been working at the Haliburton Wolf Centre for just four days, was attacked and killed by five timber wolves on **April 20, 1996**. Nobody knows why the wolves attacked but it's thought the woman, who was alone at the time, tripped and fell triggering an attack.

# 1994

On **December 5, 1996**, four tigers escaped from their enclosure at the Elmvale Jungle Zoo allegedly after vandals broke the lock of their enclosure. One of the tigers jumped a 8.2 ft (2.5 m) high enclosure fence and began attacking a camel. The tiger bit into the camel's leg and the commotion caught the attention of a zoo keeper. The tiger was shot and killed by zoo staff and the other three tigers were retrieved and returned to their enclosure shortly after. "The 700 lb (317 kg) tiger could have killed someone," said zoo owner Sam Persi. "We are lucky we saw it happen right away. We are lucky the cat went after the camel instead of someone outside. This is very, very serious. It could have been a disaster," Persi added. Huronia West OPP said the situation could have been much worse, especially if the tiger escaped the confines of the property, which is located on Highway 27, about 25 km north of Barrie. "If a tiger were to get loose, we would have our hands full," said Staff Sgt. Richard Burton, "it would have posed a danger to the public if the cat got out."

16 year old Graydon Edwards was killed by a Siberian tiger owned by his uncle near the town of Wroxeter. Edwards was found dead on **Sunday, July 23, 1994**, after he entered a 19.6 x 78 ft (6 x 24 m) cage that held two Siberian tigers and a cougar. Edwards died instantly after the tiger jumped the boy from behind and bit into his neck. An autopsy revealed the boy died from a broken neck when a fourth cervical vertebra was crushed by a bite, thought to have been inflicted by the female tiger. The boy's father said he died after playing in the tiger cage, and that he treated the big cats as pets. "He was a good fine child. Those tigers were his pets. It was an accident," said Dennis Edwards. Toby Styles, a spokesperson for the Metro Toronto Zoo, said that not even trained staff members are allowed into the cages of tigers and other large cats while the animals are in them. "The only time you would ever touch a large cat is if it's tranquilized," Styles said.

On **August 16, 1994**, two privately-owned African lions broke free from their barn, where they were being held on a property in Thorold. The escaped lions roamed through a Thorold neighbourhood for more than five hours before they were caught.

In **July**, a 12 year old boy required 18 stitches to close a wound caused when he was bitten by a big cat in Wroxeter, the same location at which a death occurred the following year.

A privately-owned pet cougar savagely attacked a two year old girl near St. Thomas, after she wandered into the pen where her father was working with the animal. Her father had purchased the cougar only hours before the attack. The girl sustained serious injuries on her chest and back.

In **June 1990**, 16-year old Jamie Westendorp had his right arm bitten off below the elbow by a female lion at the 1000 Islands Wild Kingdom in Gananoque, about 30 km east of Kingston. Westendorp was working at the roadside zoo as part of a high school training program. Police said the lion consumed the youth's limb but wouldn't release further details. A witness said he saw Westendorp put his hand through an opening into the lion's cage to demonstrate how friendly the 14-year old cat was. Zoo manager Dave Collis hand-raised the lion from a nine month old cub and used to walk her around the facility on a leash. "She's not a man-killer," he said. "Unfortunately as it is, I feel it's human error and I don't think the animal should be blamed for that."

# 1990

# 1988

In **1988**, a Waterloo man was charged with criminal neglect causing bodily harm after his pet cougar attacked a four year old boy. The cougar was being walked on a leash through a public park when it lunged at the boy and scratched and bit him on the neck.

# 1985

On **September 25, 1985**, brothers Adam and Scott Connor aged eight and six years old, respectively, were mauled by wolves at the Toronto Zoo after they snuck into the zoo after hours. The two brothers, as well as their 11-year old friend Chris Heads, scaled the zoo's perimeter fence and tried to catch the attention of what one of the boys thought were eight or nine "big dogs" on the other side of a second fence surrounding the wolf compound. They were rattling sticks against the fence and throwing food to the wolves when Scott tripped. His right arm went through the fence and he was attacked. The wolves tore the skin and muscle from his arm and doctors could not save the mangled limb – it was amputated at the shoulder. Adam struggled to beat the wolf off his brother and was attacked as well – he suffered cuts to his head and arm, and underwent plastic surgery. Scott was rewarded monthly installments of \$2,611, in addition to large lumped sums at five year intervals. Should Scott live to 80 years old, he will receive a total of \$14.8 million to compensate him for medical costs as well as wages he could have otherwise earned. Adam was also seriously injured and was awarded a total of \$140,000, to be paid in monthly installments until he is 35 years old. "It won't replace his arm, but it will take away some of the worries we had for his future," said his mother.

