Ontario Zoo Review
Report #2

NIAGARA REGION

Zooz (Stevensville)
Marineland (Niagara Falls)

July 2006

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ZOOCHECK CANADA INC.

Zoocheck Canada Inc. is a national animal protection charity (#13150 2072 RR 0001) established in 1984 to promote and protect the interests and wellbeing of wild animals.

Zoocheck works to improve wildlife protection in Canada and to end the abuse, neglect and exploitation of individual wild animals through:

- investigation and research
- public education and awareness campaigns
- capacity building initiatives
- legal programs
- legislative actions.

INVESTIGATOR PROFILES

Else M. B. Poulsen

In 1978 Else Poulsen received her B.Sc. in Biology from Brock University and in 1995 her 4 year Diploma in Zookeeping from the City of Calgary Apprenticeship Programs.

Ms. Poulsen began her career in animal behavior in the early 1980s working as a field biologist in Alberta's energy industry. When the oil market took a downward spiral a few years later, she became a zookeeper at the Calgary Zoo.

As an entry level keeper Poulsen worked with a wide variety of animal species. She became particularly interested in large carnivore behavior and over time became a specialist in captive bear management and care.

Poulsen found it difficult to accept that the captive bears in her care displayed abnormal pacing behaviours, so she set out to better their lives. This led her to research captive bear problems, publish her findings and advocate for change.

After 18 years at the Calgary Zoo she left to work at a major US zoo and then at a specialist bear facility in Ontario. Over the years, she has provided expert assistance and advice about modernizing bear husbandry methods, environmental enrichment programming and enclosure design issues to zoos, sanctuaries and animal welfare groups around the world.

Poulsen has more than 40 papers and articles to her name in scientific research and technical journals, textbooks and other publications. She consults as an animal behavior and captive environment trouble-shooter. She has also lectured on modern bear care and animal welfare issues to audiences as diverse as university students studying population genetics to First Nations Band Council members in northern Canada.

Naomi Rose

Dr. Naomi A. Rose is Marine Mammal Scientist for The Humane Society of the United States (HSUS) where she coordinates marine mammal programs, including protection of marine mammals in the wild and in captive situations.

Dr. Rose has led a campaign to enlighten the general public regarding the plight of captive marine mammals, testifying at federal and state hearings and preparing several documents analyzing the conditions of captive marine mammals. She is a member of a federally convened panel negotiating revisions to the current United States Department of Agriculture standards for the care and maintenance of captive marine mammals. She has appeared on CBS This Morning, A Current Affair, CBS Up to the Minute, The Crusaders, the Discovery Channel and various radio programs.

Dr. Rose has managed campaigns to enforce anti-harassment provisions of the (American) Marine Mammal Protection Act (MMPA); to prevent the importation of sport-hunted polar bear trophies; to eliminate the culling of wild seals and sea lions; to oversee implementation of the 1994 Amendments to the Marine Mammal Protection Act establishing a marine mammals/fisheries interaction regulatory regime; and to protect gray whales on the West Coast from new whaling proposals and habitat destruction.

Dr. Rose has also provided technical advice for The HSUS' campaign to protect dolphins who are caught in nets in some tuna fishing operations.

Before joining The HSUS, Dr. Rose conducted intensive study into the behaviour of wild marine mammals. She led a five-year research project in British Columbia to study the behaviour of male killer whales, or orcas. Dr. Rose has also studied the behaviour of northern elephant seals, Australian sea lions and Hawaiian spinner dolphins, and has participated in studies on coral reef ecology. She received her Ph.D. in biology in 1992 from the University of California at Santa Cruz.

Rob Laidlaw

Rob Laidlaw is a Chartered Biologist who began his involvement in animal protection work more than 25 years ago. He can conducted numerous investigative and legislative campaigns aimed at protecting the interests and welfare of wildlife in captivity. These initiatives have involved hundreds of site visits to zoos and wildlife facilities in Canada, the United States and other countries around the world.

Laidlaw has also conducted campaigns to protect animals in the wild, including polar bears, black bears, whales, African elephants and wild horses.

He is a former humane society inspector and Projects Manager and Technical Advisor for the World Society for the Protection of Animals and a founding director of Zoocheck Canada.

THE AUDIT PROCESS

The Zoo Exhibit Quick Audit Process (ZEQAP)[1] assessment tool that was used to grade the conditions in the zoo exhibits investigated in this report was developed for the World Society for the Protection of Animals and their member societies worldwide by Rob Laidlaw.

The ZEQAP provides a relatively simple approach to auditing terrestrial mammal exhibits, because it is based almost entirely on specific, critical housing and husbandry points.

NOTE: Because the review of Marineland was focused on how current conditions compare with conditions in past years, the ZEQAP system was not used.

How the Audit Works

Each exhibit is assigned a starting score of 50 points based on a series of conditions that must be satisfied. An exhibit must retain 40 points to pass.

The ZEQAP presents the investigator with a series of factual statements. These statements are divided into 11 sections, each assigned a numerical score. For example, the section on Behaviour is allocated five points, while the section on Privacy is assigned two points.

Points are deducted from the starting score in each section if the statement is not true, as this represents an exhibit deficiency. For example, in the section on shelter, the investigator is presented with the statement, "Shelters are present in the exhibit." If no shelter is present, two points would be deducted from the five points assigned to this section.

The lowest possible score in each section is zero.

Critical Deficiencies Mean Automatic Failure

The presence of any of the following critical deficiencies results in an exhibit automatically failing the audit and receiving a score of zero.

1. Severely cramped conditions (or restraints) that prevent normal postural adjustments and movement in any direction of less than three body lengths (including tail).
2. 100% hard or wire substrates.
3. Barren exhibits lacking any useable features or furnishings.

Additional Observations

In addition to auditing specific exhibits, the investigator toured all accessible areas of each zoo. Conditions were documented through photographs, video and hand written notes, which were transcribed shortly after each zoo visit.

Note: A passing score does not mean an exhibit is optimal or needs no improvement. It simply means that at the time the audit was conducted, certain basic animal housing and care criteria were met. Captive environments, by their very nature, are deficient when compared to the environments that animals inhabit in the wild and can always be improved.

[1] Copies of both ZEQAP documents are available from the Canadian office of the World Society for the Protection of Animals.

1. ZOOZ

July 12, 2006

General Commentary

Zooz is a privately-owned facility that focuses primarily on human amusement. Visitors can view, feed and/or touch animals, play in the wading pool, fly a kite, fish, use a paddle boat, play chess with oversized figures, view artwork, picnic, watch concerts or movies and more. Significant funds have been devoted to engaging the human senses, including sight, sound, taste and touch and to tug at the heartstrings of visitors. While the proprietors of Zooz seem to understand that their customers must be offered a variety of activities and receive a satisfying experience, they do not appear to recognize the critical importance of doing the same for the animals in their care.

The overall impression of the facility is that it is full of undersized, barren cages that house one or two under-stimulated animals, many of whom pick grasses from whatever areas they can reach outside of their cages or who beg for food from visitors.

Most of the hoof stock exhibits are completely barren and lack live ground vegetation of any kind. This allows the earth to dry to the point of causing dust clouds when the wind blows. Hoof stock are fed hay in feeders or on the ground. Either way the animals use it for both feed and bedding. This allows animals to urinate and defecate onto their feed. No specific bedding materials were observed in the entire facility. In some cases, such as the elk exhibit, there is no public barrier fence, thereby allowing visitors to walk right up to the primary barrier. Elk are potentially dangerous animals.

Some of the birds of prey are used in a Birds in Flight program. Hawks and owls are tethered to a stump on the ground without shade, but with a water dish nearby. During my visit, I observed one hawk standing in the middle of its water dish, presumably to cool off. The eagles, who were also tethered, were provided with small 'doghouse' style shelters at human eye level.

Other birds of prey and parrot species live in barren, dome-type exhibits with 360° public viewing. Most are provided with minimal perching materials that need to be replaced because they are worn and hard. Each enclosure is equipped with a shade structure. No attempts at enrichment were made. Most of the water dishes are on the ground allowing birds to drop feces into their drinking water.

Most of the monkeys are kept in pairs in similar barren, dome-type exhibits with 360° public viewing. They are provided with some perching branches, but these need to be replaced. Each cage is equipped with a plastic igloo dog shelter, but there was no evidence of any enrichment being provided. No attempt was made to address mental stimulation and no enrichment devices were in place. Feedings appear to be done once or twice each day in dishes. Both food and water dishes were positioned on the ground making contamination with urine and feces from above a possibility.

Two Black and White Colobus monkeys were videotaped reaching outside of their cage to pick grass. A circle of short grass stubs around their cage testified to the fact that these monkeys did this on a regular basis. Several visitors observed this and expressed concern, so they plucked clumps of grass and handed them to the monkeys.

The monkeys did not appear to have enough lean body mass. It is difficult to develop and

maintain muscle mass in small, improperly furnished exhibits.

The gibbons[2] were housed in larger exhibits attached to a building. Attempts had been made to allow for brachiation.[3] All perching materials needed to be replaced because they are old and worn. There was no evidence of enrichment programming. I observed two Black-handed gibbons reaching outside of their exhibit to grab for grasses as an expression of appetitive behavior.

