

Prairie Zoos

Captive Wildlife Facilities in Alberta and Saskatchewan



Published by:

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January 2000

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Foreword

For a number of years, the World Society for the Protection of Animals (WSPA) and Zoocheck Canada have investigated conditions in zoos throughout Canada. These investigations have resulted in a series of recommendations for improvement directed at zoological institutions themselves, as well as a variety of government agencies and elected officials. In many cases, these recommendations have resulted in tangible animal welfare improvements for captive wildlife and, in several instances, the closure of grossly substandard facilities.

During the summer of 1998, we turned our attention westward to examine conditions in a representative sampling of zoos in Alberta and Saskatchewan. As part of this investigation, zoo consultant Marilyn Cole examined the relevant provincial legislation respecting captive animal care in the prairie provinces. As a veteran zoo keeper with 22 years of experience caring for animals in an accredited zoo environment, Ms. Cole offers, along with her findings, a series of recommendations for Alberta and Saskatchewan's *prairie zoos*. WSPA and Zoocheck hope that the owners and managers of the facilities listed in this report will review Ms. Cole's recommendations and give them serious consideration. As a former zoo keeper, she is well aware of the challenges facing modern zoos. While she is critical of certain aspects of the facilities she visited, she also identifies a number of aspects that she feels should be commended.

Ms. Cole reviews each zoo based on a number of criteria including (but not limited to): enclosure design, animal welfare, public safety, education and conservation. In all cases, there is some room for improvement. She makes specific recommendations as to how each zoo may address its deficiencies with two exceptions. At GuZoo Animal Farm in Alberta, and Country Sunshine Zoo in Saskatchewan, the deficiencies were so numerous and the standard of care so appallingly inadequate that she recommends that these zoos be closed and their animals dispersed to more suitable accommodation elsewhere.

It will be evident to the reader of this report that there is a widening gulf between the standard of care and accommodation observed in amateur zoos versus that found in professionally-run institutions. This is consistent with the findings of past zoo investigations in eastern Canada. While all of the zoos profiled in this report require some improvement, the deficiencies observed in professional zoos tend not to be as severe as those encountered in amateur operations. Moreover, many professional zoos receive municipal funding. In these cases,

there is a measure of public accountability as ratepayers or their elected officials may have a say in how the zoo is run.

Disturbingly, while modern zoo standards continue to evolve, aided by the presence of national zoo associations, as well as independent agencies such as WSPA and Zoocheck, many zoos continue to operate using standards of care that progressive zoo managers deemed unacceptable long ago.

For this reason, we respectfully urge the governments of Alberta and Saskatchewan to incorporate the following measures into their zoo licensing regimes:

- Annual on-site inspections of all zoo facilities
- Adequate training of all zoo inspectors
- Mandatory upgrades for all deficiencies
- Licence revocation for facilities that are unable or unwilling to comply with licensing requirements and standards
- Periodic review of licensing requirements and standards to reflect new information

WSPA and Zoocheck hope that this report will focus attention on the plight of captive wildlife in prairie zoos and facilitate debate on animal well-being. If all interested parties work together, we cannot help but improve conditions in the zoos of Alberta and Saskatchewan, and perhaps raise the bars for zoos in general.

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About the Author

Marilyn Cole began her career as a zoo keeper at the Toronto Zoo in 1973, initially working at the old Riverdale Zoo during its transition to the new facility. She has done field work on primates in Gibraltar, Indonesia and Costa Rica, and has presented papers with regard to hand-rearing, conditioning and enrichment at various conferences. She has served on the Board of Directors of the American Association of Zoo Keepers and is past president of the Southern Ontario chapter.

Ms. Cole has worked with a large variety of animal species, ranging from polar bears to katydids. Her last assignment before retiring from the Toronto Zoo in 1995 was as a senior keeper in the Animal Health Unit. She has a B.Sc. in Physical Anthropology and a Masters in Environmental Studies. She is the co-founder and executive director of the Canadian Organization for Tropical Education and Rainforest Conservation (C.O.T.E.R.C.)

Introduction

This report summarizes the findings of an investigation undertaken in the provinces of Alberta and Saskatchewan during the summer of 1998. The purpose was to evaluate a representative sample of the facilities licensed to keep and display wild and exotic animals.

Particular attention was given to the various roadside zoos and petting farms found throughout these two provinces. As it was not possible during the course of this investigation to review all of the provinces' licensed facilities, this report is meant to serve more as a snapshot, framing both the strengths and weaknesses of the zoos surveyed and, just as importantly, the strengths and weaknesses of each province's zoo licensing requirements.

Methodology

This survey of facilities was carried out over a period of eight days in August 1998, in the company of Patrick Tohill, a representative of the World Society for the Protection of Animals (WSPA). Mr. Tohill documented the facilities with a still camera, while I used a video camera.

My comments and observations are based upon conditions prevailing at the time of my visit. It should be mentioned that, in the case of the larger facilities, it was not possible to carry out an exhaustive survey in the time allowed. Consequently my comments and analysis are based primarily on what was observed during the hours of my visit.

Assessment Standards

The first difficulty one encounters in conducting a zoo assessment is that there are no universally agreed upon standards for the keeping of wildlife in captivity. The Canadian Association of Zoos and Aquariums (CAZA) has published a set of general standards. The American Zoo Association (AZA) has another, more detailed and perhaps more stringent set of standards. Individual zoo owners appear to operate at a standard of their own choosing.

The provincial governments of Alberta and Saskatchewan have, for example, passed legislation governing the keeping of wildlife in captivity. Unfortunately, the relevant legislation in both provinces is nowhere near detailed enough and is much too subjective. Moreover, I can only assume that the provinces lack the resources for proper enforcement as at least two of the zoos I inspected operated far below any acceptable professional standard. As it stands, substandard facilities are not only allowed to continue to operate but to acquire and sell animals indiscriminately. Excerpts from the relevant legislation as well as an analysis of the specific strengths and weaknesses of each have been provided at the beginning of chapters two and three respectively.

In order to be effective, standards for the care and keeping of animals in captivity must spell out exactly what is expected of a facility. They must also address the species-specific needs of the animals.

While standards for animal care may vary somewhat, there are, nonetheless, a few basic requirements that apply universally. In the following pages, I will attempt to lay out the standards upon which my individual assessments are based. The criteria used were derived primarily from my daily experience in animal husbandry attained through 22 years as a zoo keeper. In addition to this on-the-job training, I have attended many zoo keeper conferences, in which it was possible to compare husbandry practices with keepers from around the world. During my career, I have been a frequent visitor to some of the world's best zoos. It was this exposure—as well as exposure to the available literature on captive animal care—that allowed me to formulate and refine my opinions as to what constitutes proper animal care. The following should be considered basic minimum requirements.

General Husbandry

Enclosures should possess a dry resting and social area.

All enclosures must be well drained to prevent standing water from collecting and should be disinfected regularly. During my years at Toronto Zoo, it was standard practice to disinfect primate cages on a daily basis in order to avoid the possibility of disease. This has the added benefit of preventing the build-up of noxious odours.

All bedding must be changed as often as necessary to remain dry, clean and free of noxious fumes.

Animal faeces and urine must be cleaned daily and deposited either in a sealed container or in a manure pit.

All food must be stored in vermin-proof containers and should be free from mold. It should be offered as fresh as possible and any left-overs should be removed daily.

Drinking water must be available at all times and should be changed daily. Pools should be scrubbed regularly to remove algae and residue.

Food and water dishes should be free of cracks and should be cleaned daily.

Enclosures

Enclosures must reflect the psychological well-being and social nature of the animals being exhibited, particularly in regard to such details as hide areas, climbing structures, space requirements, feeding and resting areas.

Height and width of the enclosure must be compatible with the animal's behavioural needs and will vary considerably depending upon the species. A good example of this can be seen in the Toronto Zoo's walk-through aviaries which allow birds the opportunity to fly and perch above visitors' heads or to hide amongst the vegetation. Ground-dwelling birds, meanwhile, are given the choice to walk around in the public areas or to hide in the bushes, if they prefer.

Indoor enclosures must be provided for all non-native species that are susceptible to extremes of temperature. All outdoor enclosures must have a suitable shelter so that every animal in the enclosure will have shelter from the elements, when desired.

Enclosure substrate should reflect the needs of the species and should be clean and free of faecal build-up.

All enclosures must be kept in good repair, free from broken wire, exposed nails, and other hazards.

All enclosures must be escape-proof.

Appropriate lighting and ventilation must be provided for all indoor enclosures.

Animal Health

All animals must receive regular veterinary attention and, in the case of illness or injury receive prompt veterinary care. One of my responsibilities as a keeper was to monitor the health and safety of animals in my charge. Emergencies were reported immediately to veterinary staff and reports were filled out on a daily basis. Veterinarians made regular visits to all areas so that examinations and vaccinations could be carried out. Complete medical records were available on each animal in the collection.

A regular parasite program must be maintained for all animals.

A regular vaccination program against contagious diseases must be in place. Any animal having a contagious condition must be quarantined immediately.

Staff must provide an environment in which captive animals can keep clean, except for species that dust or wallow.

Proper health records must be maintained for each animal in the collection.

Enrichment

I cannot emphasize enough the importance of enrichment. No longer is it acceptable to exhibit animals in barren enclosures, with no regard for their natural biology. Enrichment must be incorporated into the daily routine of all captive animals and must not be considered a luxury to be done in spare time. Zoo managers must be mindful of this concept and establish protocols to maintain the psychological well-being of their collections. Consider how much richer the impression given to visitors when they watch an animal exhibiting natural behaviour in an environment that reflects its natural habitat.

In this report I have used the phrase "stereotypic behaviour" which is defined as "repeated movements that have no discernible purpose." (Weschler, 1991) Examples of stereotypic behaviours include: pacing, vacant stare, head twisting and bobbing, rocking, and self-mutilation. Stereotypic behaviour can be a direct result of poor enrichment. It reflects a steady deterioration in the animal's psychological well-being as the animal is slowly driven insane.

A great deal of emphasis has recently been given to enrichment of captive animal's living environments. Conferences are now held annually around the world to discuss the topic (the Fourth International Enrichment Conference was held in Edinburgh, Scotland August 29, 1999). Books have been written (Shepherdson et al, 1998). The American Association of Zoo Keepers has an Enrichment Committee to investigate new ideas. The Association of British Wild Animal Keepers (ABWAK) have printed a 250-page looseleaf document covering all vertebrate groups, providing detailed descriptions of enrichment devices and ideas for each taxa. North Carolina Zoo has developed an "Enrichment Master List" which provides details of enrichment for many different exotic animals under the headings "Consummatory" and "Non-Consummatory."

With such a wealth of information available, it is inexcusable for any zoo operator or employee to ignore enrichment as a basic need. Enrichment does not have to be expensive either. Many strategies can be employed requiring little or no outlay of cash. Many unwanted items can actually be utilized for enrichment. When I was a keeper I made it known to friends and family that if anyone was throwing out an object, I might be interested in it. One of my favourite pastimes, when not busy with other duties, was to search the neighbouring woods for hollow logs, unusually-shaped branches or other paraphernalia that I felt would provide enrichment for the animals in my care.

Those that do require an expense must be considered as part of the operating budget.

Privacy Areas

The psychological well-being of each species must be the primary concern and take precedence over the visitors' desire to see the animals. As such, all animals should be afforded the opportunity to remove themselves from public view or the view of their cage-mates should they desire.

Privacy areas are important as animals may become stressed when placed in close proximity to humans or other animals. Most animals have what is known as a fight or flight distance. Violate this distance and the animal's fight or flight response kicks in. Animals unable to act on either of these responses may feel especially vulnerable. All animals should be allowed to achieve sufficient distance from onlookers and other animals to provide them with a level of psychological comfort.

Simple devices such as intersecting branches can provide a psychological barrier to ensure the comfort of an animal (though not necessarily hide it from view). Fresh branches provide an additional enrichment benefit to birds and other leaf-eating animals as they provide the animal with a natural food source.