An Arctic wolf escaped from its enclosure at the Toronto Zoo on **October 10, 1985**. The wolf climbed over the 8 ft (2.43 m) enclosure fence and left zoo property. When the wolf returned to the facility two days later, it was shot and killed by staff.





## APPENDIX III

### Zoo Industry Standards

#### CAZA (CANADIAN ASSOCIATION OF ZOOS AND AQUARIUMS)

##### SAFETY/SECURITY

1. Security must be provided to safeguard the animal collection and the public.
2. Security should be provided on a 24-hour, year-round basis.

**Explanation:** The Commission recognizes that all institutions may not be able to provide security personnel on a 24-hour basis; however, every attempt should be made to provide security when the institution is closed to the visiting public. Security responsibilities should include regular rounds of the entire institution to detect problems. If it is impractical to provide security personnel, the Commission may approve the use of electronic systems or other acceptable security measures.

3. Adequate barriers must be in place to enable containment of an escaped animal within the property.
4. Some method of remote or manual monitoring of the security of the institution when not open to the public must be in place.
5. Public must be prevented from directly contacting potentially dangerous animals by use of double fencing or other barriers.

##### Standards for Risk Management

**Explanation:** Risk management is defined as a plan in which areas of potential risk for injury/harm to the visiting public and employees, as well as ways for prevention of such injury/harm, are identified. (Some examples of potential risk to employees include wet floors and poor lighting and ventilation in work areas, poorly constructed/planned exhibit service areas, cluttered work space, inadequate training, and animal shift mechanisms not in proper repair.)

- 5.1. Identification—Institutions must identify the potential perils, factors and types of risk to which their assets, program activities and interests are exposed. Areas to be considered would include but are not limited to:
  - 5.1.1. Natural disasters—flood, earthquakes,

severe weather resulting in damage to facilities or loss of services, fire.

- 5.1.2. Public safety—animal escapes, public/animal contact that results in injury, lost children, first aid
  - 5.1.3. Animal health—bio security, zoonotic diseases, pest management, reportable disease outbreaks.
  - 5.1.4. Man made problems—terrorist activities, loss of staff due to union action, loss of services such as electricity, heat or water.
  - 5.1.5. Staff safety—Occupational health and safety issues, zoonotic disease protection,
- 5.2. Minimization—Institutions must analyze and assess the risks identified, and design and implement cost-effective risk prevention, reduction or avoidance control measures.
  - 5.3. Containment—Institutions must have processes in place to allow them to activate emergency organizations, systems, and contingency plans
  - 5.4. Restoration and recovery—Institutions must have a plan to repair or replace damaged assets and operating systems to allow a return to normal operations as soon as possible. In addition an assessment of what steps should be taken to minimize or eliminate the likelihood of repetition of the incident should be completed.
  - 5.5. The institution must investigate incidents to determine their causes and document their findings for review by the Accreditation Commission if required.
  - 5.6. The institution must have access to applicable regulation concerning:
    - 5.6.1. fire prevention and control
    - 5.6.2. humane animal regulations
    - 5.6.3. International Air Transport Association (IATA) regulations
    - 5.6.4. CAZA standards, policies and Code of Ethics
    - 5.6.5. Veterinary Act
    - 5.6.6. Canadian Food Inspection Agency regulations (as applicable)
    - 5.6.7. Department of Fisheries and Oceans

- regulations (as applicable)
- 5.6.8. Zoo regulations (as applicable)

### Standards for Emergency Preparation

**Explanation:** Emergency procedures include those for animal recapture, bites/stings by a venomous animal, natural disaster (fire, hurricane, flood, tornado), major power failure involving life-support systems, major communication failure, and emergencies created by humans or stray animals. Emergency drills should be conducted at least annually to determine if all staff are aware of emergency procedures, as well as to identify potential areas which could cause problems in the handling of an emergency.