Grass seems to make up a portion of many animal diets. The animals pull out and consume whatever grass they can reach outside of their enclosures. This behavior was frequent, so I hope the lawns are not treated with pesticides or artificial fertilizers.

The panthers and the felids located in the 'Silent Forest' live in small, barren cages with no enrichment. The cats did not have well defined musculature.

Most of the gates attached to public stand-off barriers were closed, but not locked. In fact, I did not observe locks on any of these gates, so I assume leaving them unsecured is common practice. Some stand-off barriers stop abruptly at the sides of the exhibits, allowing visitors to walk around them. At one, a small sign was posted asking the public to stay on the walkway, but a well worn path from the walkway to the cat enclosure primary fencing shows that many visitors do not obey the signage. Stand-off fencing around the entire cat exhibit is required. A gate in the stand-off barrier around the Amur Leopard exhibit was left completely open. Stand-off barrier gates were often too short. They were hung properly at the top, but left gaps at the bottom large enough for a human toddler to run through, without ducking.

The bear exhibits show an attempt to develop natural enclosures. However the complete lack of enrichment programming, including appropriate furnishings and objects, makes the enclosure relatively devoid of variation. One American black bear was observed pacing on a well worn path along the fence line.

At the entrance to the park and in the literature handed out to patrons, it states that visitors should attempt to keep noise levels down. Their concern for public noise seems somewhat hypocritical, since their concert stage speakers are placed right up against the red deer and ostrich exhibits.

As well, small substandard Cotton-top tamarin exhibits are abut the Picnic Basket lunch bar and the Dip'n'Dots ice cream bar, complete with loud speakers playing rock music all day long.

Exhibit Evaluations

Six exhibits were reviewed. All received failing grades.

Images

http://www.zoocheck.com/programs/zoocheck/Report06.2/images.shtml

American Black Bear & Syrian Brown Bear

These two exhibits are shaped like a pair of lungs joined at the top. Visitor walks on a path between the middle of the two exhibits to view the bears. Both enclosures appear to be natural

[2] Gibbons are apes, but are incorrectly identified on sections of the Zooz website as monkeys.
[3] Brachiation is the hand over hand method of locomotion used by gibbons.

fenced areas. The most significant problem is the complete lack of enrichment programming, including appropriate furnishings, objects and sensory stimulation. I observed one American black bear pacing, in what appeared to be a stereotypic manner, on a well worn path along a fence line. FAIL.

Bison

The bison are housed in a large open paddock devoid of any natural vegetation, with the exception of a single large shade tree. As is typical for hoof stock exhibits in this facility, the earth substrate was so dry that the wind worked it up into dust clouds. No enrichment programming or furnishings, such as butting rails, grooming logs, ponds, privacy structures or suitable shelters, were observed. Hay was used by the animals as feed and bedding. It ended up on the ground and was urinated and defecated on. FAIL.

Grey Wolf

The major problem with the grey wolf enclosure was safety. There appeared to be no underground fencing to stop the wolves from digging their way out. The enclosure fence has been patched and doubled at ground level, then overly fortified with hotwire. This suggests that there has been an escape or more in the past. Ironically, the battery that feeds the hotwire is within easy reach of the public and could be easily tampered with. No enrichment programming of any kind was observed. FAIL.

Olive Baboon

This domed, mesh exhibit sits like an island in the middle of the public lawns. Visitors can view the animals from all sides of the exhibit. Large platforms have been constructed to bring the baboons up to visitor eye level. Baboons are typically ground dwellers, except at night, and seemed to prefer staying on the floor of the exhibit. The only shade provided was under the platforms. There was no evidence of enrichment programming of any kind. The female busied herself for hours reaching outside of the exhibit picking and eating grass. The male baboon sat in the shade. FAIL.

River Hippopotamus

The hippopotami have a relatively large pond wallow wthat does not appear to have any form of water filtration. It is shallow and unshaded. Fecal coliform counts can reach high levels in these kind of circumstances. It appears that the animals spend the winter in a small building with cement-floored stalls and a tiny cement pool barely large enough for an adult hippo to turn around in. The interior accommodation is barren and inappropriate.

Warthogs

The warthogs live in a round, pit exhibit with a dirt mound in its center. This exhibit is completely unsuited for warthog living and appears to have been built for another species (perhaps a small burrowing rodent), but has been adapted for warthogs. It lacks sufficient space and complexity for these animals. FAIL.

Conclusion

Walking into this zoo felt like I was going back 40 years in zoo history. For the most part, the

exhibits were typical chain-link or steel mesh cages and unimaginative fenced paddocks. It appeared that the animals were fed once or twice a day and otherwise left alone. Many of the animals appeared unhealthy or withdrawn. The majority of them were sitting, lying or sleeping because there was little else for them to do. What is so striking about Zooz is that great attention has been paid to providing human visitors with mental and physical stimulation but very little has been directed toward the animals.

While this facility needs to construct better, more natural enclosures, in the short term they can dramatically improve the quality of life the animals experience by developing an extensive facility-wide enrichment program. This should be multi-faceted and incorporate the structural enhancement of exhibits, provision of furnishings, object enrichment, various kinds of sensory stimulation and changes in management routines.

Based on my discussions with zoo staff, I found a generally poor understanding of animal wellbeing. For example, there seemed to be a belief that enrichment is unimportant and that it does little more than result in a lot more work for caretakers. Enrichment should never be considered optional; instead, it should be viewed as a critical facet of daily husbandry and management. Clearly, zoo staff and management need retraining.

The facility also needs to address its many safety concerns immediately, particularly in the ‘Silent Forest’ which has many easily resolved problems.

2. MARINELAND[4]

July 24, 2006

MARINE MAMMAL EXHIBITS **(Dr. Naomi Rose)**

This report serves to summarize my impressions of Marineland of Niagara Falls, Ontario based on a visit to the facility on July 24, 2006. I had previously visited Marineland a decade ago, in June 1996. A number of changes to the marine mammal enclosures have been made in the intervening years, including the construction of two new enclosure complexes.

I arrived at approximately 1pm and was on the grounds for a little less than three hours. I attended one of the marine mammal performances (the sea lion, walrus and dolphin show), and also observed the seal and sea lion (pinniped), orca, and beluga enclosures, as well as the ungulate, fallow deer, and black bear enclosures. My comments will be limited to the marine mammals held by this facility and their accommodations. I was unable to view the marine mammals, such as the walruses and sea lions, held in off-display enclosures located behind the King Waldorf and Aquarium Theaters.

Aquarium Theater (pinnipeds)

The Aquarium Theater is an indoor enclosure. Based on my previous visit (please see my 1996 memorandum), I saw no physical remodeling of the structure; however, the underwater portion of the tank had been newly painted and had a new grill over the central drain. There were no visible signs of rust, the water appeared clear, and there was minimal detritus suspended in the water column. A show was on-going at the time, so the doors to the stadium viewing area were closed. I spent about five minutes observing the animals from the underwater viewing area. There were four or five harbor seals in the main tank (they were going in and out of the water, as instructed during the performance) and I saw at least one California sea lion in the left back tank (the gate was closed and I only caught a glimpse of this animal). The harbor seals seemed in good condition.

King Waldorf Theater (pinnipeds and dolphins)

The King Waldorf Theater is an outdoor enclosure. See the description in my 1996 memo – I saw no major differences from that time. The water quality appeared good, although there seemed to be a greenish tinge to the water, which may have been from algae growth or a result of the color of the paint on the tank walls. The stage appeared to have been newly painted. There were no obvious signs of rust or chipping paint, but I did not observe the enclosure closely, as my primary focus on this visit was to view the enclosures built since my last visit.

I did not spend any time watching the animals here when they were not performing, as the area is closed between performances. There were five bottlenose dolphins held in this enclosure complex, at least five California sea lions (four juveniles/females and one larger male), and at least one juvenile walrus. The pinnipeds' primary holding areas are behind the stage, presumably in the "warehouse" area – they are apparently allowed out into the main stage area only when performing and for training.

I watched the entire performance, which lasted approximately 25-30 minutes and consisted of a pinniped segment, a dolphin segment, and a brief walrus segment. The pinnipeds performed first.

[4] The Marineland review was co-sponsored by Niagara Action for Animals, P.O. Box 29002, 125 Carlton Street, St. Catharines, Ontario, L2R 7P9, (web) www.niagaraactionforanimals.ca

They seemed in good body condition. The larger male did not interact with the four other animals during the performance – his part of the script was handled separately from theirs. I could see no obvious skin conditions or wounds, but I observed the animals from near the top of the stadium seating only.

Upon my arrival in the stadium (just as the pinniped performance was starting), the five dolphins, who were being held in the small tank on the left (facing the stage), were swimming rapidly in a counter-clockwise direction. They maintained this high level of activity throughout the pinniped segment (approximately 12-15 minutes). Their body condition seemed good (not obese, no obvious wounds – however, I note again that I made these observations from the top of the stadium seating and did not observe the animals up close), but all the dorsal fins leaned at least slightly to one side. By the end of the performance, two dolphins were returned to the tank on the left, while three remained in the main pool (the trainers closed the gate near the end of the performance).