Companionship

All animals should be exhibited in social groupings that simulate as closely as possible the animals' naturally occurring social situation. Any animal that is isolated for social or health considerations should be provided with companionship in the form of a conspecific (a member of their own species), a compatible species or, if no other alternative is available, human companionship. This is particularly important in the case of infants.

When one of Toronto Zoo's female gorillas was unable to nurse her infants, I became a surrogate mother for several of her offspring. I spent many nights comforting, carrying and bottle-feeding these infants. While this contact was crucial for the well-being of the gorilla babies, it was critical that they have contact with other gorillas as well, in order to be accepted and to learn appropriate cultural development. We, therefore, adopted a program whereby the infants had daily contact with the gorilla group (from a safe distance on the opposite side of a steel mesh) to vocalize with, smell and see other gorillas. Because of this intensive program, we were successful in re-integrating young gorillas with the entire group once it was possible to do so.

Public Safety

The facility should provide a safe, healthy environment for the visiting public, including stand-off barriers around enclosures, perimeter fencing around the entire facility (to contain animals in the event of an escape), access to first aid in the event of an accident and security service.

Education

Explanatory graphics on cages, interpretive services, and other educational opportunities should be available at every zoo. Information should be valid, accurate and sufficiently complete to give visitors a good sense of the life history of the species. When they leave, visitors should know more about the species as well as learning about the individual animals they viewed.

One of the satisfying and rewarding aspects of being a keeper was meeting zoo visitors and talking to them about the exotic animals they were visiting. Whether this occurred during formal "Meet the Keeper" sessions or informally during the performance of my duties, it was always a pleasure to be able to share my experience with visitors.

Training

Staff employed as caregivers of exotic wildlife must have knowledge of the natural history of the animals in their care, either through coursework or apprenticeship. They should be encouraged to pursue knowledge of exotic animals either by attendance at conferences or exchanges with other zoos, or through reading of appropriate literature.

Staff should have a proper respect for wildlife and care deeply for the animals in their charge. The dangers associated with keeping certain types of animals require that all staff receive proper training when hired. They should have a thorough knowledge of escape procedures, in the event of an emergency. As staff are also responsible for zoo guests, they should also be given training in first aid to assist visitors in distress.

Canadian Association of Zoos and Aquariums (CAZA)

Note that some of the zoos in this report are described as being *members* of the Canadian Association of Zoos and Aquariums (CAZA).¹ Formerly the Canadian Association of Zoological Parks and Aquariums (CAZPA), CAZA was established in 1975. CAZA is a non-profit organization whose stated purpose is "to promote the welfare of and encourage the advancement and improvement of zoology, education, conservation and science." CAZA promotes an accreditation program for zoos which includes guidelines and standards addressing such areas as management, staff, finance, physical facilities, animal acquisition and disposition, veterinary care, conservation, education, research and general safety and security. Despite the fact that CAZA's accreditation process is not as rigorous as its U.S. counterpart, the American Zoo and Aquarium Association (AZA), only a small handful of Canada's zoos have been accredited.²

All CAZA members must agree to adhere to the association's Code of Professional Ethics and a set of Mandatory Standards "uniformly applied to all members." CAZA says they are "intended as an inspirational guide for members and as a basis for disciplinary action." Unfortunately, the obligations laid out in the Code are voluntary in nature. CAZA's *Standards for Animal Care and Housing* are provided in Appendix C of this report.

¹There are separate categories of membership to CAZA. A *Fellow* is a person in management capacity of a zoological park, aquarium or related exhibition. An *Associate* is someone who has an interest in the objectives of CAZA. An *Institutional Member* must qualify for accreditation by CAZA before membership privileges will be extended.

² Accreditation by CAZA may be granted upon the endorsement of two of CAZA's *fellows* having visited the institution within the previous six months. In contrast, all facilities seeking membership to AZA must undergo an inspection prior to obtaining membership. AZA's Accreditation Commission consists of nine AZA Professional Fellow members, and two or three of these individuals are chosen to inspect a facility seeking membership, depending upon the size of the facility. Of the 22 facilities in Canada that have been accredited by CAZA, only four are accredited by AZA.

Alberta

Legislation

A document, produced pursuant to *The Wildlife Act (1987)*, the *Alberta Environmental Protection Natural Resources Service Licensing Manual (1993, revised 1995)* details the requirements to hold a zoo permit for captive wildlife. Zoo permits are issued by the Wildlife Management Division's Edmonton headquarters.

The requirements to obtain such a permit include the following:

1. Be an adult resident of Alberta; a body incorporated, registered or continued under the Business Corporations Act or a body incorporated under the Societies Act.
2. Own or lease the land on which the facilities exist.
3. Possess an approved development plan.
4. Have coverage of a minimum of 1 million dollars in public liability and property damage insurance.
5. Submit an application form and a detailed development plan to the nearest Natural Resources Service - Fish and Wildlife office.
6. Pay an annual fee of \$100.

The manual goes on to list the requirements for the development plan itself, as follows:

- a. The applicant's name, address, postal code and telephone number;
- b. A detailed list of individual species (or species groups) to be kept or proposed to be kept on the permitted premises. Amendments to the species list can be made by submitting them in writing to the Regional Director for approval.
- c. A description of the primary purpose of the facility.....It is very important to outline in detail how the purposes or themes will be integrated with the animal displays and exhibits.
- d. An indication if off premises animal husbandry or display is planned.

- e. The provision for veterinary services and facilities appropriate for the species to be held.....It is imperative that your veterinarian be advised of the animals you intend to display.
- f. The provision to quarantine new animal arrivals or to isolate sick injured animals.
- g. The background, training and experience of the staff relative to the species to be displayed.
- h. The record system to be used once the facility is operational (births, deaths, animal transactions, and medical history of animals).
- i. Safety provision for staff, the visiting public and the animals.
- j. An outline of financial information and projections which include a projected financial statement for 5 years, a five-year cash flow and details respecting financial capability.
- k. A municipal development permit or a written endorsement of the facility from the local authorities.

Additionally, there are provisions to renew or to revise a zoo permit, which basically is intended to update the facility.

Comments

With proper interpretation, staff training, and enforcement, these requirements should be sufficient to ensure a basic standard of animal care. *The Wildlife Act (1987)* requires all persons wishing to operate a zoo to obtain a zoo permit. Some of the requirements stipulated in the *Alberta Environmental Protection Natural Resources Licensing Manual* (see items e, f and g above) relate directly to the welfare of the animals, particularly item e which provides for "veterinary services and facilities appropriate to the species to be held." Ideally though, specific standards of animal care and housing should be developed and used as a basis for granting or renewing zoo permits.

Unfortunately, the number of substandard enclosures and exhibits I viewed during my trip lead me to believe that the current legislation is not properly interpreted or enforced. In some cases (see GuZoo Animal Farm section) conditions were so poor, I would be hard pressed to find a single enclosure that would be considered appropriate. I can only conclude that enforcing the current zoo legislation is not a priority

or that those charged with enforcement do not possess the knowledge level required to assess captive wildlife facilities.

This is not entirely unexpected. Wildlife officers, untrained in the keeping of exotic animals, can hardly be expected to be experts in the physiological and behavioural needs of the many exotic species found in Alberta zoos. If zoo conditions are expected to improve, enforcement officers will require further training and direction.

I would recommend that Alberta's licensing manual be amended to outline exactly what is meant by "facilities appropriate to the species." The legislation should spell out precisely what is expected of zoos. Experts in captive animal care including animal behaviourists, exotic animal specialists and animal welfare organizations should be consulted with a view to developing enforceable standards that take into account criteria such as physical space, substrate types, provision of shelter and privacy areas, environmental enrichment, social groupings, cleaning, feeding schedules, keeper safety, education, etc. Once established, they should be reviewed periodically to keep pace with the latest scientific knowledge available pertaining to the needs of captive animals.

Note: It should be pointed out that any facility that keeps elk or bison to breed for meat falls within the zoo licensing requirements and must obtain a zoo permit. Exotic animal dealers, must also hold a valid permit. These types of facility are not generally open to the public.

Saskatchewan

Legislation

Like Alberta, the Province of Saskatchewan has legislation in place governing the keeping of wildlife. *The Captive Wildlife Regulations* (1982) require permits for the keeping of wildlife, including zoo licences, which are issued by Saskatchewan Environment and Resource Management. Licences are required for the keeping of all native wildlife except certain reptile and amphibian species, rabbits and hares, shrews and moles, several rodent species, raccoons, captive-reared bison and a number of common birds. Exotic wildlife species that may be held in captivity without a licence includes several reptile and amphibian species, domesticated rodents, ferrets, and a number of exotic birds.

All other animals require a licence (either a captive game bird farm, or captive wildlife) to keep them. This licence is valid for one year only and application for renewal must be made along with "a complete list of the disposition of and the number of each species of wildlife held during the past year that are no longer in their possession and when each was disposed of; a complete list of the number and species of wildlife presently being held and where, from whom and when each was obtained". Further, "a person who obtains wildlife to be held in captivity shall immediately upon obtaining the wildlife report its acquisition to a resource officer", and the wildlife must have been obtained from a person "who holds that wildlife under a valid licence".

Sufficient liability insurance to "indemnify against any claim for loss of life, bodily injury or property damage caused to any person as a result of the captive wildlife" is also a requirement, along with the keeping of adequate records including "where and when each particular wildlife item was obtained, the veterinarian's name and the date the wildlife was tested for disease." A resource officer may inspect the wildlife, enclosure and records at any time. The officer has the authority to destroy any wildlife believed to be diseased and may quarantine the facility if necessary.

Anyone importing or exporting wildlife must obtain a provincial import or export licence. Any wildlife entering Saskatchewan must be inspected by a veterinarian and must be quarantined for not less than two weeks. If an animal dies within thirty days of acquisition, the death must be reported immediately.

Subsection 23 of *The Captive Wildlife Regulations* clearly states:

"A person holding captive wildlife shall, in the discretion of the director:

- a. keep a fresh and adequate water supply available at all times;
- b. provide a fresh, nutritive, uncontaminated and adequate food supply at least once daily
- c. keep the enclosure sanitary and in an attractive and presentable condition
- d. clean the enclosure regularly as required
- e. clean the bathing pool and change or filter the water in the bathing pool regularly as required; and
- f. keep the wildlife in a humane manner."

The regulations go on to describe the requirements for enclosures, depending upon the size and type of animal; no animal may be tethered and each must have an outside run and a shelter. Euthanasia is required to be conducted in as painless and humane a manner as possible.

Comments

Saskatchewan's *Captive Wildlife Regulations* are very specific given that such factors as cage size, shelter and the necessity of a pool are related to the size and type of animal on display. However, no mention is made of privacy areas or environmental enrichment. Both are absolutely essential to ensure the psychological well-being of captive animals and should not be left up to the good graces of individual zoo owners. This is unacceptable and should be remedied.

Noticeably absent from the regulations is a requirement for perimeter fencing. This could present some serious security problems vis-a-vis animal escapes and vandalism. This is not to suggest that there is no provision for security in the regulations. Locks are required on all enclosures and there is a further requirement that visitor barriers and signs be present at enclosures housing "dangerous" wildlife.

The regulations should be amended to require perimeter fencing as well as to require visitor barriers at all enclosures. Direct contact between people and animals may present a public health problem as it allows for the transmission of viral agents and infections between animals and people. Furthermore, animals not normally considered

"dangerous" could bite or injure a guest. Finally, visitor barriers are not solely for the protection of visitors. They also provide a comfort level for animals. Allowing visitors to approach an animal too closely may cause that animal stress. This is particularly true of birds.

Conclusions

It was reassuring to find so few captive wildlife facilities in Alberta and Saskatchewan. I attribute this to the fact that there are regulations in place to determine who can or cannot keep animals. This compares very favourably to other Canadian provinces. In Ontario, for instance, there are at present more than 50 zoos on record, most of them substandard. The situation in Alberta and Saskatchewan is, nonetheless, far from ideal given that grossly substandard facilities such as GuZoo Animal Farm in Alberta and the Country Zoo Sunshine in Saskatchewan continue to operate.