- 5.7. Plans to respond to predictable emergency scenarios must be clearly defined in writing and all staff must be aware of their responsibilities and the overall objectives.
- 5.8. All institutions must have a written plan available to staff for first-aid and other various health emergencies.
- 5.9. All animal housing structures in which there is electrical service, an artificial source of temperature control, fuel service, or to which the public has access must have at least one appropriate class fire extinguisher as designated by local regulation
- 5.10. All fire extinguishers must be charged and inspected at least annually and personnel trained in their usage as required by local regulation.
- 5.11. Firearms must be maintained in operational condition, stored in a locked area when not in use and under conditions which comply with relevant regulation.
  - 5.11.1. Access to firearms must be restricted to those personnel certified in their use
  - 5.11.2. Personnel who are responsible for the use of firearms in emergency response protocols must be aware of their responsibilities and the proper procedures as designated in the written protocol.
- 5.12. Written Emergency Response Plans for situations including but not limited to the following must be in place:
  - 5.12.1. Animal Escape
  - 5.12.2. Fire
  - 5.12.3. Flood/Storm
  - 5.12.4. Human exposure to animal venom or poison (where applicable)
  - 5.12.5. Human injury or distress (public, staff, volunteer)
  - 5.12.6. Utility failure (where applicable)
  - 5.12.7. Public in animal enclosure
  - 5.12.8. Lost child or adult
- 5.13. These plans must be reviewed and updated at least annually and all personnel involved in such procedures must be aware of the plans and their responsibilities in the event of an emergency.
- 5.14. Institutions maintaining venomous animals must have appropriate antivenin available, and its location must be known by all staff members working in those areas.
  - 5.14.1. An individual should be responsible for inventory, disposal/replacement, and storage of antivenin.
  - 5.14.2. All areas housing venomous animals must be equipped with an alarm system which is routinely checked.
- 5.15. Security personnel must be trained to handle emergencies in accordance with the policies of the institution.
- 5.16. The institution must have a communication system that can be quickly accessed in case of an emergency.

**Explanation:** There should be immediate access to designated persons in case of an emergency via walkie/talkie, pager, mobile telephone, intercom, telephone, alarm, or other electronic devices.

- 5.17. A written emergency protocol should be developed in collaboration with the local police or other emergency agencies and include response times to emergencies.
- 5.18. Those institutions which utilize underwater diving with compressed air (SCUBA or surface-supplied) as a part of regular operations and/or maintenance must meet minimal operational safety standards for such diving.
- 5.19. Institutions must comply with the applicable laws for their location and size of institution.
- 5.20. Pest control programs must be operated in such a way that the animal collection, the staff and

the public is not threatened by pests or contamination from pests.

**Explanation:** Rodent control, proper drainage, clutter in work areas, and other housekeeping activities require continuous attention.

### **Standards for Equipment and Chemicals**

- 5.21. Equipment and machinery must be in good repair and safe to operate.
- 5.22. Provisions must be available to sanitize equipment that may be used in more than one animal enclosure.
- 5.23. Where an item of machinery or equipment is critical to the maintenance of animal specimens, contingency plans must be in place in the event of dysfunction or loss of that item.
- 5.24. Chemicals used or stored on the property of the institution must be properly identified by label.
- 5.25. All chemical labelling and Material Safety Data Information must be in accordance with applicable regulation.
- 5.26. Containers of chemicals must provide for the safe storage of the material.
- 5.27. Containers of chemicals must be stored or maintained in appropriate areas and under appropriate security to minimize the opportunity of spillage or accidental human or animal exposure.