The small tank on the right was never used during the performance, although the gate was open and at one point, one of the sea lions entered it and then left again – this did not seem to be part of the script. This sea lion (the larger male) seemed generally unresponsive to commands for several minutes, but the trainers incorporated this behavior into the performance, so it was not clear if this was part of the script or not. At one time or another, steam or mist of some kind emitted from a pipe just above the water's surface in the tank on the right, for no reason I could discern (as no animals were in it). Periodically in the tank on the left, during the latter half of the dolphin performance when only three animals were being used, a hose was turned on as a distraction for the two dolphins being held there. One of the dolphins did spend some time under this hose, allowing the water to run onto his or her back.

I did not observe any clear signs of stereotypy in these animals, but I did not observe them when they were not performing. The energy level of the dolphins decreased substantially once the performance had ended and the trainers (and the food) departed the stage.

Dolphin and Pinniped Performance Notes

During the pinniped segment, there were two trainers on stage. However, each dolphin had his or her own trainer/feeder during the dolphin segment of the performance. The walrus participated for only two or three minutes at the end of the performance, with one trainer.

There was absolutely no biological, ecological, or husbandry information provided on the dolphins or pinnipeds during their performances. The performance was meant to be high energy and comic, with some in-water interactions between the trainers and their charges (both the dolphins and the sea lions). There were high jumps, ball balancing, spinning, and other common "tricks", most of them offered without any context whatsoever, either biological or in terms of the script (there was no "story", other than an initial comic "cleaning crew" skit). Eventually there was no narration at all – the trainers stopped using microphones at several points and simply gave signals to the animals to do something (e.g., high jump, spin) amid loud music. There was a brief "audience participation" segment, with a young girl taken from the front row – she gave the dolphin two or three behavior signals, was allowed to touch the animal's skin, and then was given a "handshake".

As noted in my 1996 memo, in my opinion this performance would not meet the minimum professional educational standards required under the U.S. Marine Mammal Protection Act. Those professional standards that I considered unsatisfied include: 1) educational programs

should be evaluated for current scientific information provided (there was no scientific information at all provided); 2) animal demonstrations must include an educational/conservation message (no message of any kind was included) and 3) presentations must include information on marine mammal biology, ecosystem ecology, and conservation that is based on the best current scientific knowledge (information of this kind was entirely absent).

I should note that I did not re-examine (relative to my 1996 visit) any of the signage at the Aquarium or King Waldorf Theaters.

Friendship Cove

Friendship Cove is an outdoor enclosure currently holding three orcas. It consists of three interconnected tanks – two primary enclosures of approximately the same size and one smaller medical holding tank. The primary enclosures are irregular (although roughly equilateral) in shape, perhaps 60 feet across and 35 feet deep. There are two or three concrete "boulders", presumably for texture and to provide some aesthetic relief, at the bottom of each. The tank on the left (facing the enclosure with one's back to the feeding kiosk) has a shallow shelf jutting out about 10-15 feet from the back wall, presumably for the whales to haul out on during petting interactions with the public. There is no shade provided at all (see, for contrast, the King Waldorf Theater description from my 1996 memo) and none of the nearby trees are tall enough to provide any at any time of the day.

The enclosure on the left held one orca (Nootka) and the one on the right held two, a mother and calf (Kiska and Athena). The gates to the medical enclosure and between the two primary enclosures were closed.

The water was relatively clear, but there was a strong odor of chlorine in the vicinity of this complex and some muddy debris had accumulated at the base of at least one of the "boulders" in the tank on the left. The public is able to approach the wall directly at almost any point along the perimeter of these enclosures and can reach in and touch the animals. For the 20 or so minutes I spent observing these animals (during two separate occasions), I saw only one staff person along the perimeter (who arrived near the end of my second observation period – prior to his arrival, I saw no staff people at all at this enclosure). Essentially the public is able to directly contact these orcas without any staff supervision for (presumably) most of the day. At one point I saw an older child climb up partially onto the wall without any parental supervision. I also saw a parent holding a small child balanced on the wall.

There is no stadium seating here – there are no traditional performances. There are "Splash Sessions," where the animals are apparently directed to do some basic behaviors, such as jumps to splash the crowd. No Splash Sessions took place during the time I spent observing Friendship Cove.

There were two signs in the underwater viewing area, one on orcas and one on belugas (however, the belugas are held in a separate enclosure – see below). Presumably this is due to the fact that for a number of years the two species were held together in this enclosure complex. These signs provided adequate biological information, including accurate longevity estimates, but very few people were reading them. They are in a poorly lighted area and there is no directed lighting to improve the reading conditions.

Behavior and Appearance

I spent about 20 minutes observing the orcas, for about 5 minutes on one occasion above water and then again for another 8-10 minutes above water and 6-8 minutes underwater. During the first occasion, Nootka was observed holding her head up with her mouth open (in a classic "fish solicitation" pose), but not directed at anyone in particular. She was several feet from the wall, on the edge of the shelf, and held this position for several minutes. I have never seen a captive orca hold this position for this length of time without a trainer present offering fish (I have never seen a wild orca do this at all). On this initial occasion, I also observed Kiska swimming in slow circles with Athena (not strictly in a stereotyped way, although there was some repetition in her swimming pattern) – on one circuit of her enclosure, she opened her mouth and I got a good look at her teeth. They were completely worn down to the gum line.

During the second observation period (more than an hour later), all three whales were doing almost exactly the same things they had been doing earlier. Nootka was lethargic, logging at the surface, ignoring the people along the wall. For the last few minutes, a trainer without fish came to the enclosure and interacted with her, scratching her skin and pulling on her tail. She did not present her head to him, perhaps because she was aware he had no fish, but instead offered her back and tail to him. At no time during my observations did Nootka actually swim. Her isolation, other than the final interaction with the trainer, was as much mental as physical, as she made no attempt to interact with the public or to approach the wall separating her from Kiska and Athena. She simply logged at the surface, near the shelf, seemingly focused on nothing in particular.

Kiska and Athena were still swimming in steady counter-clockwise circles. At one point, Athena seemed to be nursing; at least she was in the nursing position. Kiska was not using the entire space available to her – she was ignoring perhaps half of the enclosure in her circuit. These two also ignored the public along the wall, although several people were making attempts to touch them as they swam past. At no time during my observation of Kiska and Athena did I see a direction change or any interruption in their steady swimming.

Arctic Cove

Arctic Cove is the newest marine mammal exhibit at Marineland. It is an outdoor enclosure, similar in shape and layout to Friendship Cove, but perhaps slightly smaller in dimensions (this may have been an illusion; there were so many more animals in these tanks that there seemed less space). I counted 25 belugas, 19 in the enclosure on the right (the gate between this tank and the medical tank was open the entire time) and six in the enclosure on the left (three mother-calf pairs). Because the gate to the medical tank was open, there could have been several more animals in the tank on the right, going in and out of the back area while I was trying to count. There *should* be 29 animals (including the calves), based on previous counts and import records and assuming no recent deaths.

Water quality was similar to Friendship Cove, with less debris on the bottom. I don't recall as strong an odor of chlorine at this enclosure, but this could have been because my sense of smell had grown accustomed to the odor at the other exhibits. As with Friendship Cove, there was absolutely no shade provided and the public could approach the wall directly and reach in and touch the animals (none of the animals approached the wall closely enough to be touched, except along the stretch where the feeding encounter was taking place – see below). The two primary enclosures were separated by a wall with the top flush with the water surface. This would ordinarily not prove a barrier to beluga whales, who in their Arctic habitat occasionally are beached during low tide on shallow mud flats and/or slide over ice floes. They are among the

only cetaceans who routinely beach themselves and could easily slip over a wall like this. Apparently in response to this behavioral quirk, the barrier had concrete cinder blocks scattered on top (I would presume this was to prevent any of the males in the non-nursery group from entering the nursery tank, rather than to prevent the mother-calf pairs from entering the big group tank).

There was no signage in the underwater viewing area (that I recall). I would guess that the sign on belugas at Friendship Cove is meant to be moved to Arctic Cove, but this hasn't happened yet. I asked two different staff people (young women, presumably summer help) "Where do all these belugas come from?" The first stated clearly, "We don't actually know where they come from". The second, after first responding firmly, "They all come from the same place," said with some chagrin and a shrug (after I expressed confusion at her answer), "I have no idea." Interestingly, the sign at Friendship Cove actually states that the belugas "come from the seas surrounding Siberia." So in fact the geographical origin of these animals is not being hidden, strictly speaking, but the staff is not being trained to provide appropriate answers to what might be considered an obvious or routine question.

I was told by the first staff person that the calves in the nursery tank were aged 13 days, three weeks and one month (one of the calves still had fetal folds – I would assume this was the 13-day old), and by the second staff person that one of the mothers was named Gemini. In the big group tank, there were several animals younger than seven or so (the age at which belugas clearly begin turning from gray to white), as well as three or four large white adults.

A public feeding session was going on when I arrived – see below.

Behavior and Appearance

I spent about 15-20 minutes observing the belugas, both above and underwater. The mothers and calves were swimming in slow counter-clockwise circles (I don't think I observed any direction changes, but there was no obvious stereotypy in their movements), with the pairs grouping and regrouping in various configurations. I didn't observe any nursing, but the calves were tightly bonded to their mothers. Generally, this nursery group looked healthy and the animals' body condition was good.