The standard of the facilities we visited varied from what I would consider acceptable, consistent with my training and experience as a keeper, to "mom and pop" operations run by private individuals completely lacking the funding and expertise necessary to manage their facilities in a humane and professional manner. While the owners of these facilities all profess to "love" their animals, some of these people quite frankly have no business operating a zoo. Conditions at some facilities were so untenable that I have serious doubts the proprietors would be able to upgrade to an acceptable standard without substantial outside assistance.

Vigilant application of the existing regulations associated with zoo licensing would alleviate the current situation somewhat. It should be possible, for instance, to revoke the permits of the worst offenders and to force the others to make the necessary upgrades. Meanwhile, regulations in both provinces should be strengthened in order to clarify the minimum standards of animal care and housing that must be satisfied in order to obtain a licence/permit for keeping wildlife in captivity. A review process should be established whereby deficiencies will be noted and a time period allotted for substandard zoos to address the deficiencies or face the revocation of their licence/permit. The current system does not seem to be working.

Zoo Reports

Doug's Exotic Zoo Farm

Guzoo Animal Farm

Reptile World

Valley Zoo

West Edmonton Mall - Dolphin Lagoon
& Sea Life Caverns

Country Sunshine Zoo

Estevan Brick Zoo

Ipsco Wildlife Park

Saskatoon Zoo

Doug's Exotic Zoo Farm

Box 39, Clive, Alberta T0C 0Y0

A privately-owned and operated facility located just east of Red Deer, Doug's Exotic Zoo Farm is somewhat remote. It is, however, promoted in nearby Lacombe as a tourist destination. About 35,000 visitors visit annually. There are currently 50 acres in use, with an additional 100 acres available for future development.

Mr. Bos is a Fellow of the Canadian Association of Zoos and Aquariums (CAZA). He acknowledged there were deficiencies in his operation and mentioned that he was striving to make improvements and to become a CAZA- accredited facility.

We spent four-and-a-half hours touring this zoo, accompanied by Mr. Bos, Ms. Rowland and their veterinarian. We were allowed access to all areas. The facility keeps a variety of species ranging from reptiles (spectacled caimans, boa constrictors, red-eared sliders) to birds (collared doves) to mammals (by far the greater portion are mammals).

General Husbandry

In general, I found the facilities to be clean and well maintained. All food and water containers were clean and non-hazardous. Food provided was fresh. The commissary area was clean and tidy, as were the rest of the facilities.

Enclosures

The enclosures varied a good deal in quality. Many were relatively featureless and lacked enrichment (ungulates, tiger, cougar). Some were large and spacious (black bear). Others were cramped and lacked privacy (eagle). The eagle cages permit visitors to get far too close. It is important that a certain distance be maintained between wild animals and zoo visitors in order for the animal to feel comfortable. Allowing visitors to come too close may violate the animal's fight or flight response. Animals need to feel that they have the opportunity to move away or take flight in the event of danger. This is especially true of birds. Violating a bird's flight distance can create unnecessary stress.

As one enters the zoo, the visitor passes a series of wire mesh cages on the left. A Siberian tiger was donated to the zoo by someone who Mr. Bos said had kept it in a crate. The tiger enclosure, while a big

improvement over the crate is still undersized in my view. The cougar and serval cages were also small.

The lack of shift-areas in some of the temporary caging, into which animals (serval) could be moved during cleaning, is a concern. Shift cages are necessary to ensure the safety of the keepers.

Hoofstock

Behind the barn are several fenced-in areas that house eland, Demara zebras and other hoofstock, all of which had inadequate shade. Mr. Bos mentioned that he had tried to plant trees in this area but they died. Shade cloth, or artificially created shade, should be used in these areas, so the animals have more than one option when seeking relief from the sun, instead of always having to retreat to their wooden shelter. The fencing itself was in good repair, very high and adequate to contain hoofstock. While no shift pens were visible and it appeared necessary to go in with the animals to service enclosures, it's possible other paddocks were used as shifting areas.

On the opposite side of a walkway were three very large paddocks also holding hoofstock. Once again, there was not enough natural shade and while the paddocks were quite large, the wooden shelters were too small to contain all of the animals. More than one option should be available to animals seeking relief from the sun or inclement weather.

The reindeer paddock was very large and contained many trees. The fencing again was in good repair, and the animals appeared to be in good shape. Beyond this area (which is across the path from the black bears) is a very large, as yet undeveloped area (estimated at 25 acres in size). It was suitable housing for numerous ungulate species.

Bear Enclosure

Two black bears were housed in a very large paddock area, complete with numerous small trees, a bathtub for water, toys, etc. Only a small area at the front of this paddock is accessible to visitors, so the bears can enjoy privacy if they wish. I was informed that they had been given a den during their first winter, but in their second winter they chose to build their own and slept together.

These two bears had been raised by Ms. Rowland (along with a female now residing in Ontario's Killman Zoo.) Both bears have been declawed, an unnecessary procedure which can be very traumatic. Declawing renders bears incapable of performing many natural behaviours and is, therefore, an inappropriate practice. Having raised

black bear cubs myself, I cannot condone this practice, as protective clothing will provide handlers with all the protection they require to bottle-feed a bear cub.

Animal Health

We were accompanied on our tour by the zoo veterinarian who appeared to be quite knowledgeable about wildlife veterinary care. She confirmed that regular vaccinations and parasite control programs are carried out.

The animals generally appeared to be in good physical health (except for a few animals currently under veterinary care). Hooves were well maintained, with the exception of one llama. I believe that the serval had been declawed—a practice which, as I have explained, is both indefensible and unnecessary. However, it is possible that the cat arrived at the zoo already declawed.

There currently is no adequate nursery area to care for young animals that are injured, sick or orphaned. At the moment, they are being kept in the barn adjoining the gift shop. The barn also holds the balance of animals which have been brought to the zoo either by the authorities or by visitors. Whereas the large stalls are fine for hoofstock, they are not really suitable for containment of many of the animals that we saw, and consequently a number were housed in small cages within the pens.

Temporary Caging

Signs are posted about the barn, informing visitors that these exhibits are only temporary. One sign reads as follows: "This animal was either orphaned or injured in the wild and was brought to us by Fish & Wildlife." Another reads: "This is not a permanent display. This animal was brought here on short notice or has outgrown its pen. We are in the process of fund-raising to build a new display for this animal." With so many animals housed in temporary exhibits, I expect it will take a substantial amount of internal and external "fund-raising" to build new displays for all of them.

A young fawn was in a small cage inside a large pen. This animal clearly could have benefitted from the additional space afforded by the larger pen. Likewise for the coatimundis. A single ring-tailed lemur sat huddled on the bottom of its cage, which was next to an open door. Even though it was a mild day, the lemur could probably have benefitted from a heat lamp. Most of these animals had no privacy areas or enrichment.

This barn is open to visitors, who can wander down the main aisle at will. I believe some of these animals may be stressed from visitors being allowed to approach too closely. I observed one squirrel, running continuously about its cage, that appeared to be quite stressed by our presence.

Also housed within the barn was an assortment of chinchillas and guinea pigs — all ex-pets brought to the zoo. While it is commendable that Mr. Bos provides a refuge for these unwanted animals, they should be in an area separate from the wildlife. Signs explaining that these are unwanted pets would also be useful in educating the public.

Near the front entrance, we passed a small cage containing several Japanese macaques, with a sign requesting donations to build them a larger home.

Enrichment

The Japanese macaque cage featured a number of swinging ropes and branches at varying heights. Additionally, water had been provided for the monkeys to bathe and play in. An obvious effort had been made to enrich this cage.

The tiger, cougar and serval enclosures could be markedly improved with enrichment devices, privacy areas and more space. These cat cages contrasted sharply with the lion enclosure. Located in a separate area of the zoo, the lion enclosure was an adequate size and contained privacy areas, logs and a natural grass substrate. Regrettably, their winter building was undersized.

Privacy Issues

The restaurant/gift shop area contains some animals, including a large collection of red-eared sliders, as well as holding freezers for concession food. Consequently, there is little privacy for these animals.

A row of very small outdoor wooden pens contained an assortment of barnyard animals, ending with a badger housed in an area where people viewed the exhibit by looking down from above. It is worth noting that most animals feel uncomfortable when viewed from above. The earth substrate allowed the badger to excavate a number of tunnels ensuring that the animal could get off-view; however, the viewing setup was still problematic. Stranger still, a group of domestic rabbits was housed right next to the badger. Predators should never be housed right next to their prey, as the close proximity of the

predator can cause considerable stress to the prey species. In the wild, rabbits are preyed upon by badgers.

Public Safety

While the enclosures themselves were generally in good shape, there were a few security concerns. There is no separate perimeter fence around the property to guard against intrusion or prevent animals from leaving if they escape from their pens. Some enclosure fencing served double-duty as perimeter fencing. Although some of the pens had adequate stand-off barriers, others did not. Like many of the other zoos we visited on this trip, Doug's Exotic Zoo Farm has no permanent security staff. As it is not possible for such a small staff to keep an eye on all visitors at once, this is a concern.

Education

Exhibit signs, for the most part, were quite informative, providing details about each animal.

The facility has several programs in place, including school/group tours; Kids Day Camp; Birthday parties; Luncheon Specials and special animal presentations. A mobile animal display is used for fairs, trade shows, sports and other events.

Additional Notes

Doug's Exotic Zoo Farm relies to some extent upon donations from area businesses, farmers, etc. For example, the pipe fencing was donated by a local oil company; people are asked to bring in freezer-burnt food and garden produce. Road kills are said to be accepted during the winter.

Mr. Bos said that he obtained his animals from different sources. For instance, the lions came from the now closed Spokane Zoo in Washington. He also receives animals from Alberta's Fish and Wildlife branch, plus donations from the public.

Future Plans

During our visit, Mr. Bos stated that a prohibition on placing signs on the nearby highway continues to hamper his efforts to promote his zoo and increase his attendance. He informed us that he has been invited to move his zoo closer to Red Deer and is considering doing so, to increase his visitor base. He said he planned to keep the present facility as a breeding and holding compound. His plans include building

a Noah's Ark style building at the entrance to house a restaurant and gift shop.

Conclusions

My impression is that Mr. Bos has many ideas for his zoo but no real plan for bringing his ideas to fruition. While his facility has many positive aspects, there are several problem areas that must be addressed. Chief among these is the large number of temporary exhibits. As well, a strict livestock acquisition and disposition policy must be developed. Allowing outside agencies and members of the public to continually drop off unwanted wildlife will only delay improvements in the care and keeping of animals already at the facility. A comprehensive master plan would address these concerns.

During our conversation, Mr. Bos indicated that he doesn't believe in developing a master plan because he wants the flexibility to change his mind. I believe that master plans are absolutely essential as they give zoo managers a framework around which to work, providing a sense of direction and goals within a certain time frame. There is nothing that says a master plan can't have room for some flexibility either.

Recommendations

1. Close off the barn to visitors to restrict access to sick, orphaned and injured animals that need quiet and as little stress as possible.
2. Make the building of a separate nursery a priority.
3. Provide shade and shelter in those areas currently lacking adequate protection for the animals housed there.
4. Stop the practice of declawing animals.
5. Incorporate enrichment into the husbandry routine of all animals.
6. Erect barriers around all pens, to keep visitors from approaching too closely, both for their own protection and for the comfort level of the animals.
7. Move the owls and bald eagles into larger pens where visitors cannot walk completely around their pens, in order to afford privacy and flight distance.

8. Erect a perimeter fence around the entire property, as a back-up in the event of an animal escape and to keep feral animals and human vandals out.

9. Develop a master plan outlining how and when improvements will be made, and the methods to achieve these goals, rather than hoping that someday there will be sufficient funds to carry out plans.