### **Standards for Human and Animal Contact**

- 1.15. Guardrails and barriers must be constructed in all areas where the visiting public could have contact with any animals other than those appropriate for public handling.
- 1.16. Potentially dangerous animals must be held in facilities that prevent physical contact with staff and visitors, unless a full risk assessment has been conducted and the results used to develop procedures which minimize the likelihood of attacks on handlers and visitors where they are permitted to come into contact.
- 1.17. Where direct contact between animals and the visiting public is allowed, the animals concerned must be carefully selected, monitored, treated humanely and with respect at all times; staff must be on hand and visible at all times to ensure this, and monitor public behaviour.
- 1.18. Where direct contact between animals and the visiting public is promoted, hand washing and/or sanitizing facilities must be provided, and the public must be encouraged to use them.
- 1.19. Animals in contact programs must be checked

on a regular basis to ensure that they are free of infectious processes transmissible to people. There must be a regular program of cleaning faeces and other debris from contact areas to which the public has access.

- 1.20. Animals displayed in an area that the public enters and are encouraged to have direct contact with, must have a separate area to which they may retreat and be isolated from the public. Public feeding of contact animals must be monitored by staff to ensure proper nutritional requirements of the animals is met.
- 1.21. Animals in a contact area must be monitored by facility staff on a regular basis to ensure they have not become aggressive, putting the public in harm's way. The facility should have protocols in place to deal with aggressive animal behaviour.
- 1.22. Animals that appear in meet the keeper presentations, or that are used in presentations either on or off the facility site and are in contact with the public, will be considered to be animals in contact areas and must have the same rules of hygiene and food monitoring applied. This includes animals in drive-through exhibits where feeding is allowed as part of the visitor experience and for institutions that allow animal feeding or contact through a barrier.
- 1.23. A review must be undertaken should a member of the public be injured in a contact situation.

## **AZA (ASSOCIATION OF ZOOS AND AQUARIUMS) 2011**

### **ACCREDITATION STANDARDS AND RELATED POLICIES**

#### **11. Safety/Security**

- 11.1. General
  - 11.1.1. The institution must be in compliance with local, state, and federal laws regarding employee training for safety in the workplace.
  - 11.1.2. Training and procedures must be in place regarding zoonotic diseases.
  - 11.1.3. A tuberculin (TB) testing/surveillance program must be established for appropriate staff in order to ensure the health of both the employees and the animal

collection.

- 11.1.4. A written policy for the handling of toxic/hazardous materials must be available to all staff working with those materials, and staff must be trained in the proper handling of those materials.
- 11.1.5. Material Safety Data Sheets (MSDS) must be located in areas for easy access by employees.
- 11.2. Emergency Procedures
  - 11.2.1. The institution should have an automated emergency defibrillator (AED) and provide training to appropriate staff.
  - 11.2.2. The institution must have a written plan available to staff for first-aid and other various health emergencies.
  - 11.2.3. All emergency procedures must be written and provided to staff and, where appropriate, to volunteers. Appropriate emergency procedures must be readily available for reference in the event of an actual emergency. These procedures should deal with four basic types of emergencies: fire, weather/environment; injury to staff or a visitor; animal escape.

**Explanation:** Emergency drills ensure that the institution's staff know their duties and responsibilities and know how to handle emergencies properly when they occur. The institution must have in place appropriate emergency procedures to handle the basic types of emergencies identified above, and also for emergencies of a nature to which the institution may be particularly vulnerable. The training of staff in how to follow these procedures must also be undertaken and records of such training maintained. Emergency drills should be conducted at least once annually for each basic type of emergency (fire, weather/environment; injury to staff or a visitor; animal escape) to determine if all staff is aware of emergency procedures, as well as to identify potential areas that could cause problems in the handling of an emergency. These drills need to be recorded and evaluated to ensure that procedures are being followed, that staff training is effective, and that what is learned is used to correct and/or improve the emergency procedures. Records of these drills must be maintained and improvements in the procedures duly noted whenever such are identified.

- 11.2.4. The institution must have a communication system that can be quickly accessed in case of an emergency.

**Explanation:** There should be immediate access to designated persons in case of an emergency via walkie-talkie,

pager, mobile telephone, intercom, telephone, alarm, or other electronic devices.

- 11.2.5. A written protocol should be developed involving local police or other emergency agencies and include response times to emergencies.

### 11.3. Facilities/Animal Exhibits

- 11.3.1. All animal exhibits and holding areas must be secured to prevent unintentional animal egress.

**Explanation:** Particular attention must be given to shift doors, gates, and keeper access doors, and exhibit barrier dimensions and construction, to provide for staff and public safety. Locking or latching mechanisms are necessary to meet this standard for dangerous animals.