In the big group tank, slightly less than half the animals were participating in the feeding session. The rest of the animals were quite active, swimming in various directions around the tank, going in and out of the medical tank, and otherwise grouping and regrouping. In most other beluga exhibits that I have seen (and that I know of), there are only four or five animals at most and they spend much of their time swimming slowly in circles or logging at the surface or in the mid-water column. Marineland's belugas were, comparatively speaking, energetic. The animals' body condition appeared good and I saw no obvious skin conditions or wounds. I saw two obvious mother-calf pairs in the big group tank (the calves were much older than the ones in the nursery tank). One pair (with the younger calf – I would guess this was the 2005 calf) was engaging in the only stereotypy I observed here, swimming in a repetitive pattern, with the mother gliding upside-down along the mid-line of the bottom of the tank, front to back, and the calf swimming above her (right side up), then both rising for a breath and moving to the front again and repeating this behavior.

Most of the animals being fed were gray youngsters. There was only one (young) adult persistently participating in the feeding session during the time I was observing. The participating animals crowded along the wall, while staffers directed the public and answered questions (the

tourists were allowed into the area one at a time, after sanitizing their hands with "Purell" – most of those seeking to feed the belugas were children with parents). The belugas being fed all had their eyes at least partially closed. I can only speculate as to the cause of this – it might have been chlorine irritation, the bright sunshine, or something else entirely.

A photographer had a camera on a tripod set up directly across from the feeding area – presumably these photographs are made available for an extra fee to the individuals participating in the feeding session.

Other

There was a new tank, rather small (perhaps 25-30 feet in diameter), being built across from the ungulate enclosures. It was unclear if this was related to the animal enclosures or for some other purpose.

Conclusion/Ending Observations

The new cetacean enclosures (Friendship and Arctic Coves) are an improvement over the Aquarium and King Waldorf Theaters. They are larger and deeper and incorporate modern design concepts (e.g., irregular tank shapes, which are better acoustically for the animals, more texture). However, they still apparently rely on chlorine to maintain water quality (modern filtration systems do not use chlorine at all, because it is recognized as an irritant to the eyes and skin of cetaceans). In addition, the number of belugas being held in Arctic Cove is excessive and results in a substandard volume of space per animal. Holding an orca (Nootka) in isolation at Friendship Cove is apparently causing an unnatural lethargy and is far less than ideal for this social species.

The King Waldorf enclosure (due to its size) is more appropriate for dolphins versus orcas or belugas, but it is still small for five dolphins, particularly in its width (approximately 25 feet). The primary holding areas for the pinnipeds at King Waldorf are not public and therefore impossible to evaluate.

While the orcas and belugas probably weather winter conditions in Niagara Falls fairly well outdoors, this would not be true of the bottlenose dolphins (the bottlenose dolphin is a temperate species). Ten years ago, the dolphins were held indoors, in the Aquarium Theater. This begs the question of what Marineland management does with the dolphins at the King Waldorf Theater during the winter. One possibility is that they are moved indoors to the warehouse area behind the stage – this would be a less than ideal arrangement.

Overall, the conditions at Marineland for the marine mammals are less than ideal and in some aspects do not meet U.S. standards, particularly for space, educational content, public access to the animals, and staff supervision of the public. The perimeter walls of Friendship and Arctic Coves are under-supervised by staff and seem "an accident waiting to happen." The animal crowding at Arctic Cove is particularly problematic, especially as it will be difficult to control breeding among these animals and at some point the ability to separate the mother-calf pairs from the adult males may be limited or impossible, leading to negative interactions among the animals. On the one hand, belugas are gregarious and the large number of animals in this exhibit may be facilitating greater activity and less stereotypy; on the other, there are simply too many animals for the space provided. A beluga exhibit with 10 animals might be better socially than the more typical 4-5[5] – but 19-23 belugas in a single 60-70 foot-diameter enclosure, even with access to the

[5] I am in no way suggesting that captive beluga exhibits hold more animals, but merely commenting that

medical tank, is simply physically inadequate.

TERRESTRIAL MAMMAL EXHIBITS **(Rob Laidlaw)**

I attended Marineland of Canada during the afternoon of Monday July 24, 2006. The weather was clear, sunny and temperatures were in the mid 80s F. While I observed both terrestrial and marine mammal enclosures, my comments in this paper are limited to the terrestrial mammal exhibits only. I examined the black bear, red deer, elk, bison and fallow deer enclosures, in that order.

A number of previous reports provide detailed descriptions of each of the enclosures I am about to comment on, so I have not included comprehensive exhibit descriptions here. Compared with previous visits, I did not observe any substantive changes in the exhibits I examined.

1. American Black Bear (*Ursus americanus*)

The 3 - 5 acre enclosure has not changed from previous visits. No new structural enhancements, visual baffles, shaded areas, furnishings or enrichment objects were observed. While there were two sets of horizontally positioned tree limbs, one on each side of the exhibit, they were stripped of bark, hard, smooth and appeared to be the same limbs I observed during my previous visit in 2002.

The only available shade in the exhibit was a relatively narrow band along the fence line and in the alcove areas of the back wall. The shaded areas were not large enough to accommodate all of the bears at the same time.

The water in the moat was brownish in colour with zero visibility. The pool floor could not be observed in even the shallowest areas.

17 American black bears were observed, although there could have been additional animals that were out of view at the back of the enclosure or in the alcoves in the rear wall.

Ten of the bears were positioned in the moat area at the front of the exhibit and were begging for treats from visitors situated on the raised viewing platform above. The seven other bears sat or paced along the edge of the pool or were lying in shaded areas along the fence line.

The majority of the bears had relatively poor coat condition, including dull fur and tufts of hair leftover from their winter molt. Healed over body and/or facial scars and/or torn ears were observed on several bears. I observed one bear with teeth that were in very poor condition. I was unable to observe the condition of the teeth in the other bears.

Three of the bears in the water had positioned themselves almost directly beneath the visitors on the viewing platform above. The bears remained relatively motionless and appeared oblivious to their surroundings. They were panting, presumably from the heat and humidity, and remained more or less stationary the entire time I observed them.

The seven other bears in the water were either standing in one location walking in the shallow water or swimming in the deeper portion of the pool. All seven of these more "active" bears

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from a social standpoint, captive belugas may behave more “naturally” in larger groups. Frankly, if this species must be crowded in captivity to provide more natural social conditions, it seems uniquely unsuited to captive maintenance altogether.

appeared focused on the visitors above and seemed to be waiting for food treats to be thrown down to them.

Commentary

The spaces that black bears inhabit in the wild are large and range from a few square km in size to dozens or even hundreds of square km. While they are primarily forest dwelling animals, black bears do occasionally venture into scrub, meadow, marsh and swamp habitats. Their preferred habitat however is forest with substantive amounts of ground cover. They do not inhabit open terrain on a permanent basis.

The Marineland bear enclosure is grossly undersized for the 17 bears that are housed in it. The hardpan substrate, exposure and lack of structures, furnishings and enrichment is severely problematic. Black bears are excellent climbers, swimmers and, in the wild, can move considerable distances over a variable terrain on a daily basis. The Marineland bears have almost nothing to do, except walk from one side of the enclosure to the other. The bears cannot properly engage in foraging, digging or most other natural behaviours. Many of the animals have developed begging routines, stereotypies (i.e., pacing) or they have become lethargic.

The lack of shade in the exhibit is severely problematic. The bears are forced to seek relief from the sun by cooling off in the moat, which is entirely exposed to the sun, or by moving to shaded areas along the fence line or in any of the three alcoves at the back of the exhibit. Unfortunately, the large number of bears coupled with the relatively modest amounts of shade make it possible for dominant animals to monopolize the coolest, most comfortable locations. Each bear should be provided, at all times, with the opportunity to access cool, shady areas.

Overcrowding of bears in the Marineland enclosure is severely problematic. Bears are primarily solitary animals (except females with young), so constant contact with other bears is unnatural and can be stressful and dangerous. Some of Marineland's bears were observed with facial and body scars and torn ears. To relieve stress caused by overcrowding, the bears should be able to remove themselves from the view of their cagemates. There are no such opportunities for the bears at Marineland.

As in the past, the uncontrolled, unmonitored visitor feeding of the bears continues to be a problem. Competition for food treats thrown by visitors still appears to be a factor in inter-individual aggression, as well as being problematic from a health perspective (e.g., tooth decay, gum disease).

2. Red deer (*Cervis elaphus*)**, Elk** (*Cervus Canadensis*)**, American bison** (*Bison bison*)

The three fenced paddocks housing the Red deer, elk and American bison were unchanged from previous visits. Six red deer, six elk and approximately 45 bison were observed, although there may have been other animals at the back of each paddock that were out of view.

The red deer and elk were standing next to the fence by the visitor walkway. Several animals had ducked underneath the single steel bar, meant to keep them separated from the fence line, in order to beg for treats from visitors. Both children and adults were observed feeding the animals and petting them on their head, neck and body.

The Red deer and elk paddocks were devoid of grass or any other vegetation. Very small, sparse patches of cropped grass were growing in a few parts of the bison paddock.

All three paddocks were flat, barren and the only shade was provided by an open-sided shed and whatever shade was cast by the trees along the fence lines.