GuZoo Animal Farm

Box 898, Three Hills, Alberta T0M 2A0

The GuZoo business card states that it is a licensed zoo. This fact only serves to point out the deficiencies in Alberta's zoo regulations. By all rights, this zoo should be closed. In addition to the numerous animal welfare concerns, there are many public health and safety concerns as well.

Significant Animal Welfare Concerns

A sign at the entrance states that a veterinarian visits once a week. I find it hard to believe that any veterinarian would allow animals to suffer under the conditions I observed at this zoo. GuZoo fails to meet even the most basic requirements of animal husbandry and care. At the Toronto Zoo, I assisted staff veterinarians in the care and treatment of hundreds of animals. None of the veterinarians I know would tolerate such treatment.

I saw several animals that were clearly not well: one lark pigeon showed signs of respiratory distress; the spider monkey was listless and had several bald patches on her body; and the muskox was rubbing its weeping eye on the rusty pipe barrier, trying to relieve the obvious distress. Many of the birds had overgrown beaks, while the majority of the hoofstock had overgrown hooves. One elk, lying down at the time of our visit, had hooves so overgrown that I doubt it could walk properly. Several animals had misshapen horns. I find it appalling that animals would be allowed to suffer in such conditions if visited regularly by a veterinarian.

In the indoor barn structure next to the entrance, chickens were housed next to rabbits. Chickens are passive carriers of a disease known as coccidiosis which causes terrible death in rabbits. Rabbits are very susceptible to this disease and should never be kept in such close proximity to chickens as they were at GuZoo.

The basic needs of many of the animals were being ignored. There was no hay evident in any of the hoofstock pens. The floors of many cages were covered in faeces and decaying food, which appeared to have been there for quite some time. The water bowls were either empty or contained filthy water. Other animals had filth caked to their coats as a result of having to lie in their own faeces. Many animals had no means of seeking relief from the oppressive sun overhead, while others existed in virtual darkness.

All the cages were filthy, with a build-up of faeces (e.g., ferrets, bear cub, spider monkey, capuchin monkey). Many had food that had been leftover and which looked spoiled and decaying. The carnivores all had decaying, rotting bones and and body parts strewn around their cages. There were feathers everywhere, both inside and outside the cages, presumably leftovers from meals.

Public feeding is actively encouraged at GuZoo and several unplugged freezers with open lids are scattered throughout the zoo. These are filled with donated food consisting mostly of packages of bread. I examined one package to find that the bread was covered in blue mold. Bread is a poor source of nutrition for wild animals but is far worse when covered with mold.

All the mammals I observed exhibited extremely poor coat condition. The single spider monkey and guinea pigs had bald patches with flaking skin, indicating possible skin disease. This monkey was chewing on the bars in an attempt to reach the food that had been thrown over the top of its cage. She had a bloated stomach and did not appear healthy. The tigers appeared emaciated.

Caging on the whole was inadequate. I did not see a single enclosure that I would deem appropriate for the species housed. A skunk was being kept in a tiny cage in the zoo office, in a dark corner of the zoo office and visitors were invited to take the animal to handle it. A porcupine was kept in a dog crate, with no shade or privacy, and little room to turn around.

The cages found in the small barn adjacent to the office were particularly disturbing. The cages housing the monkeys, fox, and pigeons were all far too small for the species exhibited. There were numerous other animals in this small barn as well, including a squirrel that was frantically running around its cage the entire time we were there; a number of cockatiels, rabbits, chickens (as I mentioned previously on p. 17, these animals should never be kept together), and several reptiles. One iguana was in a cage with a flimsy rope tied around a log in such a way as to be a hazard to the animal. Another iguana was housed in a tank with a heat lamp positioned so low, the animal was in danger of being severely burned. It was also a fire hazard.

The capuchin monkey was kept in a very small cage, in a dark area of the small barn with a double layer of fencing because (according to the sign) this monkey bites. Consequently I wonder how this cage (as well as many others that had no shifting system) could be serviced safely. The sign stated that this monkey had been at GuZoo since 1973.

In addition to the physical needs of the animals not being met at this facility, their psychological needs are being neglected as well. For example, housing hamsters next to a ferret separated only by a wooden partition must make for a terrifying existence for those hamsters; a ground squirrel in the same building was racing around and around its cage, exhibiting stereotypic behaviour. I also observed stereotypic behaviours in some of the carnivores, in particular the wolves, who paced the fence non-stop during our visit. A deeply worn path was evident along the fence-line of the enclosure, hollowed out by the wolves' constant pacing.

No animal was provided with environmental or behavioural enrichment. The Japanese macaque monkeys had nothing to keep them occupied. In the wild, all three species of monkeys kept at GuZoo would spend the majority of their day foraging for a variety of food items, grooming and interacting with one another, and playing. I saw none of these activities. Indeed, Mr. Gustafson told me that the adult male Japanese macaque had killed his last two mates and that the young male in the adjacent cage had been mistakenly purchased as a female as a potential mate. This adult male may be too psychologically damaged to ever be a candidate for rehabilitation, but his present existence is intolerable. The pair of macaques in the third cage spent their time begging for food thrown to them and had nothing else to occupy them. Although Japanese macaques are found in cold areas of Japan, they still need adequate shelter from the harsh prairie winter, and a tiny shelter box simply is not adequate.

Safety Concerns

Security is a major problem at GuZoo. When we arrived, there was no one around at all. A sign in the office indicated that we should place our money in a box and feel free to enter the zoo. While the owner did show up a short while later, the fact that visitors are allowed to walk about completely unsupervised is disconcerting. Such a lack of supervision presents a danger to the animals and zoo visitors.

There are many instances where visitors could be bitten or mauled. The adult black bear cage has a safety barrier around only one side of the pen and it is easy for visitors to walk around and stick their hands into the cage. We witnessed a mother with two small children doing just that.

Outside the office, a tiger cub and a cougar cub were tied up where visitors can, indeed are expected, to play with them. I observed children surrounding the two cubs, poking at them and attempting to pick them up. I saw one child who dropped the cougar cub while

attempting to pick it up. These are very young animals with developing bones, and a fall such as this could easily result in a broken bone. As well, it would not be difficult to imagine one of these cubs becoming annoyed with the manhandling and swatting, perhaps even injuring, a child.

Many of the cages had only nails to keep the hasp shut, rather than proper locks, thus allowing any visitor to open these cages. Several cages were in disrepair with bent, broken and damaged areas of fencing. Failure to mend these cages in a timely fashion could lead to an escape. Moreover, wires protruding into cages present a danger to the animals.

I observed a fisher in a wooden cage. A particularly fierce animal, the fisher would be capable of gnawing its way out of this cage. The cage was also inadequate in terms of size, as fishers need large areas with lots of privacy in order to exhibit their natural behaviours.

It would also be possible for visitors to stick their fingers into the spider monkey cage. This presents the danger not only of a bite but of disease transmission as humans are susceptible to many of the same illnesses as monkeys.

Public Health Concerns

Filthy water and animal faeces contaminated many pens and had spilled over into visitor pathways. Unsanitary conditions such as this put visitors (as well as animals) at risk. It was clear that very little housekeeping occurs at this zoo. Immediate steps should be taken to remedy this situation.

Children are encouraged to enter filthy pens near the zoo entrance to pet the goats and other domesticated livestock. This presents a very real risk of children coming into contact with urine and faeces as a result of bending down to pet the animals, not to mention falling down accidentally.

Education

GuZoo makes little attempt to educate visitors. Most signs did no more than name the type of animal displayed. There was seldom any additional information. What there was served little or no purpose. For example, the sign on the spider monkey cage asks "Are you my cousin?"

Overall, this zoo is likely to have a negative educational effect. Schoolchildren visiting this facility will likely grow up believing that these appalling conditions are acceptable for the keeping of animals.

Animals at GuZoo appear to have little more than entertainment value. Mr. Gustafson demonstrated how to make his fainting goats keel over by agitating them. He seemed completely oblivious to the fact that he was stressing the animals in order to put on this demonstration.

Mr. Gustafson brought a black bear cub out on a leash and fed it Twinkies and bread while we watched. He encouraged some children nearby to do likewise. He informed me that he had traded a tiger cub for the bear. This cub was being kept in a run of cages along with a domestic dog for company. There is a real risk that as this bear grows larger and stronger, it will eventually injure the dog.

In another area, a number of pigeons were being housed in cages at ground level. I witnessed one of the many domestic dogs that were running around loose¹ charge at the wire sending the birds flapping in all directions, bashing their wings on the sides of the cages.

Conclusions

From my observations I would conclude that the proprietors have no understanding of proper animal husbandry. They appear to have no knowledge of basic physical needs, such as the need for clean drinking water, fresh nutritive food or a clean cage. There is also no appreciation of the animals' psychological needs or normal social environment.

The description given above is by no means complete. There was not a single cage or pen in the entire area that I would consider acceptable. Given the numbers of animals and the numbers of pens, I have chosen to point out some of the more glaring problems rather than repeating my observations on such items as filthy waterbowls, rotting food and cages covered in faeces, as were by far the majority of the enclosures, large and small. Not a single animal in the entire area is given the opportunity to exhibit what I would term natural behaviour for that particular species, primarily because of lack of space, shade, privacy areas and environmental enrichment. Many animals appeared malnourished and exhibited signs of stereotypic behaviour (e.g., wolves pacing).

Apart from the careless attitude toward animal husbandry, the lack of shift areas poses a danger to anyone cleaning the cages. Public health may also be at risk. Excessive amounts of faeces and rotting food

observed inside many of the cages were also observed strewn in the visitor pathways adjacent to the cages. I was unable to assess how many of the animals were diseased; however, I was informed that Malignant Catarrhal Fever has previously been found in Sika deer owned by Mr. Gustafson. This is not a reportable disease in Alberta, but is in other jurisdictions and is of great concern to livestock breeders, as it is highly contagious. There should also be a concern for zoonoses – diseases that can be transmitted from animals to humans, and vice versa.

Recommendations

Inside the small barn, there is a sign posted stating that the Gustafsons love their animals and resent anyone criticizing how they care for them. The same sign asks anyone who disagrees to please leave. This attitude is not conducive to improvement and change. Furthermore, the deficiencies were so numerous, and the problems so severe, that anything short of complete refurbishment would be inadequate.

GuZoo's owner has been convicted in the past of cruelty to animals and of purchasing Sika deer illegally. In light of these circumstances and the appalling conditions observed at the zoo, it is surprising that GuZoo has been allowed to retain its licence to operate.

This facility is a disgrace to the people of Alberta, and those who care about animals. GuZoo should be closed and the animals dispersed to more suitable accommodation elsewhere.

¹Mr. Gustafson also breeds dogs, some of which appeared to be purebred. A couple of Shar Pei puppies were on display along with a sign stating that they were for sale.

Reptile World Ltd.

1222A Highway 9 South, Drumheller, Alberta, T0J 0Y6

Mr. Bethel is a well-known herpetologist who has operated Reptile World for a number of years. According to the brochure, there are at least 150 live reptiles on view. After observing the display areas, Mr. Bethel gave us a behind-the-scenes view of the animal handling areas.

General Husbandry and Animal Care

The public viewing area contains a wide variety of reptiles and amphibians, all kept in very clean conditions, and most exhibited in natural-looking environments that resemble the animal's own habitat.

All the animals observed were in excellent condition. According to the information provided, food appropriate to each species was offered along with the appropriate supplementation, to ensure the nutritional health of each animal. There was fresh water in each cage.

Most cages were small but appeared adequate to meet the needs of the animals displayed. However, I felt that the reticulated and Burmese pythons were in need of larger accommodation. These are large snakes that should be able to move about in a natural fashion. The alligator enclosure was likewise much too small; however, a new larger enclosure was being built at the time of our visit.

Security

Locked doors prevent visitors from accessing maintenance areas behind the cages. Having been allowed access to these areas, I can report that these working areas appeared clean and tidy and that tools were stored in appropriate areas.

Additional security precautions have been taken with respect to venomous animals which are kept in a separate locked area. We were advised that only Mr. Bethel or trained staff are allowed in, and each cage has a lock on it for added protection. Appropriate safety equipment (snake hooks, nets, etc.) was readily available and in good repair.