- 11.3.2. All exhibit service areas must be safely lighted, free of debris, and provide space to allow for safe servicing. Also, service exit doors must be clearly marked and in good working order. All locks and shift doors must be in good working order.

- 11.3.3. Special attention must be given to free-ranging animals so that no undue threat is posed to either the animal collection, free-ranging animals, or the visiting public. Animals maintained where they will be in contact with the visiting public must be carefully monitored, and treated humanely at all times.

- 11.3.4. Electrical service in all wet environments, aquatic exhibits, and associated service areas must be equipped with ground fault circuit interrupters (GFI).

- 11.3.5. All public access areas must be equipped with exit signs and doors must be equipped with emergency hardware.

- 11.3.6. Guardrails/barriers must be constructed in all areas where the visiting public could have contact with other than handleable animals.

### 11.4. Risk Management

- 11.4.1. A written risk management policy must be developed and implemented.

**Explanation:** Risk management is defined as a plan in which areas of potential risk for injury/harm to the visiting public and employees, as well as ways for prevention of such injury/harm, are identified. An employee committee should be appointed to implement the risk management plan, identify areas of potential risk, and review previous incidents.

Examples of potential risk to employees include wet floors and poor lighting and ventilation in work areas, poorly constructed/planned exhibit service areas, cluttered work space, inadequate training, and animal shift mechanisms not in proper repair.

Examples of potential risk to the visiting public include wet floors, poor lighting, insufficient barrier fencing, cracks and/or holes in visitor walkways, condition of handrails and steps, rotted wood, etc.

#### 11.5. Dangerous Animals

- 11.5.1. Institutions maintaining venomous animals must have appropriate antivenin readily available, and its location must be known by all staff members working in those areas. An individual must be responsible for inventory, disposal/replacement, and storage of antivenin.

**Explanation:** It is the responsibility of the institution to ensure that appropriate antivenins are available locally for all venomous species maintained at their institution, and for which antivenin is produced. Institutions may rely on the antivenin supply of local hospitals and treatment facilities, but it is also the institution's responsibility to guarantee that these inventories are maintained adequately. Such arrangements must be formally documented relationships.

- 11.5.2. All areas housing venomous animals, or animals which pose a serious threat of catastrophic injury and/or death (e.g. large carnivores, large reptiles, medium to large primates, large hoofstock, killer whales, sharks, venomous animals, and others, etc.) must be equipped with appropriate alarm systems, and/or have protocols and procedures in place which will notify staff in the event of a bite injury, attack, or escape from the enclosure. These systems and/or protocols and procedures must be routinely checked to insure proper functionality, and periodic drills must be conducted to insure that appropriate staff members are notified.

- 11.5.3. Institutions maintaining potentially dangerous animals (e.g. large carnivores, large reptiles, medium to large primates, large hoofstock, killer whales, sharks, venomous animals, and others, etc.) must have appropriate safety procedures in place to prevent attacks and injuries by these animals. Appropriate response procedures must also be

in place to deal with an attack resulting in an injury. These procedures must be practiced routinely per the emergency drill requirements contained in these standards. Whenever injuries result from these incidents, a written account outlining the cause of the incident, how the injury was handled, and a description of any resulting changes to either the safety procedures or the physical facility must be prepared and maintained for five years from the date of the incident.

#### 11.6. Security/Firearms

- 11.6.1. Security should be provided on a 24-hour, year-round basis.

**Explanation:** The Commission recognizes that all institutions may not be able to provide security personnel on a 24-hour basis; however, every attempt should be made to provide security when the institution is closed to the visiting public. Security responsibilities should include regular rounds of the entire institution to detect problems. If it is impractical to provide security personnel, the Commission may approve the use of electronic systems or other security measures.

- 11.6.2. Security personnel, whether staff of the institution, or a provided and/or contracted service, must be trained to handle all emergencies in full accordance with the policies and procedures of the institution. In some cases, it is recognized that Security personnel may be in charge of the respective emergency (i.e. shooting teams).

- 11.6.3. Stored firearms must be in a locked cabinet of sufficient construction and design to impede unauthorized entry, and located in a secure area and accessible only to authorized personnel trained in their use.