Commentary

The red deer, elk and American bison paddocks at Marineland are flat, barren and unnatural. In the wild, these ungulates inhabit complex ecosystems that provide a range of substrate types and natural features.

The Marineland ungulate paddocks are featureless and devoid of vegetation, structural enhancements, furnishings or enrichment that could potentially encourage species-typical behaviours. These paddocks resemble cattle feedlots and are not at all like the environments these animals would inhabit in the wild.

The ungulate paddocks were deficient in shade and shelter. Other than a relatively narrow band of shade cast by trees along the fence line, the only shade in the red deer and elk paddocks was in the open-sided sheds. There were no cool, shady areas in the interior of the paddocks. I did not observe any shady areas in the American bison paddock.

Several of the red deer and elk were at the fence by the visitor walkway begging for deer pellets. Both children and adults were observed feeding and petting the antlers, heads, necks and bodies of the deer. This is a potential zoonoses and safety concern. The feeding may also have health consequences for the animals as individual food intake is not monitored and inappropriate items may be fed to the animals.

3. Fallow Deer (*Dama dama*) **Petting Area**

Approximately 40 fallow deer were observed in this elliptical, football field sized paddock; it was devoid of vegetation, furnishings and shade structures. Most of the deer were huddled in a narrow band of shade along the perimeter fence line. Several deer were also sitting in shade cast by the fence ringing the trees in the interior of the enclosure.

Several of the deer appeared lethargic and were panting. Numerous visitors were observed walking up to the deer to have their photos taken with them. Both children and adults touched the antlers, head, neck and bodies of the deer who seemed agitated by the contact but, except for repositioning their heads, did not move. One animal did display some aggressive movements when approached.

Approximately 10 deer were observed actively begging for treats from visitors. Ice cream cones filled with deer pellets were being sold in a small kiosk inside the exhibit.

A separate gated area at one end of the paddock housed approximately 250 deer. The majority of them were sitting on the ground in shaded areas. The shade was cast by trees situated around the outside perimeter fence of the paddock. Approximately 15 deer were at the gate begging for food from visitors.

Commentary

Like the previously described ungulate exhibits, the deer petting area consists of featureless, bare earth, devoid of vegetation, structural features, furnishings or enrichment that could potentially encourage species-typical behaviours. These deer are adapted to graze and browse for long periods of time, so the lack of roughage removes opportunites for prolonged oral occupation. This paddock is nothing like the forested environments these animals would inhabit in the wild.

The paddock is also grossly deficient in shade and shelter. Other than a relatively narrow band of shade (dependent on the angle of the sun) cast by the trees growing along the exterior of the fence line and along the fence encircling trees in the middle of the paddock, there was no protection from the sun. Several of the deer appeared to be heat stressed and were lying in the shade along the fence line panting. Others had no option but to remain in the sun. This is a serious and inexcusable husbandry failure.

Scarring, wounds and/or hairless patches were noticeable on many of the deer. This could be the result of high parasite loads caused by overcrowding.

Although there were signs indicating that children should be supervised, no Marineland staff were observed in the petting area, so there was no official supervision and visitors could do as they pleased. Most of the stationary deer were surrounded by onlookers. Some visitors were observed touching the antlers, head, necks and bodies of the deer, who appeared agitated by it. From both a safety and zoonoses perspective, this is a potentially dangerous activity, especially for children.

Conclusion

The conditions for the terrestrial animals at Marineland appear unchanged from previous years. None of the deficiencies identified in earlier reports have been addressed. The bears are still housed in what amounts to a barren, overcrowded pit, while the ungulates are kept in totally inappropriate bare earth paddocks that do little to encourage natural movements and behaviours.

1. A. - ZOOZ

AMERICAN BLACK BEAR & SYRIAN BROWN BEAR

CHARACTERISTIC	SCORE POSSIBLE	SCORE ACTUAL	COMMENTS
APPEARANCE	5	4	
UNHEALTHY, INJURY	-2		
REQUIRE GROOMING	-2	-1	One black bear had large clumps of orange, dead fur from their previous molt stuck to his/her lower back and rump
FUR/FEATHER/SKIN CONDITION	-1		
BODY WT. INAPPROPRIATE	-1		
BEHAVIOR	5	3	
ABNORMAL BEHAVIOR	-2	-2	On e black bear observed repeatedly pacing along the fence.
PERFORMANCES	-2		
S.S. GROUPING	-1		
WITHDRAWN	-1		
PUBLIC FEEDING	-1		
SPACE	10	10	These two enclosures are recently built and illustrate a better understanding of natural enclosures.
ALLOWS NORMAL MOVEMENT	-4		They are natural, relatively large and allow for normal gait and movement.
FIGHT OR FLIGHT RESPONSE	-4		
VERTICAL SPACE USE	-2		
OVERCROWDED	-2		
BARRIER	3	2	
MAINTENANCE	-2		New and in good condition
SAFE FOR ANIMALS	-1	-1	The two exhibits are separated by a single fence, which is heavily fortified on either side by hotwire, presumably to keep the bears from interacting with each other. This should be a double fence separated by enough space to prevent interaction. If the hotwire fails the bears can interact through the fence. There have been reports from other zoos of bears having their tongues bitten off by other carnivores through single fences.
HOT WIRES, PRIMARY BARRIER	-1		
SUBSTRATE	5	5	
< 25% SOFT SUBSTRATE	-2		
ALLOWS FOR S.S. BEHAVIOR	-1		
FLAT, NO VARIATION	-1		
SIGNIFICANT FLOODING	-1		

FEATURES & FURNITURE	5	0	Both exhibits were equipped with logs, ponds and heavily grown natural vegetation.
NO S.S. FURNITURE	-2	-1	The problem is that there have been no attempt made to accommodate enrichment of any sort. As a result, even though the exhibit is natural, new and easily the most advanced in the park, there is nothing to stimulate mental activity in the bears. This may be why they exhibit aberrant behavior.
ENOUGH FOR GROUP	-2	-1	NO ENRICHMENT DEVICES
DESIGN	-1	-1	NO ENRICHMENT DEVICES
LOCATION	-1	-1	NO ENRICHMENT DEVICES
REPLACEMENT	-1	-1	NO ENRICHMENT DEVICES
EASE OF REPLACEMENT	-1	-1	NO ENRICHMENT DEVICES
SHELTER	5	4	
AVAILABLE	-2		
EFFECTIVENESS	-1		
SHELTER ACCESS	-1		
ENOUGH FOR ALL	-1	-1	A dominant bear can monopolize the entrance.
BEDDING/SOFT SUBSTRATE	-1		In this exhibit bedding is not necessary as the bears can obtain their own from the natural vegetation.
PRIVACY	2	2	
PUBLIC VIEW/CAGE MATES	-2		
ENOUGH FOR ALL	-1		
360° VIEWING	-1		
ENVIRONMENT: OUTDOOR	5	4	
S.S. CLIMATE	-1		
VARIED TOPOGRAPHY	-1		
NOISE	-1		
GARBAGE/FECES	-1		
POTABLE WATER	-1	-1	Could not find potable water, presumably the bears are to drink from their ponds which do not appear to have cleaning mechanisms.
ENVIRONMENT: INDOOR	5		
S.S. ENVIRONMENT	-2		
VARIED TOPOGRAPHY	-1		
NOISE	-1		
GARBAGE/FECES	-1		
POTABLE WATER	-1		
SAFETY	3	2	
BARRIER CAN CONTAIN IND.(S)	-2		
DEFECTS IN EXHIBIT	-1		
PUBLIC BARRIER	-1		

GATES/DOORS LOCKED	-1	-1	The public stand-off barrier, designed to keep the visitors clear of the bear cage fence, stops abruptly at both sides of the exhibit allowing visitors to walk around the barrier and up to the cage.
DOUBLE DOOR ENTRY	-1		
SHIFT AREAS	-1		
SIGNAGE	2	2	
1 OR > EXPLANATORY SIGN(S)	-2		
PROMINENT LOCATION	-1		
ACCURATE INFO.	-1		
TOTAL SCORE	50	38	FAIL

BISON

CHARACTERISTIC	SCORE POSSIBLE	ACTUAL	COMMENTS
APPEARANCE	5	5	
UNHEALTHY, INJURY	-2		
REQUIRE GROOMING	-2		
FUR/FEATHER/SKIN CONDITION	-1		
BODY WT. INAPPROPRIATE	-1		
BEHAVIOR	5	4	
ABNORMAL BEHAVIOR	-2		
PERFORMANCES	-2		
S.S. GROUPING	-1		
WITHDRAWN	-1	-1	Inactive group, unable to graze since there is no ground vegetation in exhibit. Exhibit does not encourage activity.
PUBLIC FEEDING	-1		
SPACE	10	10	
ALLOWS NORMAL MOVEMENT	-4		Large enough to allow for normal movement.
FIGHT OR FLIGHT RESPONSE	-4		
VERTICAL SPACE USE	-2		
OVERCROWDED	-2		
BARRIER	3	1	
MAINTENANCE	-2	-1	Fencing has wires hanging down into the bison yard in a number of places such that animals can get stabbed or otherwise hurt by them.
SAFE FOR ANIMALS	-1	-1	Exhibit should be equipped with butting rails.
HOT WIRES, PRIMARY BARRIER	-1		
SUBSTRATE	5	3	
< 25% SOFT SUBSTRATE	-2		100% natural substrate