Education

Mr. Bethel conducts an active education program including talks where members of the public can "meet a boa constrictor up close". It has been my experience as a keeper that many people do not understand reptiles. Many are repelled by them until they have an opportunity to

see them and learn about them first-hand. Mr. Bethel also coordinates a herpetology symposium for western Canada.

Signs describing animals on exhibit were present next to all cages along with some simple information about each species. One wall had a conservation message describing endangered animals and the need to protect them, along with display cases of confiscated items (crocodile purses, belts, etc.).

Animals Captive-born

Mr. Bethel stated that he deals only in captive-born animals. This is an important point as many herpetologists collect specimens from the wild, thereby decreasing the population of reptiles in their native environments. Reptile World maintains a separate quarantine facility upstairs for new arrivals. We did not visit this area.

Reptile World exhibits some rare species, most of which are very difficult to reproduce in captivity. A few species have been successfully bred including Solomon's Tree Skinks.

Conclusions

Reptile World is a well-run facility that serves a purpose as an educational outlet for visitors to learn more about reptiles and amphibians and see them up close. Reptile World's presence in the Town of Drumheller, home to the wonderful Tyrrell Dinosaur Museum, is entirely fitting.

Recommendations

1. Some of the larger snakes would be better exhibited in larger caging where they could move about in a more natural fashion.
2. Some signs could be improved to provide more educational information.

Valley Zoo

*P.O. Box 2359, 13315 Buena Vista Road
Edmonton, Alberta T5J 2R7*

Originally opened as Storyland Valley Zoo in 1959, the name was officially changed to Valley Zoo in 1975. Located on 70 acres in a scenic valley within the City of Edmonton, this facility is owned and operated by the City of Edmonton.

Valley Zoo is an Institutional Member of the Canadian Association of Zoos and Aquariums (CAZA), indicating that it had to pass the accreditation standards set by that organization. Supervisor of Animals and Operations David Leeb and Director Bryan Monaghan are Fellows of CAZA.

During our visit to Valley Zoo, we were escorted by Mr. Leeb and Dean Treichel, Team Leader for Animal Care who spent several hours answering our questions. We had full access to all areas. Mr. Leeb also provided me with a copy of Valley Zoo's 1994 master plan.

Animal Care

The Valley Zoo has an established routine for the care of each animal in their collection. Written in a manual so that all people concerned have easy access to the information, it is detailed and covers all aspects of care: diet, enclosure management, health, enrichment, training and collection management. This is an excellent way of maintaining consistency of care. As animals become accustomed to a certain routine, they are less likely to be stressed as a result.

Valley Zoo does not have a veterinarian on staff and instead relies on the services of a husband and wife team who operate a private practice. While this arrangement makes good economic sense—the argument being that the vets already have all the necessary equipment (ultrasound, x-ray, laparoscope, etc.) making it unnecessary for Valley Zoo to allocate funds for these items—it is unclear how staff would cope with an emergency situation if these veterinarians were not immediately available. I believe that with an animal population as large as that found at Valley Zoo, it would be wise to have veterinary services on site.

Exhibits

The keepers appear to have made great efforts to provide privacy areas and enrichment for the many animals in this collection. This is

particularly true of the primate exhibits where they have made good use of climbing and swinging structures. The gibbon exhibit is a good example of this. Unfortunately, all of the primate exhibits, with the exception of the red-fronted lemurs, are too small and none of them, including the aforementioned red-fronted lemur exhibit, reflects their natural habitat.

Although larger than the primate areas in the Saito Centre (Valley Zoo's indoor pavilion. *See Saito Centre below.*), the gibbon exhibit is still too small for this agile leaper and swinger. Moreover, the cage design is the old corn crib style and allows the animal to be viewed from all sides allowing the animal precious little privacy. The keepers have done their best to provide enrichment for the squirrel monkeys, but the exhibit again is too small (both in space and height) for these agile monkeys. This lack of space is particularly evident in the Saito Centre.

The cat cages observed were a good size and featured ground cover and privacy areas; however, the serval enclosure should be larger. All cats have been provided with shade. The tiger exhibit contains a large pool for bathing. Tigers love water making this an excellent feature. I was particularly interested in learning of the enrichment carried out for the cats, which includes telephone books scented with various spices.

There are a few mixed exhibits in paddock settings, with open viewing over a moated area, and these seem to work well. The paddocks contain rocks, bushes and grasses, and trees planted adjacent to the paddocks provide shade. I did not view the holding areas for the animals contained in these paddocks, so I cannot comment on their suitability.

A number of Przewalski's horses were housed in a very large paddock which afforded them a great deal of room to roam around. This exhibit could do with a few more trees to provide the animals with shade but overall was a very good exhibit. Ideally, all hoofstock paddocks should be as large as this one.

Birds of Prey

The birds of prey area is constructed of wire mesh and is typical of exhibits found in older zoos. The staff have tried to compensate for the enclosures' limitations by opening up the partitions between individual exhibits to allow the birds more space. A colony of burrowing owls was provided with cover and different levels for perching and burrowing.

The substrate in the snowy owl enclosure was soaked at one end. It is likely that the pond, which I was informed was constructed by staff, overflows on occasion. Care should be taken to remedy this situation. In addition, the lack of a stand-off barrier in front of the bald eagle cage is problematic. A visitor barrier was in place in front of the other bird cages but for some reason was missing in front of the bald eagle section, which was an "L" shape. While we were observing this exhibit, the bird became startled and flew directly into the side of the cage. This lack of barrier could result in an injury to the bird.

Storyland

Although the Storyland part of the zoo is old and outdated by modern standards, the zoo is determined to retain it. This apparently stems from market research suggesting that it is a much loved part of the zoo. According to the zoo, there are many parents in the community who remember visiting Storyland as children and wish to share that experience with their own children.

Overall, the Storyland environment is pleasant for visitors. Statues depict scenes from famous children's stories in and around the exhibits. Unfortunately, the message being sent is that the animals are in the zoo solely for our amusement. In the porcupine exhibit, for example, the animals' shelter is shaped like a cottage. While the exhibit may meet the animals' basic shelter needs, the zoo misses the opportunity to teach children how these animals actually live in the wild.

Most of the enclosures in this section are adequate to meet the basic physical needs of the animals. The meerkats are housed in an area that allows them to burrow and do their characteristic sentry pose. The many trees in the Storyland area provide plenty of shade for both animals and visitors.

A small train meanders through this section and the conductor gives a talk about the animals as they pass. Although the animals may be used to this constant passing of traffic, it is also possible that the animals are stressed by it.

I was pleased to see that the zoo's master plan recommends phasing out exotic animals in this section and expanding the petting zoo area. A pond that housed seals is now home to a group of swans. It is worth noting that few exotic animals are being kept in this section. I was told that besides the usual domesticated animals, Valley Zoo has utilized this opportunity to showcase four lesser-known Canadian chicken breeds. Additional emphasis on Canadian-bred domesticated species of

animals (e.g., Lacombe pigs) could serve as an educational tool for those visitors who wish to see Storyland preserved.

The Saito Centre

When we entered the Saito Centre, I thought at first that this building was actually closed to visitors. I was surprised to find animals on display. Intended to serve as winter quarters for sensitive animals, it seems instead to have become a holding facility for animals for which the zoo has no permanent exhibit space available.

The first room contained a large fish tank in the centre around which people could walk. A metal fence kept visitors back from the area where wallabies and mara share winter quarters, but which currently held macaws. A length of yellow rope served as a secondary or stand-off barrier. Neither the rope nor the fence would in my opinion prevent a determined guest from attempting to touch the animals.

The central block of the building contained several kinds of primates, including capuchin and spider monkeys, lemurs and marmosets. Three spider monkeys currently reside in the Saito Centre – one female and two males, only one of which has been vasectomized. The other male is intact and I was told that the zoo would like them to reproduce. This would be problematic as the current enclosure is much too small for the monkeys already on display.

Also inadequate is the enclosure used by the sea lions, an area consisting of a small rectangular-shaped pool, very little dry rest area, and a small grassy area outside the building. At the time of our visit there were three old South American sea lions in this area. These were led out to a grassy area by the keeper at feeding time. The keeper gave a talk for visitors as she fed the sea lions.

There is an enormous commissary area, featuring long stainless steel counters. This area would be the envy of any North American zoo. In contrast, the veterinary area seemed inadequate in size. There are no facilities to hold sick or injured animals in a controlled, quiet environment.

Education

There are many educational opportunities for visitors to the Valley Zoo both with respect to animals and to farm life in general. In Storyland, for instance, there is a particularly good exhibit which explains to children the difference between hay and straw.

Throughout the zoo there is a mixture of old and new signs. The new ones are very good, providing detailed information about the animals. However, too many older signs remain and these do not provide much detail at all.

The birds of prey demonstration was quite educational providing information about the behaviour of raptors, as well as the reasons why birds must be rehabilitated. Unfortunately, the demonstration was poorly attended at the time of my visit.

Future Plans

The master plan is dated 1994 and includes ambitious plans for expanding the zoo and organizing exhibits into geographic areas; however, funds have to be raised if the zoo hopes to carry them out. While the zoo's operating budget is provided by the city, renovations must be privately funded.

At the time of our visit, work had already begun on the first phase of the master plan, with a new elephant house under construction. With a yard approximately one-quarter acre in size with a sand substrate, this enclosure will be an improvement over the traditional concrete floored enclosures used by zoos in the past. The elephants are being kept in a temporary area until completion of their building is finished. The female Asian elephant appeared to exhibit stereotypic pacing (moving forward and backward, she would turn then move forward and backward again); however, it was pointed out by Dean Treichel, Team Leader for Animal Care at the zoo, that she was anticipating a keeper arriving and may have simply been anxious. In order to make a determination that this behaviour was stereotypic or not, I would have to observe her over an extended period of time.

The next phase of the zoo's master plan appears to be the construction of a new area for pony and camel rides – an interesting priority and one intended to generate revenue. While the animals used in the pony rides may derive some benefit, the renovation of the Saito Centre should be the zoo's first priority as it is outdated and not appropriate for the animals housed there. Phase three of the master plan calls for a "Shorelines" building to provide new housing for the sea lions, but I suspect that the present three animals will be long dead before it is built.

Security

The lack of a dedicated security staff at Valley Zoo was a concern. It is Valley Zoo's policy that the general staff (keepers, concession workers,

etc.) are responsible for keeping visitors safe. This may not always work, particularly in a facility as large as this. As an example, the sea lion yard was left open the day of our tour and many visitors were observed putting their fingers through the fence. Fortunately for the visitors the sea lions weren't interested in biting fingers.

This could be a major problem, however, particularly if a gate had been left open in another area. The area beside the sea lions, for instance, leads to the commissary and general maintenance yard, allowing visitors easy access when this gate is left open. I also noticed that the wooden door leading to the construction site of the new elephant enclosure was left open, affording visitors an opportunity to enter and possibly be injured.

Visitor safety is an important issue. All too often visitors have a false sense of security when visiting a zoo. Many believe that zoo animals are completely tame. They may try to get closer to the animals to "pet" them or otherwise interact with them. Zoos must, therefore, be vigilant as guests may attempt to circumvent the very safety barriers put in place to protect them.

The animal holding areas themselves seemed secure. The tiger and snow leopard had a separate building with double-locking gates, as well as areas to secure the cats during cleaning and veterinary checks. User-friendly, the building appeared easy to service and equipped with tools appropriate to do the job. Keeper safety was obviously a priority in this area.

A Belgian sheepdog patrols the zoo at night, to keep out unwanted visitors.

Conclusions

Overall I found much to commend at Valley Zoo. The management seems to work well with staff and to accept input from them. The exhibits are clean and well maintained, and environmental enrichment has been given a high priority. On the whole the animals appear to be physically healthy and "reasonably" well adjusted to their environments. I found little evidence of stereotypic behaviour in the animals we observed, with the possible exception of the Asian elephant. Safety procedures for staff are well established and appear to be working. Education is emphasized and there is some involvement in conservation programming.