**Explanation:** Personnel authorized to utilize firearms should have professional training and regular practice.

#### 11.7. Diving

- 11.7.1. Institutions which utilize underwater diving with compressed air (SCUBA or surface supplied) as a part of regular operations and/or maintenance shall meet minimal operational safety standards for such diving. Such institutions must comply with the applicable laws for their location and size of institution and should follow the standards mandated by the

Occupational Safety and Health Administration (OSHA) for commercial diving. Alternatively, such institutions may elect to claim an exemption from the OSHA standards for “scientific diving”. If such an exemption is claimed, the institution must operate under the auspices of a diving manual commensurate with the consensual standards of the scientific diving community (modeled after or approved by the American Academy of Underwater Sciences [AAUS]), and under the control of a diving safety board or committee which has full institutional authority to ensure compliance with diving safety standards.

#### 11.8. Perimeter Fence

Perimeter fencing must be separate from all exhibit fencing or other enclosures, and be of good quality and construction. All facilities must be enclosed by a perimeter fence which is at least 8 ft in height or by a viable barrier. The fence must be constructed in a manner that leaves no gaps anywhere, including gates, that would allow entry to the grounds by feral/wild animals or permit the egress of a collection animal in the event of an escape from a primary enclosure.

**Explanation:** There are rare instances where the terrain surrounding the facility provides a viable barrier. However, most facilities must be enclosed by a perimeter fence. Facilities located in rural areas and which are PPEQ-approved must meet special USDA standards for fencing. Institutions which are entirely enclosed within a building may be exempt from this requirement.

## EAZA (EUROPEAN ASSOCIATION OF ZOOS AND AQUARIUMS)

### Minimum Standards for the Accommodation and Care of Animals in Zoos and Aquaria

#### ANIMAL CARE—WELFARE, HEALTH AND HYGIENE

##### Routine observation of the animals

1. The condition and health of all animals in the zoo to be checked daily by the persons in charge of their care for that particular day.
2. Any animals which are noted to be unduly stressed,

sick or injured to receive immediate attention and, where necessary, treatment.

#### Accommodation—Space, Exercise and Grouping

3. Animals to be provided with an environment, space and furniture sufficient to allow such exercise as is needed for the welfare of the particular species.
4. Enclosures to be of sufficient size and animals to be so managed —
  - a. to avoid animals within herds or groups being unduly dominated by individuals;
  - b. to avoid the risk of persistent and unresolved conflict between herd or group members or between different species in mixed exhibits;
  - c. to ensure that the physical carrying capacity of the enclosure is not overburdened;
  - d. to prevent an unacceptable build-up of parasites and other pathogens.
5. Animals not to be unnaturally provoked for the benefit of the viewing public.
6. Animals in visibly adjoining enclosures to be those which do not interact in an excessively stressful way.
7. Separate accommodation for pregnant animals and animals with young to be available, if necessary, in the interests of avoiding unnecessary stress or suffering.
8. Provide appropriate accommodation for animals being temporarily separated from a group.

#### Accommodation—Comfort and Well-being

9. The temperature, humidity, ventilation and lighting of enclosures to be suitable for the comfort and well-being of the particular species of animal at all times, and in particular—
  - a. consideration to be given to the special needs of pregnant and newly-born animals;
  - b. newly-arrived imported animals to be fully acclimatized bearing in mind that this may be only a gradual process;
  - c. tanks for fish and aquatic invertebrates to be adequately oxygenated, and appropriate water quality to be provided.
10. Animals in outdoor enclosures to be provided with sufficient shelter from inclement weather or excessive sunlight where this is necessary for their comfort and well-being.

#### Furnishings within Enclosures

11. Animal enclosures to be furnished, in accordance with

the needs of the species in question, with such items as bedding material, perching, vegetation, burrows, nesting boxes and pools. Provide appropriate environmental and behavioral enrichment.