ALLOWS FOR S.S. BEHAVIOR	-1	-1	No living vegetation in entire exhibit. Animals unable to graze and move about while exhibiting appetitive b behaviors.
FLAT, NO VARIATION	-1	-1	Bison are plains animals so flat is not an issue, however flat without living vegetation is a problem.
SIGNIFICANT FLOODING	-1		
FEATURES & FURNITURE	5	0	There is only one large tree providing shade in the exhibit. Other than that the exhibit is barren.
NO S.S. FURNITURE	-2	-2	There are no butting rails, grooming logs, ponds and/or mud wallows, private areas, individual shelters.
ENOUGH FOR GROUP	-2	-2	NO ENRICHMENT DEVICES
DESIGN	-1	-1	NO ENRICHMENT DEVICES
LOCATION	-1	-1	NO ENRICHMENT DEVICES
REPLACEMENT	-1	-1	NO ENRICHMENT DEVICES
EASE OF REPLACEMENT	-1	-1	NO ENRICHMENT DEVICES
SHELTER	5	0	
AVAILABLE	-2	-1	There is an old shelter in the middle of the dirt field. It is too open to protect the animals against inclement weather.
EFFECTIVENESS	-1	-1	One dominant animal can monopolize the shelter, leaving nothing for the rest of the group.
SHELTER ACCESS	-1	-1	Access can be dominance monopolized.
ENOUGH FOR ALL	-1	-1	Even if all animals in group are tolerant of each other and stand together, shelter is too small.
BEDDING/SOFT SUBSTRATE	-1	-1	The 'bedding' in the shelter is their hay which is also appears to be for consumption. Improper food presentation.
PRIVACY	2	0	There is 360 ° viewing around the exhibit. Animals cannot remove themselves from public view, nor can they effectively get away from each other.
PUBLIC VIEW/CAGE MATES	-2	-2	
ENOUGH FOR ALL	-1	-1	
360° VIEWING	-1	-1	
ENVIRONMENT: OUTDOOR	5	1	Bison can withstand the Niagara region winter but still require proper shelter/ windbreaks for the young and the old. There is no indoor enclosure or appropriate shelter. I could not determine if these animals are moved to another facility that provides shelter during the winter.
S.S. CLIMATE	-1		Although bison are plains animals, they have the opportunity they move their herds out of open areas in the winter. Not known if they are moved out of this enclosure for the winter.
VARIED TOPOGRAPHY	-1	-1	The exhibit needs natural vegetation, a pond and landscaping to break up the barren, flat terrain.
NOISE	-1	-1	Due to the openness and 360° viewing, there are no sound buffers, therefore the visitor bus, music from events and snack bars travel through this location
GARBAGE/FECES	-1	-1	There is an accumulation of feces in the exhibit and there is no place to shift the animals indicating that the exhibit is likely cleaned by front end loader periodically. It appeared as though some of the fecal material had been on the ground for days.

POTABLE WATER	-1	-1	Water in drinking tub was dirty and green.
ENVIRONMENT: INDOOR	5		No indoor enclosure.
S.S. ENVIRONMENT	-2		
VARIED TOPOGRAPHY	-1		
NOISE	-1		
GARBAGE/FECES	-1		
POTABLE WATER	-1		
SAFETY	3	1	
BARRIER CAN CONTAIN IND.(S)	-2		
DEFECTS IN EXHIBIT	-1		
PUBLIC BARRIER	-1		
GATES/DOORS LOCKED	-1		
DOUBLE DOOR ENTRY	-1	-1	No double door entry.
SHIFT AREAS	-1	-1	There are no shift areas. Likely cleaned on a front end loader without moving out the animals.
SIGNAGE	2	2	
1 OR > EXPLANATORY SIGN(S)	-2		
PROMINENT LOCATION	-1		
ACCURATE INFO.	-1		
TOTAL SCORE	50	27	FAIL

GREY WOLF

CHARACTERISTIC	SCORE POSSIBLE	ACTUAL	COMMENTS
APPEARANCE	5	2	
UNHEALTHY, INJURY	-2		
REQUIRE GROOMING	-2	-2	Both wolves observed had matted, clumpy fur on various parts of their bodies, indicating that they require better grooming tools, such as large strapped street brushes attached to trees or other upright structures, or that there may be nutritional issues.
FUR/FEATHER/SKIN CONDITION	-1		
BODY WT. INAPPROPRIATE	-1	-1	The wolves appeared somewhat thin and may require a greater lean body mass.
BEHAVIOR	5	4	
ABNORMAL BEHAVIOR	-2		
PERFORMANCES	-2		
S.S. GROUPING	-1		
WITHDRAWN	-1	-1	Appear withdrawn, shy and uninterested in their environment
PUBLIC FEEDING	-1		

SPACE	10	10	
ALLOWS NORMAL MOVEMENT	-4		Large exhibit allows for normal movement
FIGHT OR FLIGHT RESPONSE	-4		Enough space to allow for fight/flight response
VERTICAL SPACE USE	-2		
OVERCROWDED	-2		
BARRIER	3	0	
MAINTENANCE	-2	-2	Fencing is an issue. The fence is doubled on the its lower portion and then heavily hot wired. It appeared not to be buried into the ground. From the patchwork of repairs it appeared as though the animals may have tried to escape in the past by digging under the fence.
SAFE FOR ANIMALS	-1	-1	
HOT WIRES, PRIMARY BARRIER	-1		
SUBSTRATE	5	4	
< 25% SOFT SUBSTRATE	-2	-1	Although substrate is 100% natural it is very dry and hard in places. Needs to be maintained to promote vegetation growth.
ALLOWS FOR S.S. BEHAVIOR	-1		
FLAT, NO VARIATION	-1		
SIGNIFICANT FLOODING	-1		
FEATURES & FURNITURE	5	0	
NO S.S. FURNITURE	-2	-1	Logs need replacement and repositioned to provide shade, privacy etc. There are no enrichment devices and no evidence of any other kind of enrichment. There is little to encourage species-typical behaviours.
ENOUGH FOR GROUP	-2	-1	NO ENRICHMENT DEVICES
DESIGN	-1	-1	NO ENRICHMENT DEVICES
LOCATION	-1	-1	NO ENRICHMENT DEVICES
REPLACEMENT	-1	-1	NO ENRICHMENT DEVICES
EASE OF REPLACEMENT	-1	-1	NO ENRICHMENT DEVICES
SHELTER	5	2	
AVAILABLE	-2	-1	Den is centered in front of public viewing. Only one den. Dominant animal can monopolize.
EFFECTIVENESS	-1		
SHELTER ACCESS	-1		
ENOUGH FOR ALL	-1	-1	Only one den/shelter, dominant animal can monopolize.
BEDDING/SOFT SUBSTRATE	-1	-1	No bedding observed.
PRIVACY	2	0	
PUBLIC VIEW/CAGE MATES	-2	-1	One den allows for one animal to get out of public view at a time if there are dominance issues.
ENOUGH FOR ALL	-1	-1 One den, domina nce	One den; possible dominance issue.

360° VIEWING	-1		
ENVIRONMENT: OUTDOOR	5	3	
S.S. CLIMATE	-1		
VARIED TOPOGRAPHY	-1	-1	Exhibit mostly flat, requires some change in elevation to give wolves a chance for long distance viewing and to pick up incoming smells.
NOISE	-1		Very quiet location with natural sounds of birds, frogs calling.
GARBAGE/FECES	-1		
POTABLE WATER	-1	-1	Greenish water in water containers.
ENVIRONMENT: INDOOR	5		
S.S. ENVIRONMENT	-2		
VARIED TOPOGRAPHY	-1		
NOISE	-1		
GARBAGE/FECES	-1		
POTABLE WATER	-1		
SAFETY	3	0	
BARRIER CAN CONTAIN IND.(S)	-2	-2	The lack of buried perimeter fencing is an issue, despite hot-wiring. The battery that feeds the hot wire is easily accessible to visitors. If someone tampers with the battery, the hot wire system would be rendered ineffective.
DEFECTS IN EXHIBIT	-1	-1	No buried fencing is a potential problem.
PUBLIC BARRIER	-1	-1	Public stand-off barrier stops abruptly with a sign asking visitors not to walk beyond that point. Not very safe as signs may be ignored. Children can easily run right up to wolf fence and stick fingers through the fencing.
GATES/DOORS LOCKED	-1	-1	Keeper gate on public stand-off fencing not locked. Battery feeding hot wires visible and easily accessed.
DOUBLE DOOR ENTRY	-1		
SHIFT AREAS	-1		
SIGNAGE	2	2	
1 OR > EXPLANATORY SIGN(S)	-2		
PROMINENT LOCATION	-1		
ACCURATE INFO.	-1		
TOTAL SCORE	50	27	FAIL