Unfortunately, there are a number of deficiencies as well. Built at a time when the philosophy of keeping wild animals in captivity was

quite different from today, the Saito Centre, Birds of Prey and Storyland areas require attention. What is even more unfortunate is that it may not be possible to rectify the problems short of tearing down and starting over. Like all city-run zoos, this facility suffers from limited funding. I would suggest, therefore, that the zoo's master plan be reworked so that future capital expenditures be spent in upgrading these facilities first and adding new exhibits later.

Many of the exhibits in the Saito Centre appear to be transient in nature. For example, a large fish tank is presented free-standing in the middle of a barren room with no signage and therefore has little to no educational value. It almost appears to be there for lack of a better space. Moreover, the glass used in several of the Saito Centre's reptile exhibits (eg. python, bearded dragon and Jackson's chameleon exhibits) has deteriorated in quality to the point where it is very difficult to observe these reptiles. This glass should be replaced.

As refurbishment of the fish, reptile and amphibian collection is not called for in the zoo's master plan, it seems likely that it will be some time before renovations are made. (I have been informed by Valley Zoo management that many of the reptiles in their collection are "unwanted and confiscated pets". As such, the collection has grown faster than was intended. I also understand that the zoo plans at some point to upgrade and improve the facilities in this area.) Meanwhile, I would recommend that a moratorium be placed on new acquisitions until the current facilities can be properly refurbished.

Throughout our visit I could not help but be impressed with the keepers' efforts to provide environmental enrichment for the animals in their care. Mr. Treichel mentioned that his team of keepers meets regularly to discuss the animals, keeps a standards manual, and networks with other zoos to share ideas. This process has been instrumental in the development of several innovative enrichment strategies. This is a model that deserves to be emulated by other zoos. As a former zookeeper myself, it was refreshing to see that management recognizes the contribution that keepers can make and allows them the opportunity and freedom to contribute.

Recommendations

1. It is time to revisit the zoo's 1994 master plan. Greater priority should be given to the construction of new facilities for animals currently housed in the Saito Centre, Birds of Prey and Storyland areas.

2. Efforts should be made as soon as possible to move all animals currently in the Saito Centre to better accommodations (either within the zoo or in other facilities) in order to improve their quality of life.
3. Saito Centre should be refurbished if it is to continue to be used to house animals. Knocking down walls between exhibits in the Saito Centre would allow the zoo to build several large enclosures. Funds should be allocated to this purpose.
4. Primates housed in Saito Centre should not be allowed to reproduce until better facilities are available.
5. Depending upon the age of the sea lions, they should be re-located to another facility that can provide better housing.
6. The facilities in the hospital area should be re-examined and plans made to provide appropriate holding facilities for sick, injured and orphaned animals.
7. The Saito Centre should be closed to visitors until refurbished.
8. A moratorium should be placed on reptile acquisition until the current fish, reptile and amphibian exhibit can be refurbished.
9. Erect a visitor barrier in front of the bald eagle exhibit to prevent the bird from becoming startled and possibly injuring itself.
10. Adding security staff should be a priority.

West Edmonton Mall - Dolphin Lagoon & Sea Life Caverns

*#2472, 8770 170 St.
Edmonton, Alberta T5T 4M2*

It seems out of place to have a dolphin and sea life exhibit in a shopping mall, even one as large as the West Edmonton Mall. In addition to the more than 800 stores, this enormous facility boasts a hotel, skating rink, golf course, wave pool, amusement park and other attractions not normally associated with shopping.

As can be expected, the West Edmonton Mall is noisy and crowded, and is really not an appropriate place to keep wild animals, particularly marine mammals. The Dolphin Lagoon is adjacent to a facility called "Deep Sea Adventure" which provides visitors an opportunity to ride a small-scale working submarine to view various underwater scenes through small portholes in the side of the craft. The submarine's route takes it past a number of small fish tanks before moving around to allow visitors a rearview of the larger tanks observed in the Sea Life Caverns and Dolphin Lagoon exhibits.

Dolphin Lagoon

Dolphin Lagoon features four Atlantic Bottlenose Dolphins, who perform during scheduled presentations. When we introduced ourselves to Jerry Holik, the supervisor of dolphins, we were informed that we would not be allowed into the off-site area and were treated to a lengthy defense of keeping marine mammals in captivity. My observations therefore are based upon the public viewing areas only.

I cannot comment on the specific husbandry techniques, diet and off-exhibit areas to which I was denied access.

The Dolphin Lagoon is listed as an Institutional member of the Canadian Association of Zoos and Aquariums (CAZA), and as such would have had to pass the inspection of their committee in order to attain membership.

There is a great deal of controversy about the capture and keeping of marine mammals in captivity. Many people strongly disagree with this practice and wish to see it prohibited, while others argue vehemently in its favour, stating that the animals are well cared for and enjoy learning and performing. With all of the knowledge that we now have about the lives and needs of dolphins in the wild, it is difficult to

imagine how those needs could possibly be met in any captive environment, let alone a noisy shopping mall.

In the wild Atlantic Bottlenose dolphins live along the southern Atlantic coast of the United States, Gulf of Mexico, West Indies, Mediterranean Sea and Atlantic coastal waters of Europe. Although they favour coastal areas, they also are found in the open ocean, and their habits suggest two different ecotypes. Dolphins are extremely intelligent and live in small social groups, interacting primarily with other residents of their group. Males and females may live together, along with young animals of different ages. Because they are mammals, they must return to the surface at regular intervals to breathe. Atlantic Bottlenose dolphins are not endangered but are susceptible to dangers in the wild such as drift nets and pollution. They can live to about age 30 on average, and can consume between 15 and 35 pounds of fish daily. Their diet in the wild is varied consisting of different kinds of fish, eels, rays, crabs, shrimp and squid. They can cooperate to catch their prey. Each dolphin gives off a unique whistling sound, which identifies it to other dolphins. (Chicago Zoological Society Fact Sheet; Dolphin Lagoon website).

The dolphin exhibit tank at West Edmonton Mall is approximately 20 m x 10 m (65' x 35') in size, and is adjacent to the Sea Life Adventure tank. On the other side of the tank, there is an off-exhibit area (not seen).

Visitors who pay an admission charge are seated in bleachers to watch the show. Located right in the heart of the mall and surrounded on all sides by shops, there are various vantage points from which to see the show without paying.

The tank itself has glass viewing panels along the front and was painted a neutral colour. This is preferable to the brilliant turquoise that is so popular in marine mammal tanks (which causes severe glare on the eyes of the animals).

Animal Training

The dolphins used in the show are two males and two females (Gary, Howard, Mavis and Maria). I was advised by Mr. Holik, the facility manager, that they have been trained using a method known as operant conditioning. This is described as "a type of learning in which behaviors are altered by the consequences which follow them. When an animal performs a particular behavior and the consequences of that behavior are in some ways reinforcing to that animal, the animal is likely to repeat that behavior." (Sea World website).

Operant conditioning, commonly known as positive reinforcement, is popular among those who train marine mammals to perform in shows. Positive reinforcement, in the form of a reward of some kind (generally food), is offered to an animal after performing a desired behaviour. The animal is encouraged to repeat the behaviour in order to receive a further reward. As it is not always possible to give the positive reinforcement immediately after the animal has performed the desired behaviour, a "bridge" is used to let the animal know that it has done so. The bridge most generally used is a whistle, and this signals to the animal that it should return to the trainer for the reward.

The frequent use of food as a reinforcer means that the very satisfaction of hunger is, for some animals, entirely dependent on performing tricks. In some cases, hunger is deliberately induced (by withholding food prior to a show) so that the reinforcer will be more effective. This point is made by marine biologist Dr. Naomi Rose and zoo veteran Richard Farinato in their book, *The Case Against Marine Mammals in Captivity* (1995): "This is not food deprivation per se, for a complete food portion is ultimately provided each day but the use of food as reinforcer reduces some animals to little more than beggars. Their lives obsessively revolve around the food presented during shows and training sessions." The stimulation provided by the training sessions are, they say, an inadequate substitute for the stimulation of natural foraging, to say nothing of the other behavioural choices available to animals in the wild.

The Dolphin Show

During the show an announcer provides a few basic facts about dolphins, indicating the different parts of the dolphin's body and explaining the difference between fish and mammals. During the show, we observed four trainers (including Mr. Holik) working with the dolphins. The dolphins were not required to perform any tricks that would not be natural to them. In our conversation prior to the show, Mr. Holik referred to the "bad old days" when tricks such as jumping through hoops were the norm.

At the end of the show visitors are encouraged to go to the side of the tank to view the dolphins up close. The four trainers continued to work with the dolphins while two other staff persons answered questions.

The four dolphins perform in five shows daily in the summer and three in the winter.

Sea Life Caverns

The Sea Life Caverns are aptly named. This exhibit area is entirely below ground and very dark. The small tanks, containing mostly amphibians, were brightly lit and the remainder were large aquaria, except for one exhibit housing black-footed (or jackass) penguins. I counted fourteen of these birds, all of whom appeared to be in good physical condition despite the small area that they were forced to live in. I saw no apparent signs of aspergillosis (a respiratory disease all too commonly found in captive penguin colonies) or bumblefoot (an ailment of the foot often seen in penguins kept in unclean surroundings), and conclude therefore that the husbandry of these animals is fastidious. The exhibit itself is made entirely of gunite, a material commonly used in zoos to create the appearance of rock, with a small pool along the glass front. The pool appeared to be approximately 3' wide, 15' long and 4' deep _ very small for so many birds. The dry area was not much bigger. It struck me that it was very dark for a bird that would live in natural daylight in the wild. Considering the natural biology of black-footed penguins, it seems unlikely that the artificial lighting provided in the enclosure will satisfactorily meet their needs.

A staff member brought out a penguin while we were there and gave an informative talk. She mentioned that two chicks had hatched from a clutch this year. I was told that the penguins were fed a variety of fish and supplements (a standard regime in most zoos).

On the wall opposite the penguin exhibit were several large aquaria exhibiting a sea turtle, sharks and a variety of fish, all in natural-looking environments. The signs on these tanks were informative, easy to read and included conservation information. Next to these tanks was one containing an octopus. These animals generally have a very poor survival rate in captivity, and are best left in the ocean. In order to have a permanent octopus exhibit, replacements from the wild would be required from time to time. Maintaining an octopus exhibit is counterproductive from a conservation perspective as well as being inhumane.

Beside the octopus tank was a tidal pool exhibit where people were invited to touch and pick up various invertebrates. A video camera is supposed to monitor this area, but there is no real control over what happens to the animals in this exhibit unless someone is constantly monitoring the camera. Unsupervised handling of live animals is never a good idea as it poses a risk of accidental or intentional abuse to the animals.

When visitors first enter the Sea Life Caverns, they are charged at by a roaring fake crocodile. This certainly gets attention but seems out of place among the other living animals. Its presence also seems to suggest that wild animals on their own are not exciting unless they are charging, threatening or otherwise engaging the viewer.

There are several amphibian tanks, all immaculately maintained, with plenty of artificial vegetation, logs, rocks, and other interior furnishings. I was impressed with the fact that there were several healthy-looking poison arrow tadpoles (*Dendrobates auratus*) on display, and eggs were present on the leaves of a specific orchid obtained from a local conservatory. Golden mantella frogs are also kept here, as well as tomato frogs. The latter exhibit had a crack in the glass.

The one exhibit that did not fit with the marine, or "wet" environment was a display of desert lizards next to the penguin exhibit. Although well maintained, the desert environment is incongruous with the sea life theme.

Education

The West Edmonton Mall also offers Marine Life Day Camps as well as three interpretive sessions, as part of their outreach program.