#### **Prevention of Stress or Harm to Animals**

13. Enclosures and barriers to enclosures to be maintained in a condition which presents no likelihood of harm to animals, and in particular—
  - a. any defect noted in an animal barrier or in any appliances or equipment within animal enclosures to be repaired or replaced without delay;
  - b. any defect likely to cause harm to animals to be rectified at once or, if this is not possible, the animals to be removed from the possibility of any contact with the source of the danger;
  - c. any vegetation capable of harming animals to be kept out of reach.
14. All plants and fixed equipment, including electrical apparatus, to be installed in such a way that it does not present a hazard to animals and its safe operation cannot be disrupted by them.
15. Rubbish in animal enclosures to be cleared regularly to avoid any possibility of harm to animals.
16. Trees within or near animal enclosures to be regularly inspected and lopped or felled as appropriate to reduce the risk of animals being harmed by falling branches or using trees as a means to escape.
17. Smoking is prohibited in animal enclosures, in parts of buildings where animals enclosures are located and in areas where food is stored or prepared.
18. Animals to be handled only by, or under the supervision of, competent trained authorised staff; and this to be done with care, in a way which will avoid unnecessary discomfort, behavioral stress or actual physical harm to animals.
19. Any direct physical contact between animals and the visiting public only to be under the control of zoo staff and for periods of time and under conditions consistent with the animals welfare and not leading to their discomfort.

#### **Food and Drink**

20. Food and drink provided for animals to be of the nutritive value and quantity required for the particular species and for individual animals within each species, bearing in mind the condition, size and age of each animal; the need to allow for special circumstances (e.g. fast days or longer periods of fast or hibernation) and special diets for certain animals (e.g. animals undergoing a course of veterinary treatment, or preg-

nant animals).

21. Veterinary or other specialist advice to be obtained and followed concerning all aspects of nutrition.
22. Supplies of food and drink to be stored, prepared and offered to the animals under hygienic conditions.
23. Natural behavior of the animals, particularly social aspects to be considered when offering food and drink, and feeding and drinking receptacles if used, to be placed so as to be accessible to every animal kept within a particular enclosure.
24. Uncontrolled feeding by visitors is not permitted. Where feeding is permitted it should be on a selective basis only with suitable food provided and approved by the management.

#### **Sanitation and control of disease**

25. Proper standards of hygiene, both in respect of the personal hygiene of the staff and that of the animal enclosures and treatment rooms, to be maintained, and in particular—
  - a. special attention to be given to the cleaning of animal enclosures and equipment within them, to reduce the risk of disease or disease transfer, including in the case of aquatic animals, regular monitoring of water quality;
  - b. non-toxic cleaning agents to be readily available, along with supplies of water and the means to apply them;
  - c. veterinary advice to be obtained and followed regarding all cleaning and sanitation requirements of enclosures or other areas following identification of an infectious disease in any animal.
26. The drainage of all enclosures to be capable of removing efficiently all excess water.
27. Any open drains, other than those carrying potable water, to be outside the areas to which animals have access.
28. Refuse material to be regularly removed and disposed of.
29. A safe and effective programme for the control of pests and, where necessary, predators to be established and maintained throughout the institution. It is also requested that animals must not escape from the zoo or aquarium, and create an ecological threat for native wild species.
30. Keeper staff to be instructed to report immediately if they have contracted or are in contact with any infection which they have reason to believe could be transmitted to, and adversely affect the health of, any animal; and management then to take appropriate action.



31. Keeper staff to be instructed to report in confidence any other disability which might affect their capacity to manage the animals in a safe and competent manner; and management then to take appropriate action.

## **SAFETY AND SECURITY**

### **General provisions**

52. Local safety and security legislation regarding zoos and aquaria must be applied.

### **Enclosures**

53. Other than when elsewhere in the control of authorised staff, animals kept for exhibition in the zoo to be kept at all times in enclosures or, in the case of free-running non-hazardous animals, within the perimeter of the zoo.

### **Enclosure barriers**

54. Enclosure barriers to be designed, constructed and maintained to contain animals within the desired enclosures.

### **Stand-off Barriers**

55. Where direct contact would be possible between visitors and hazardous animals through or over any enclosure barrier, to the extent that such an animal would be capable of causing injury, a stand-off barrier to be provided sufficiently far back to prevent such contact.

### **Perimeter Boundaries**

56. The perimeter boundary, including access points, to be designed, constructed and maintained to discourage unauthorised entry and, so far as is reasonably practicable, as an aid to the confinement of all the animals within the perimeter of the institution.
57. No perimeter barrier to include any electrical section less than 2 metres from the ground, except in those cases where it also serves as a normal animal barrier and cannot be reached by the visiting public.