OLIVE BABOON

CHARACTERISTIC	SCORE POSSIBLE	ACTUAL	COMMENTS
APPEARANCE	5	5	
UNHEALTHY, INJURY	-2		

REQUIRE GROOMING	-2		
FUR/FEATHER/SKIN CONDITION	-1		
BODY WT. INAPPROPRIATE	-1		
BEHAVIOR	5	4	
ABNORMAL BEHAVIOR	-2	-1	Behaviors normal, but one spent much of day reaching through the fence to obtain grass growing outside. This indicates a lack of enrichment and a reduced ability to perform normal appetitive behaviors throughout day.
PERFORMANCES	-2		
S.S. GROUPING	-1		
WITHDRAWN	-1		
PUBLIC FEEDING	-1		
SPACE	10	4	
ALLOWS NORMAL MOVEMENT	-4	-2	The exhibit is too small a space for 2 baboons. While they can move about freely, the usable ground space available to them is modest.
FIGHT OR FLIGHT RESPONSE	-4	-4	The exhibit has 360° visitor viewing; therefore the primates have nowhere to get away from public view.
VERTICAL SPACE USE	-2		
OVERCROWDED	-2		
BARRIER	3	3	
MAINTENANCE	-2		
SAFE FOR ANIMALS	-1		
HOT WIRES, PRIMARY BARRIER	-1		
SUBSTRATE	5	2	
< 25% SOFT SUBSTRATE	-2	-2	There is not much ground surface area for the baboons to use. A bed of rock rubble has been added , which may be an attempt at enrichment by providing an area for keepers to throw seeds and other food items. Altenatively, it could be the zoo's attempt to make the exhibit more complex.
ALLOWS FOR S.S. BEHAVIOR	-1	-1	The exhibit needs more usable ground space to promote distance gait.
FLAT, NO VARIATION	-1		
SIGNIFICANT FLOODING	-1		
FEATURES & FURNITURE	5	0	The "new" design and furnishings (ie. platforms) fail to engage the animals or promote species-typical behaviors, so the baboons spend a lot of time reaching outside the exhibit to grab for grasses.
NO S.S. FURNITURE	-2	-1	The exhibit has recently been redesigned. It seems that the objective of the design was largely to promote public viewing. The new platform would have been better replaced with extensive branching and the placement of shelters both on and above the ground.
ENOUGH FOR GROUP	-2	-1	No significant enrichment in place

DESIGN	-1	-1	This exhibit loses points for a lack of species-specific design. No significant enrichment devices or program in place.
LOCATION	-1	-1	NO ENRICHMENT DEVICES
REPLACEMENT	-1	-1	NO ENRICHMENT DEVICES
EASE OF REPLACEMENT	-1	-1	NO ENRICHMENT DEVICES
SHELTER	5	5	
AVAILABLE	-2		
EFFECTIVENESS	-1		
SHELTER ACCESS	-1		
ENOUGH FOR ALL	-1		
BEDDING/SOFT SUBSTRATE	-1		
PRIVACY	2	0	
PUBLIC VIEW/CAGE MATES	-2	-2	Baboons cannot remove themselves from public view and have to enter a plastic igloo to get away from each other.
ENOUGH FOR ALL	-1		
360° VIEWING	-1	-1	360° public viewing. Baboons can be viewed from all sides.
ENVIRONMENT: OUTDOOR	5	1	
S.S. CLIMATE	-1	-1	These are African primates requiring warm weather. This exhibit is not suitable as winter accommodation.
VARIED TOPOGRAPHY	-1	-1	Exhibit too small to allow for varied topography.
NOISE	-1	-1	This exhibit is in the open and the sound that travels from the stage, rides and public transportation travels through this exhibit.
GARBAGE/FECES	-1		
POTABLE WATER	-1	-1	Two small plastic water containers are attached to the fencing of the exhibit. They do not appear to be sufficient during warm weather, unless they were refilled on a regular basis.
ENVIRONMENT: INDOOR	5		
S.S. ENVIRONMENT	-2		
VARIED TOPOGRAPHY	-1		
NOISE	-1		
GARBAGE/FECES	-1		
POTABLE WATER	-1		
SAFETY	3	3	
BARRIER CAN CONTAIN IND.(S)	-2		
DEFECTS IN EXHIBIT	-1		
PUBLIC BARRIER	-1		
GATES/DOORS LOCKED	-1		
DOUBLE DOOR ENTRY	-1		

SHIFT AREAS	-1		
SIGNAGE	2	1	
1 OR > EXPLANATORY SIGN(S)	-2		
PROMINENT LOCATION	-1	-1	Sign good, but lying on ground.
ACCURATE INFO.	-1		
TOTAL SCORE	50	28	FAIL

RIVER HIPPOPOTAMUS

CHARACTERISTIC	SCORE POSSIBLE	SCORE ACTUAL	COMMENTS
APPEARANCE	5	5	Unable to assess status of body condition
UNHEALTHY, INJURY	-2		
REQUIRE GROOMING	-2		
FUR/FEATHER/SKIN CONDITION	-1		
BODY WT. INAPPROPRIATE	-1		
BEHAVIOR	5	5	Hippos wallowing. Did not interact with visitors.
ABNORMAL BEHAVIOR	-2		
PERFORMANCES	-2		
S.S. GROUPING	-1		
WITHDRAWN	-1		
PUBLIC FEEDING	-1		
SPACE	10	0	
ALLOWS NORMAL MOVEMENT	-4		Outdoor exhibit allows for normal movement; indoor enclosure does not.
FIGHT OR FLIGHT RESPONSE	-4		Outdoor exhibit does allow animals to achieve comfortable distance from visitors. Indoor enclosure does not.
VERTICAL SPACE USE	-2		
OVERCROWDED	-2		
BARRIER	3	3	Outdoor barriers solid and in good repair.
MAINTENANCE	-2		
SAFE FOR ANIMALS	-1		
HOT WIRES, PRIMARY BARRIER	-1		
SUBSTRATE	5	1	Outdoor enclosure has large pond/wallow that appears to have no filtration. This can result in very high coliform levels.
< 25% SOFT SUBSTRATE	-2	-2	Outdoor exhibit is 100% natural substrate; indoor enclosure is 100% cement surface
ALLOWS FOR S.S. BEHAVIOR	-1	-1	Indoor enclosure has tiny cement pool, no wallow
FLAT, NO VARIATION	-1		Outdoor enclosure has large pond/wallow and natural ground to walk/lie, indoor enclosure has cement stalls and small cement pool
SIGNIFICANT FLOODING	-1		
FEATURES & FURNITURE	5	0	

NO S.S. FURNITURE	-2	-2	Outdoor exhibit needs butting rails & scratching posts for skin maintenance. Wallow is a big plus, with some reservation due to apparent lack of cleaning mechanism. No shade structure or enrichment. Indoor enclosure barren.
ENOUGH FOR GROUP	-2	-2	NO ENRICHMENT DEVICES
DESIGN	-1	-1	NO ENRICHMENT DEVICES
LOCATION	-1	-1	NO ENRICHMENT DEVICES
REPLACEMENT	-1	-1	NO ENRICHMENT DEVICES
EASE OF REPLACEMENT	-1	-1	NO ENRICHMENT DEVICES
SHELTER	5	0	Animals locked out of building which is presumably their shelter. Lock out was not due to staff cleaning. No other shelter provided. The building appeared closed for the season .
AVAILABLE	-2	-2	
EFFECTIVENESS	-1	-1	
SHELTER ACCESS	-1	-1	
ENOUGH FOR ALL	-1	-1	
BEDDING/SOFT SUBSTRATE	-1	-1	If hippos are given access to building after hours, no bedding was apparent inside.
PRIVACY	2	0	No privacy from visitor viewing or cagemate.
PUBLIC VIEW/CAGE MATES	-2	-2	
ENOUGH FOR ALL	-1	-1	
360° VIEWING	-1	-1	
ENVIRONMENT: OUTDOOR	5	0	
S.S. CLIMATE	-1	-1	Hippos cannot tolerate cold weather very well, so they can spend only a limited number of months in outdoor exhibit (6 months).
VARIED TOPOGRAPHY	-1		
NOISE	-1		
GARBAGE/FECES	-1		
POTABLE WATER	-1	-1	No potable water observed. Presumably the hippos are drink from the wallow. May be a coliform issue
ENVIRONMENT: INDOOR	5	0	
S.S. ENVIRONMENT	-2	-2	Cement holding area appeared cool and damp. Undersized, behaviourally impoverished bare, cement-floored stalls not suitable for overwintering.
VARIED TOPOGRAPHY	-1	-1	Stalls/pool too small. Entire building approx. 8.2 x 21m (27 x 70 ft) = 175 sq m (1,890 sq ft), minus space allotted for keeper activity. Too small for two very large hippos.
NOISE	-1		
GARBAGE/FECES	-1		
POTABLE WATER	-1		
SAFETY	3	2	

BARRIER CAN CONTAIN IND.(S)	-2		
DEFECTS IN EXHIBIT	-1		
PUBLIC BARRIER	-1	-1	Yellow polypropylene rope rigged up as public barrier around shipping gates to outdoor exhibit.
GATES/DOORS LOCKED	-1		
DOUBLE DOOR ENTRY	-1		
SHIFT AREAS	-1		
SIGNAGE	2	2	
1 OR > EXPLANATORY SIGN(S)	-2		
PROMINENT LOCATION	-1		
ACCURATE INFO.	-1		
TOTAL SCORE	50	18	FAIL

CRITICAL DEFICIENCIES

NO.	DEFICIENCY	FAIL	DESCRIPTION
1.	SEVERELY CRAMPED CONDITIONS OR RESTRAINTS PREVENTING NORMAL POSTURES & MOVEMENT LESS THAN 3 TIMES BODY AND TAIL LENGTH	F	The outdoor exhibit provides adequate space for 2 hippos, however hippos cannot stay outdoors during the winter and are presumably confined to the building. The indoor enclosure is approx. 175 sq m (1,890 sq ft), minus space for keeper activity. This is too small for the extended housing of two hippos.
2.	90-100% HARD WIRE SUBSTRATES		
3.	BARREN EXHIBITS LACKING ANY USABLE FEATURES OR FURNITURE	F	The outdoor exhibit does have a useable pond/wallow, but it will only be useable during warmer weather. The indoor enclosure is barren, featureless, stall-like and cement-floored.