Conclusions

I do not personally agree with keeping marine mammals in captivity. Small cetaceans, such as bottlenose dolphins, are far-ranging, fast-moving, deep-diving predators. In the wild, they may travel up to 100 miles per day, reach speeds of

50 km/h, and dive several hundred feet deep. They are highly intelligent, extraordinarily social, and behaviourally complex. It is difficult to imagine how the dolphins' present accommodation in Dolphin Lagoon would satisfy their biological and behavioural needs.

A shopping mall is not an ideal environment for any animal. There is constant noise from above and all sides and I would conclude that a certain amount of stress would result from living in such an environment.

It should be noted that we requested and were denied access to the facility's off-exhibit areas. As a result, I was only able to observe the four dolphins during their performances. They appeared to be in good physical condition and did not display any obvious stereotypic behaviours during the time of my observations.

The Sea Life Caverns are generally well done, but inappropriate animals such as the penguins have been exhibited in some instances.

Recommendations

1. Consider moving the dolphins to a more appropriate facility.
2. The penguins may appear to be healthy, but their dark environment and small exhibit size are not ideal. It would best serve the birds if they could be placed in a large indoor/outdoor exhibit. The current penguin exhibit could be easily converted into an exhibit for a large snake like an anaconda or python.
3. The desert exhibit should be replaced with one of a more aquatic theme.
4. For conservation reasons, do not replace the octopus once it dies.

Country Sunshine Zoo

THIS ZOO IS NOW CLOSED.

This "zoo" is reached by way of a gravel road and is some 20-25 kilometres off the main highway. To characterize this collection of animals as a zoo would be generous to say the least. It appears to be one among several hobbies taken up by the proprietors of this small working farm whose other collections include lawn ornaments, salt and pepper shakers and a glass bottle house (made from more than 30,000 bottles). The facility appears run-down and neglected.

We were escorted through the property by the owner. From our conversation, I gather she takes care of the "zoo" while other members of the family take care of the farming. The majority of animals are domesticated species (chickens, Muscovy ducks, Egyptian and common geese, golden pheasants, goats and sheep). Rheas, emus, bison, yaks, llamas, potbellied pigs and a miniature horse were kept in large runs.

Animal Husbandry

All animal pens were dirty, with excessive faecal buildup. Despite the high temperature of the day, all the water bowls were empty. Four young wild boars were being kept in a small pen with no food or water. Few enclosures provided adequate levels of shade.

All birds were in runs and had a shelter to retreat to; however, the bird cages also needed cleaning. Pigeons were kept in another row of cages under similar conditions. The owner kicked the side of one cage to get a pheasant to move out for a photo, causing the bird to fly up into the air.

A side door led to a small room at the back of the building housing a monkey and raccoons. Inside were two iguanas in small glass-enclosed cages, two boa constrictors, a cockatoo, and several budgies and cockatiels.

Animal Health

A yak had poor coat condition and a sore on its side that the owner claimed was due to a run-in with another animal.

One of the three foxes was observed limping. The owner said it had a dislocated shoulder, but the limp was in the hip area and appeared to be caused by a problem with the animal's hind leg. She also said they

were nervous of people because they had only been there a short time. The pen was barren, with no shade, water, food or visitor barrier.

One blue budgie sat on the floor of the cage, indicating to me that the bird was not healthy. It is unusual for a budgie to do so which may be indicative of illness, injury or disease.

The monkey cage

Among the small number of exotic animals at this facility was a single lone female rhesus macaque monkey. She was being kept in a wire mesh cage approximately 6' x 6' attached to the side of a small building, with a small door leading into an inside enclosure (which we were not shown). The floor was concrete with no bedding or other soft area. Two tires were in the cage. No water or food could be seen.

A visitor barrier was erected in front of this cage and the adjacent cage which housed raccoons. Two dispensers provided plastic eggs filled with miniature marshmallows for a quarter or peanuts for a nickel. A rubber tube attached at one end to the stand-off barrier and sloping down into the monkey cage permitted visitors to drop the plastic eggs into the cage. While watching a monkey open a plastic egg and eat some marshmallows may prove amusing for visitors, public feeding of sweets such as this make for a poor diet and should be discouraged. As a food source, marshmallows are primarily sugar.

The monkey, whose name we were told is Minnie, appeared listless and unhealthy (not surprising given her poor diet) and had a very large protruding abdominal area (this appeared to be a mass and not just fat as the skin hung down on both sides).

Conclusions

Country Sunshine Zoo is run by individuals who appear to have no concept of the physical and psychological needs of animals in captivity. The conditions in which the animals are kept are sub-standard to say the least. It appears from the neglect and run-down appearance that they are having difficulty in making ends meet. They should not be adding to their financial burden by attempting to maintain a petting zoo (the owner mentioned that the family raises funds to feed the animals in winter by selling items at garage sales).

The owner mentioned that she would like to obtain some new animals to encourage area residents to return. As the owners are failing to provide adequate care for those animals now in their possession,

increasing the size of the collection will only serve to exacerbate the problems I have already identified.

Considering that the province of Saskatchewan has fairly strict requirements to hold a zoo licence, I must conclude that the Country Sunshine Zoo has not been inspected recently.

Recommendations

Lacking the necessary funds and expertise necessary to turn things around, I cannot foresee that this facility will have the wherewithal to improve any time soon. I recommend the following:

1. The animals should be dispersed to facilities better equipped to care for them.
2. In the meantime, all animals (particularly the fox and the monkey) should be examined and treated by a competent veterinarian.

Estevan Brick Zoo

THIS FACILITY IS NOW CLOSED.

Originally started by the employees of the Estevan Brick Company, a woman named Eileen Heath has kept this zoo going since the brickyard closed down more than two years ago. In addition to the petting zoo animals (kittens, goats and other domesticated species), Ms. Heath rehabilitates injured and orphaned wild animals (e.g., a fox run over by a car; two bitterns). These animals are kept in a separate area from the petting zoo animals and a local veterinarian is said to donate his services.

Patrons are charged \$1.00 per person to enter the indoor petting zoo and have a chance to take a donkey or a pony ride. There is no charge to see the bears or any of the rehabilitated animals, although donations are encouraged. Ms. Heath supplements this meagre fundraising with donations of food and produce from local humane societies and area businesses.

A sign at the entrance states that the Estevan Brick Zoo is sponsored by Saskatchewan Power, and a sign on the bear cage states that it is sponsored by McComb Auto Supply. I am unsure as to whether these sponsorships are still active or ended when the brick yard shut down.

The bear enclosure

The main attraction at the Estevan Brick Zoo is a pair of orphaned black bear cubs. Old newspaper clippings explain that the cubs were brought here in 1989 (victims of Saskatchewan's spring bear hunt). An article in *The Estevan Mercury* dated June 1989 relates how the pair, originally named Mike and Ike, required a name change when Ike turned out to be female. Ike was renamed Ida and Mike was neutered. The bears made headlines again when they dug a hole out of their cage and escaped. Following their capture, a new cage was built with a brick base.

The present wire mesh cage is approximately 32' wide by 100' long by 10' high, with a steel mesh divider in the centre, presumably to allow an individual to enter the cage for cleaning while the bears are shifted to the opposite side. Along one side at the top of the fence is a metal overhang which provided a very limited amount of shade in one area but I suspect it was put there more to keep bears from climbing over. The only shade or privacy is a shelter, approximately 10' x 10', which has a door with two rubber flaps. I was not able to determine whether

there was bedding inside. There is a large gate to enter the enclosure, with two locks on it.

A large pool (approx. 20' x 20') is situated at one end of the enclosure, filled with clean water. We were told the pool is cleaned with bleach. Using bleach is controversial. It is a powerful disinfectant and useful to ensure a sterile environment but may also be hard on the animal's eyes and skin if used excessively.

The cage was clean, free of old faeces and contained a few toys. No climbing structures or other forms of enrichment were present. There was no bedding or soft substrate. The visitor barrier fence surrounds all four sides of the cage, containing a gate with a lock on it. There is an overhang of metal rods with lights attached (presumably for security at night), as well as barbed wire on the top of the mesh on the outside. Some areas of the cage mesh have been lifted up at the bottom, probably by the bears trying to get food. There is a large sign saying "No Feeding".

At the time of our visit one bear was inside when we arrived; the other was lying next to the pool. The coat condition was good—shiny and no molt left. The bears' paws were in good shape and they still retained their claws. I was not able to learn about their diet or how often they were fed.

Other Animals

A cage next to the bear enclosure was home to a few domesticated manx cats. They appeared to have adequate water and shade (in the form of stone grottos).

Across the road from the zoo area itself are a couple of large fields containing black fallow deer and two bison—all holdovers from the time when the brick company was operational. Because of the distance of the animals from the fenceline, it was not possible to ascertain their condition.

The caging in the rehabilitation area varied in quality. It appeared for the most part to have been constructed from salvaged material. Inside the enclosures, we observed pheasants, peafowl, domestic goats and potbellied pigs, all in reasonable condition.

Conclusions

While the current custodian is well-meaning, this zoo and rehabilitation operation would seem to be beyond her financial capabilities at present. Far too small to properly meet the needs of the two bears and bereft

of even the most basic environmental enrichment devices, the current enclosure is inadequate. The bears require a much larger enclosure than even the Saskatchewan regulations provide for (1800 square feet for a pair of bears), as black bears in the wild forage over great distances in their search of food.

Ms. Heath deserves praise for attempting to care for the animals left behind by the Estevan Brick company. With proper promotion and financial assistance, this underfunded facility could prosper. If this zoo is to remain open, consideration should be given by the City of Estevan to turning this zoo into a municipally-run facility so as to provide a stable source of funding.

Recommendations

1. If this zoo cannot secure a permanent source of funding from municipal government or private industry, then I suggest that it be closed and the animals dispersed to more appropriate facilities.
2. The bear enclosure is inadequate to meet the needs of the two bears. Efforts should be made to locate them to a larger, more natural environment where they can indulge in natural behaviours.
3. In the meantime, the bears should be provided with adequate shade as well as soft substrate areas, climbing apparatus, large logs with intact bark and other enrichment.
4. More variety in their diet is also essential, as bears are omnivorous (eating vegetable matter as well as meat) and in the wild spend the majority of their day foraging for food.

Ipsco Wildlife Display

IPSCO Park, Highway 6 & Armon road, Regina, Saskatchewan

This wildlife park is on the grounds of a large oil company. IPSCO Park also contains a swimming pool, pond, picnic and play areas.

Very large paddocks (approximately 5 acres in size each) contain Black German deer, elk and bison. As the animals were some distance from the fenceline, it was impossible to assess their condition other than to state that there were no obviously sick or injured animals. The fencing was in good condition and high and strong enough to contain the animals. The paddocks appeared to be clean and hay was present for the animals. A perimeter fence surrounds the property, to prevent any escaped animal from leaving.

There was also a caged area that contained ring-necked pheasants and guinea hens. There were several feeding and watering areas in these pens, with access to indoor accommodation during inclement weather. There was a visitor barrier fence surrounding these pens.

Conclusions

It is our understanding that the IPSCO Wildlife Collection has been scaled down over the last few years. There is evidence that several empty paddocks and enclosures were previously used to house animals. While it may have at one time included exotic animals, the collection is now made up entirely of ungulates and domesticated farm animals. On the whole the facility and the animals appeared to be in good condition.

Recommendations

None.

Saskatoon Zoo (Forestry Farm Park and Zoo)

1903 Forest Drive, Saskatoon, Saskatchewan S7S 1G9

This municipally-operated zoo is located on 72 acres of parkland (30 acres currently used) within the City of Saskatoon. The institution is an accredited member of the Canadian Association of Zoos and Aquariums (CAZA).

The Saskatoon Zoo is supported by the Saskatoon Zoo Society, formed in 1976 in order to raise funds for special projects at the zoo and "to promote the zoo through education of the public". To meet this goal the Society offers educational programs including a zoo camp for children, a sleep-over, family day, speaker's program, outreach program and workshops, and various fundraising events, including an "Adopt a Critter" program. Membership in the Zoo Society provides certain perks such as free admission, gift shop discount and free admission to certain other wildlife facilities in Canada.