### **Warning Signs**

58. In addition to a stand-off barrier, an adequate number of clearly visible safety signs to be displayed at each enclosure where there may be significant danger, including electric fences.

### **Exits**

59. Sufficient exits from the zoo or aquarium to be provided, having regard to the size of the institution and

the number of visitors anticipated at any time who may need to leave quickly in an emergency.

60. Exits to be clearly signposted and marked.
61. Each exit from the zoo or aquarium to be kept clear and to be capable of being easily opened from inside to allow the release of persons from the institution. All such gates to be capable of being closed and secured to discourage the escape of animals.

### **Removal of animals from enclosures**

76. Hazardous animals not to be allowed out of their usual enclosures for the purpose of direct contact with the public, except, where the zoo operator is satisfied that such animals are not, when under control, likely to cause injury or transmit disease.
77. Where hazardous animals are allowed out of their usual enclosures an authorised and experienced member of the staff to accompany each animal.
78. Zoo operators to exercise caution and discretion in the case of the removal of non-hazardous animals since the behaviour of all animals may be less predictable when away from their usual enclosures.
79. Precautions to be taken to avoid injury to visitors when animals are used for rides.

### **Escape of animals from their enclosures**

80. Zoo operators to assess whether any danger may arise in the event of an animal escaping from its enclosure, and to consider the possible or likely attempted escape route within and from the institution if this were to happen.
81. In the case of the escape of animals emergency plans must be available and fully understood and practised by all staff.
82. This emergency plan should include a member of staff to be readily available at all times to take decisions regarding escaped animals, including the use of firearms if needed.
83. Every employee with tasks under the emergency procedures to undergo periodic refresher training and practice.

### **Safety of access for the public**

84. Buildings, structures and areas to which the public has access to be maintained in safe condition.
85. Trees within areas where visitors are likely to be walking or sitting to be regularly inspected and lopped or felled as appropriate to avoid visitors being harmed by falling branches etc.
86. Warning to be given of all edges where a person might fall, including into water; and, where necessary,

such edges to be guarded by a barrier which would be capable of restraining children from falling.

87. Each walkway over an animal enclosure to be designed, constructed and maintained to withstand safely the weight of the maximum of adults who could use it at any time; and maintained, sited or protected so as to withstand any contact by hazardous animals and prevent contact between such animals and visitors.
88. The visiting public not to be allowed to enter any buildings or other areas of the zoo premises which could present an unreasonable risk to their health and safety.
89. Any buildings to which visitors are not allowed on the grounds referred to above, to be kept locked and warning notices to be displayed to indicate that access is both unsafe for, and not permitted to, the public.
90. Other areas to be clearly defined, e.g. by means of barriers and similar warning notices, or by suitable notices together with road markings where frequent access is necessary for vehicles operated by zoo staff along roadways to which the public are not admitted.

#### **Emergency First-Aid**

91. First-aid equipment and written first-aid instructions to be readily accessible on the premises.
92. Where venomous animals are kept, the appropriate and up-to-date anti-venom to be held at the zoo or a local hospital or within a reasonable time frame ensuring the safety of staff and visitors, and kept in accordance with the manufacturers instructions.
93. Written instructions to be provided for staff on the procedure to be followed in the event of an incident involving any venomous animal and a visitor or another staff member. These instructions to include:
  - a. immediate action to be taken in respect of the patient and;
  - b. required information on a pre-prepared form for forwarding to the local hospital which would include:
    - I. the nature of the bite or sting and the species inflicting it;
    - II. the specification, for cross-reference purposes, of the anti-venom which accompanies the patient;
    - III. the telephone number of the nearest poisons centre;
    - IV. the telephone number of the institution.

#### **Insurance against liability for damage or injury caused by animals**

94. Zoo operators to hold a current liability insurance policy or other legal arrangements which indemnifies them and every other person under a contract of service or acting on their behalf, against liability for any damage or injury which may be caused by any of the animals, whether inside or outside the zoo, including movement by vehicle. Any upper limit on the sum involved which is included in the terms of such insurance to be set at an adequate and realistic level.





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