WARTHOG

CHARACTERISTIC	SCORE POSSIBLE	ACTUAL	COMMENTS
APPEARANCE	5	5	Unable to assess body condition
UNHEALTHY, INJURY	-2		
REQUIRE GROOMING	-2		
FUR/FEATHER/SKIN CONDITION	-1		
BODY WT. INAPPROPRIATE	-1		
BEHAVIOR	5	4	
ABNORMAL BEHAVIOR	-2		
PERFORMANCES	-2		
S.S. GROUPING	-1		
WITHDRAWN	-1	-1	Warthogs spent most of time inside building, presumably because it was hot and the exhibit has no outdoor shade.
PUBLIC FEEDING	-1		
SPACE	10	2	

ALLOWS NORMAL MOVEMENT	-4	-4	The exhibit is a round pit enclosure with a dirt mound in the center, presumably to allow for drainage and/or to allow the public to view the warthogs. This is not normal topography for warthogs and makes extended, normal movement difficult, since the hogs have to 'climb.'
FIGHT OR FLIGHT RESPONSE	-4	-4	If the warthogs become stressed, they have limited options to remove themselves from its source. To enter their interior shelter, they must run over the earth mound or around the sides of the exhibit, unable to see what is around the bend.
VERTICAL SPACE USE	-2		
OVERCROWDED	-2		
BARRIER	3	2	Pit exhibits that allow public viewing from above can cause be a source of chronic stress to the animals.
MAINTENANCE	-2		
SAFE FOR ANIMALS	-1	-1	
HOT WIRES, PRIMARY BARRIER	-1		
SUBSTRATE	5	3	
< 25% SOFT SUBSTRATE	-2		
ALLOWS FOR S.S. BEHAVIOR	-1	-1	The exhibit is a round pit with a mound of dirt (devoid of live vegetation) in the center. It does not allow for a full range of movements, rooting behaviors or wallowing.
FLAT, NO VARIATION	-1	-1	The round mound of dirt does not offer enough topographic variation.
SIGNIFICANT FLOODING	-1		Unable to determine if the mud puddle at the front of the enclosure is artificial (simulating a wallow) or if it is standing water that did not drain out of the exhibit.
FEATURES & FURNITURE	5	0	Exhibit is devoid of furnishings and enrichment devices.
NO S.S. FURNITURE	-2	-2	There is no furniture or enrichment in the outdoor exhibit, with the possible exception of the mud wallow.
ENOUGH FOR GROUP	-2	-2	NO ENRICHMENT DEVICES
DESIGN	-1	-1	NO ENRICHMENT DEVICES
LOCATION	-1	-1	NO ENRICHMENT DEVICES
REPLACEMENT	-1	-1	NO ENRICHMENT DEVICES
EASE OF REPLACEMENT	-1	-1	NO ENRICHMENT DEVICES
SHELTER	5	4	
AVAILABLE	-2		The warthogs had access to the building. They spent much of midday in the building as it was the only shade available in the heat.
EFFECTIVENESS	-1		
SHELTER ACCESS	-1	-1	Only one entrance which can be blocked.
ENOUGH FOR ALL	-1		The building is approx. 7.3 x 7.3m (24' x 24') = 53.3 sq m (576 sq ft), an appropriate shelter from inclement weather, but not as a long term winter residence
BEDDING/SOFT SUBSTRATE	-1		

PRIVACY	2	2	
PUBLIC VIEW/CAGE MATES	-2		The raised earth mound in the center of the exhibit allows animals to remove themselves from the view of visitors and/or cagemates.
ENOUGH FOR ALL	-1		
360 VIEWING	-1		
ENVIRONMENT: OUTDOOR	5	0	Warthogs cannot tolerate excessively cold weather, so access to the outdoor exhibit is presumably extremely limited or eliminated in the winter. Their winter residence appeared to be the building attached to the exhibit.
S.S. CLIMATE	-1	-1	
VARIED TOPOGRAPHY	-1	-1	There is one mound of earth in the center of the pit. There are no flat grassy or scrub areas to facilitate a full range of species-typical behaviours.
NOISE	-1		
GARBAGE/FECES	-1		
POTABLE WATER	-1	-1	No potable water source was observed in the outdoor exhibit.
ENVIRONMENT: INDOOR	5	0	
S.S. ENVIRONMENT	-2	-2	The building offers a hard floor and stall-like living quarters.
VARIED TOPOGRAPHY	-1	-1	
NOISE	-1		
GARBAGE/FECES	-1		
POTABLE WATER	-1		
SAFETY	3	3	
BARRIER CAN CONTAIN IND. (S)	-2		
DEFECTS IN EXHIBIT	-1		
PUBLIC BARRIER	-1		
GATES/DOORS LOCKED	-1		
DOUBLE DOOR ENTRY	-1		
SHIFT AREAS	-1		
SIGNAGE	2	2	
1 OR > EXPLANATORY SIGN(S)	-2		
PROMINENT LOCATION	-1		
ACCURATE INFO.	-1		
TOTAL SCORE	50	27	FAIL

CONCLUSIONS

The results of this review of two of Ontario's more significant zoos show that animal welfare problems exist not only in the smaller, modestly funded facilities, but in larger, well-funded facilities as well.

The two zoos profiled in this report were found to be lacking in several significant areas, particularly in providing animals with enriched captive environments that facilitate the expression of a full range of species-typical behaviours. At Zooz, six exhibits were reviewed and all received a failing grade. They were assessed using the Zoo Exhibit Quick Audit Process (ZEQAP) described earlier in this report. The ZEQAP was not used to assess Marineland's animal exhibits because the investigators were comparing current conditions with those that were documented in the past.

Some of the key problems identified in both facilities during this investigation include:

1. Animals that were inactive or engaged in stereotypic behaviours.
2. Undersized cages and enclosures.
3. Barren, earth floor surfaces.
4. Lack of adequate shelter and privacy from public viewing.
5. Lack of structural enhancements, furnishings and/or enrichment programming to encourage species-typical movements and behaviours.

Many of these problems were identified in previous reports by Zoocheck Canada and other animal protection groups in past years.

Some of the animal welfare and human safety problems in both of these facilities are easily resolvable and affordable. Others, such as providing appropriate amounts of space for wide-ranging, deep diving animals, are not.

Concerns about animal welfare and human safety have been articulated to the management of both Zooz and Marineland in past years. In the case of Marineland, this has occurred time and time again going back nearly two decades. Unfortunately, many of the substantive problems remain unaddressed.

In Ontario, there are few rules governing the operation of zoos and other kinds of captive wildlife displays. This lack of regulation has resulted in facilities operating at a standard of their choosing.

Zoos and other public display facilities that want to display native wildlife (meaning those species listed as "specially protected and game wildlife" in the *Fish and Wildlife Conservation Act*) must obtain a license from the Ontario Ministry of Natural Resources (OMNR). There are several conditions attached to the license, including three general welfare conditions, that presumably must be satisfied before a license is issued. The welfare conditions are:

1. Animal enclosures in which animals are on public display should be of a size which enables the animals to:
    a) exercise natural behaviours to facilitate public education and interpretation;
    b) achieve a distance from the public and other specimens at which the animals are not psychologically or physically stressed;

c) achieve a full range of body movements and physical movements normally performed.

Some of these conditions do not appear to be satisfied. For example, Marineland's black bear enclosure does not seem to satisfy requirements 1. a) and 1. b), yet the facility is allowed to continue displaying these animals.

Exotic wildlife species are not regulated in Ontario, so zoo owners are free to house and care for them however they choose.

Recommendation

The Province of Ontario must implement and administer a comprehensive zoo regulatory program that requires anyone holding native and/or exotic wild animals in captivity to obtain a license and to satisfy a series of conditions as to their knowledge, experience, financial abilities, wild animal housing and management practices, safety procedures and other relevant issues. Licenses should be issued annually and only after an inspection of the premises to be licensed is conducted. The regulatory program should include the ability to conduct special inspections, penalties for non-compliance and provisions for license revocation.

A draft document entitled *Minimum Standards for Zoos in Ontario* was completed by the Ministry of Natural Resources in July 2001. If implemented and enforced, these standards would rectify many of Ontario's substantive wildlife in captivity problems, including many that have been described in this report. To date, the Ontario government has not moved forward on this front.