On the day of our visit we were escorted by Mr. Barrie Meissner, Saskatoon Zoo manager. We were later joined by supervisor Brent Pendleton. Mr. Meissner had been at the zoo for seven years, while Mr. Pendleton has been employed there for 25 years. Both are Fellows of CAZA. The staff is unionized and, according to Mr. Pendleton there is little turnover. Most of the staff possess a university or college degree in a relevant field.

The Quarantine Facility

We began our tour in the new quarantine facility _ a very expensive building incorporating state-of-the-art air exchange systems in each of the six rooms where animals can be quarantined. These rooms feature solid concrete walls and hard rubber floors to prevent slippage. The facility also featured high pressure hoses attached to an automatic disinfectant mixing system and an opening where food can be dispensed from the outside.

Windows in the quarantine room doors allow observation of the animals. Each window was covered with a magnetic cover that can be removed for viewing purposes. Each cell was said to have an outside shifting facility so that animals could be moved for cleaning, which was in progress at the time of our visit.

There was a separate room where small animals could be moved for treatment, but Mr. Meissner said that surgery or serious veterinary attention was carried out at the University of Saskatchewan with

whom they have a close working relationship. Qualified veterinarians and interns are said to visit the zoo twice a week. Routine faecal examinations, vaccinations, etc. are carried out during these visits. Health records are kept on-site and at the university.

Given the relatively modest nature of the remainder of the zoo, the quarantine facility seemed out of place. The money that had been used to build such an elaborate structure might have been put to better use in renovating some of the older caging still extant on the zoo grounds.

Commissary

The commissary area was quite large and clean, with prodigious use of stainless steel. The produce was fresh and I was told that hydroponics is used to supplement this. Rats and mice are raised for food in a separate room, and these cages were clean and relatively odour-free. Road-killed deer are also fed. Mr. Meissner indicated that only freshly-killed animals are used.

Adjacent to the commissary is a large shed where gunite "trees" for the new monkey exhibit were being made. It also doubled as a space for equipment storage. Three grain hoppers were also located in this area, and Mr. Meissner said that grain was donated by local farmers.

Animal Husbandry

Some of the cages contained faeces, but not at excessive levels. By way of explanation, Mr. Meissner explained that they have a smaller complement of staff working on weekends which meant that some cages had not been cleaned. Reduced staffing on weekends is not an unusual situation in zoos that have unionized staff.

Exhibits

The zoo's cages and enclosures are a mixture of old and new. The gemsbok, moose, elk, bison, and pronghorn all had large, attractive looking paddocks. These paddocks could nonetheless be improved with more planting to resemble the animals' natural terrain more closely. I also noted that while the paddocks were large, some of the shelter areas were too small to provide shade or shelter for all the animals. I liked the fact that these areas were provided with water nipples as these ensure a constant supply of fresh drinking water (though they have been known to freeze in the winter months).

I noted a lack of climbing opportunities in both the mountain goat and mouflon sheep enclosures. These animals frequent steep inclines in the wild, yet their enclosure provided only a few boulders to climb on.

Adding additional boulders would provide a more varied captive environment.

The circular area containing woodchucks, badgers and black-footed prairie dogs were satisfactory as they allowed the animals to dig and burrow. The keepers have tried to simulate the animals' natural environments. Unfortunately, because of the design of the exhibit most visitors will end up looking down on the animals. As being viewed from above is stressful for most animals, this situation is not desirable. Windows have been provided along the sides of the exhibit to allow children to get a better view but it is unlikely that anyone other than children use these windows.

Like many zoos, Saskatoon Zoo often finds itself receiving animals for which it has no facilities. Two orphaned bear cubs were sharing the fox exhibit at the time of our visit. The red fox remained at the back of the exhibit, out of the way of the bears. The night quarters for this exhibit were primarily made out of plywood and there didn't appear to be water available in this area for cleaning and disinfecting.

The birds of prey area is also obviously a very old part of the zoo. We were informed that most of these birds were injured and brought to the zoo by provincial wildlife officers. Some of the gates between individual enclosures had been opened up to allow extra space for the birds. Despite this, the enclosures for the most part did not allow sufficient depth for the birds to retreat from visitors. Visual baffles such as brush and other cover would partially alleviate this problem.

The bald eagle exhibit on the other hand was quite well-presented. In spite of the fact that none of the birds exhibited could fly, enough space was allotted for them to give visitors the illusion that they might take flight at any moment. They were provided with tall tree branches on which to perch. I would suggest adding some smaller live trees and bushes to resemble the birds' habitat more closely. The snowy owl exhibit also was large, well-treed and contained a large pool.

Similarly two old corn crib cages, so named as they are cylinder-shaped cages similar to the corn cribs found on farms, were being used in the children's zoo area. One held a pair of orphaned squirrels, the other a bird of prey. The corn crib style of caging is left over from an older era of exhibiting animals in zoos and is no longer considered acceptable. The animal is confined to a small round space and visitors can walk around the entire exterior; consequently there is no privacy for the animal. They are also difficult to clean and generally too small to exhibit most animals. They are also esthetically unattractive to visitors.

The Monkey House

The monkey building, home to several capuchin monkeys and winter quarters for waterfowl and other birds, is presently much too small and is totally inadequate to its purpose. The zoo is apparently aware of this fact and construction is already underway to build a larger capuchin monkey exhibit in another building.

While the new exhibit will unquestionably be an improvement over their present quarters, it will nevertheless be too small, in my opinion. Wild capuchin monkeys live in the rain forest in Central America and range in the canopy over very large areas. A captive habitat for them should contain areas where they can climb upwards to at least 20 metres and leap from tree to tree; a large amount of ground cover, smaller bushes, plants, etc. should be incorporated.

The planners of the new exhibit at the Saskatoon Zoo have taken some of these factors into consideration and the exhibit does contain two artificial trees and a waterfall. I was told that artificial vines were also be added. Two individuals from the Toronto Zoo held a workshop at the Saskatoon Zoo to teach their staff how to make gunite, an ingredient used to manufacture artificial trees, etc. Overall I would say the new exhibit will be a considerable improvement over the old one, but I reserve final judgement on it, as it was still under construction. I do have concerns that this will be yet another fake-looking rain forest type of exhibit, all too common in zoos these days. Gunite is a useful tool but tends to look very artificial unless handled by experts.

I was also concerned about the overall exhibit design which will enable visitors to walk about all sides of the glassed-in exhibit area. This robs the monkeys of any privacy. The shift area was small and seemed to be intended to be used only to move monkeys to facilitate cleaning in the main exhibit.

The monkey exhibit is being built on the exterior wall of a structure presently in use as a children's zoo area. The main floor contained a small petting zoo, but on one side was a round cage on wheels containing two cockatoos, which is wheeled outside in good weather. Unfortunately, this cage was too small for the cockatoos to fly and there is little educational value in keeping two birds who cannot demonstrate their natural behaviours. There was little or no enrichment in the cage to keep the birds stimulated.

Upstairs there were several very clean aquaria and reptile exhibits. Care had been taken care to decorate the cages so as to simulate a natural-looking habitat for each inhabitant. Unfortunately the iguana

cage was too small and the animal could not climb as it would in the wild. The reptile area was an interesting mix of live-animal and static exhibits (including the skeleton of a capuchin monkey), as well as a touch table, providing a good educational experience for children.

The present monkey building will, I presume, continue to serve as winter quarters for the birds. The first floor of the building is adequate to this purpose but the upper floor is unsatisfactory as there is no water supply available to hose down the cages. I was informed that the upper floor will eventually be converted to office space. This is good news, as it is much more suited to this purpose than the keeping of animals.

Enrichment

An excellent example of enrichment could be found in the lynx exhibit. It is a simple wire mesh cage with a roof on it, but the keepers have planted a wide variety of vegetation, including bushes and vines that grow up the side of the mesh providing shade. Large logs provide privacy areas for the lynx. Bushes have been planted between the cage and the visitor barrier fence, and the overall effect is visually attractive, while providing enrichment for the animals. In other cages, a soft earth substrate had been provided for the animals for digging, foraging, etc.

Safety and Security

The majority of the fences were in good condition and high enough to contain the animals. However, the perimeter fence which is about 8 feet in height is not an entirely adequate safeguard against unwanted intrusion or animal escapes. I was informed by the zoo that they intend to eventually raise the fence to 12 feet in height.

I did note that in some paddocks, such as the elk and moose, it was possible for the animals to get under the interior pipe barrier meant to keep them away from the fenceline. I observed a bull elk lunge at the fence, causing it to bend. Even though the animal only had enough room to stand sideways, this could be a potential hazard to visitors. When asked why an additional pipe was not added lower down to prevent animals from going under, Mr. Meissner said the present system allowed the younger animals to get away from the older ones. I suggest that a compromise would be to add pipe just low enough to discourage adults, but still allow the younger ones to pass under.

I noted that safety locks were used on all animal gates. At the back of the building where the gemsbok and caribou are brought in, there are

a series of small yards where the animals can choose to remain if they wish, thus allowing them an opportunity to get away from visitors. A small tractor with a sweeper to clean the yards is stored in this area.

I was told that volunteers assist the keepers to keep an eye on the public, and there is no night security. Lack of after-hours supervision may allow trespassers and vandals intent upon harming the animals to enter the zoo premises. The zoo should consider hiring security personnel.

While public feeding of the animals is prohibited, the majority of visitor barriers were only 3' high - certainly not tall enough to prevent visitors from leaning over and feeding the animals.

I enquired about safety procedures and was informed that they do have guidelines in place in the event of an animal escape. At one time someone cut a hole in the wolf exhibit. Only one wolf escaped and after a brief foray, tried to get back into the exhibit. This is often the case, as the cage is the only "safe" place the animal knows, but one cannot count on an animal returning to its quarters without incident, and it is imperative that proper safety procedures be in place for just such an event.

Education

There was some excellent signage around the zoo. In particular, I thought the small two-sided laminated signs that visitors could pick up and read like a book were very effective. These contained good educational material.

Conservation

Mr. Meissner informed us that there were plans to expand in the future to exhibit otters, cougar and Siberian tigers, the latter being part of a Species Survival Plan (SSP) programme supported by Calgary and Toronto Zoos. However, it was unclear as to how funds would be obtained to build the facilities for these animals but presumably they will be built into future budgets.

Staff Training

I was informed that the keepers rotated sections every six months; there were two on each section at any given time. Rotating keepers is a practice that a few zoos initiate but the majority encourage specialization. By allowing keepers to remain in areas that contain animals in which they are genuinely interested, strong human/animal bonds can be developed. Over a period of time a keeper gets to know

the animals in his/her care intimately and can readily spot a change in behaviour which is often the first sign of illness in a wild animal. Rotating keepers does not allow this type of bonding to take place.

Keepers are encouraged to become members of their professional organization, the American Association of Zoo Keepers. This organization publishes a monthly newsletter containing information relevant to their field of interest. It can be an important source of ideas for husbandry and environmental enrichment.

Conclusions

While the Saskatoon Zoo was superior to many of the others we visited, there is still room for improvement.

Recommendations

1. Instead of funding new exhibits for animals not presently in the collection, I suggest that the budgeted funds be used instead to improve conditions for animals, such as the birds of prey, cockatoos, and orphaned animals that presently do not have adequate accommodation.
2. Corn crib caging should be removed as soon as possible.
3. Those areas that do not have an adequate water supply for proper leaning should be updated and properly equipped.
4. The birds of prey row of exhibits should be replaced with more suitable caging.
5. Improve the pipe barriers surrounding the hoofstock interior barriers so as to prevent adult animals from contact with the fence.
6. Make raising the perimeter fence to 12 feet a priority.
7. Add additional boulders to the Mountain goat and mouflon sheep enclosures.
8. Although environmental enrichment is utilized in some areas, there are still a number of areas where it is not in evidence. A uniform policy should be initiated to make enrichment a part of daily husbandry routines. It is no longer acceptable to consider enrichment as an option.

9. Security should be considered a priority, particularly at night. Future budgets should incorporate security staffing both during the day as well as at night.