

Enrichment plan for Leopards

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Myvets Charitable Trust & Research Centre has designed the environmental enrichment for new set-ups of the Rescue Centre for Leopards at Sanjay Gandhi National Park, Borivali, Mumbai, this is under the control of State Forest Department of Maharashtra. The leopards are shifted from smaller holding shelter to bigger exhibits and enclosures.

During the due course of confinement in the smaller shelter, without any enrichment had lead to over growth of nails of leopards & tigers along with stereotypic behaviour and obesity. Thus, considering all the above observations the enrichments were planned and designed accordingly.

The introduction of environmental enrichment for leopards at SGNP (Sanjay Gandhi National Park) Leopard Rescue Centre was to improve the captive environment for the leopards and thus enhance care, activity & overall health of the wildlife. By factoring in the needs of the inhabitants' behavioral biology and natural history rescue centers can improve the welfare of their dependents a great deal. This is a dynamic process in which changes to structures and husbandry practices can be carried out with the goal of increasing behavioral choices available to leopard and drawing out appropriate behaviours and abilities species-wise, thus enhancing welfare of rescued leopards.

These types of activities will also support the whole spectrum of conservation activities such as breeding of threatened species, research, public education, training and advocacy.

Environmental Enrichment of Exhibits

Enrichment is the provision of choices. We want each leopard to express as much natural behaviour as possible, as if they were in the wild. Rescue Centers can help them do this by providing opportunities that make it possible for them to take their own behavioural decision or inclination. In their natural environment, leopards go through complex development stages, involving countless external environmental stimuli, which equip them for the various trials of nature.

Objectives of Environmental Enrichment for Rescued Leopards

1. To increase the behavioural repertoire of captive animals.
2. To reduce abnormal behaviour / stereotypic behaviour characteristic of wild animals in captivity.
3. To encourage positive utilization of the whole enclosure space (both horizontal and vertical).
4. To enhance the ability to cope with novelty, and (in



In-grown nails of Bengal Tiger, surgically removed and treated

some instances).

5. To prepare the animal for re-introduction programmes.

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6. To increase the physical activity of the captive wildlife.

Items that prove to be enriching for one individual or group of animals may not work for others. When introducing a new enrichment device or item to animals that are easily stressed, it should be done slowly. Starting with placement of the item outside the cage so the animal can see it, then moving it to a less travelled area of the exhibit for the animals to investigate it and finally into the viewing area when it is clear that the device is benign. Placing a favoured food on the item can also encourage curiosity. However, staff should be prepared to quickly remove the item if it creates panic within the animal population or is harmful in any way. Enrichment devices carry their own inherent risks. Thus, we should follow safety considerations for various categories of enrichment listed below.

VARIOUS CATEGORIES OF ENRICHMENT

1. Manipulability Enrichment:

Providing several types of objects enables animals to choose among them. Exchanging or adding items periodically will increase their desirability and use over longer periods of time, and there should be enough objects so that dominant individuals do not monopolise them. These objects may be perceived by the animal as novel if they are changed frequently to stimulate investigatory behaviours, e.g., wooden balls; rings; cardboard boxes; etc.,

Semi hidden-Grooming Enrichment box for Leopards

Dimension of enrichment box at Leopard Rescue Centre at SGNP
• 4 ft X 2.5 ft x 3.5 ft
• Materials used:- Wood + Jute Rope

a) The box is designed for the enrichment of the leopards where there are different entry & exit



points or two doors in the enclosed exhibit.

b) This semi hidden box is designed in such a way that the animal will be visible from all the angles in the box so that during the entry in the enclosure for feeding & cleaning the staff can clearly confirm that no leopard is present in the enrichment box.

c) The base of the semi hidden box is kept blue in colour; so that the leopard can be visible in the background otherwise it might be camouflaged with hidden box.

d) This enrichment box is also enriched with Grooming facility for the leopards. The Jute coir is twisted on whole box so that the big cats can use it for grooming / scrubbing the body fur & to remove the dead furs.

e) Enrichment box also has facility where the big cats can sit on top of the box which will give acupressure as well as help in grooming.

f) Enrichment box has sitting/ hiding facility for leopards.

g) During summers on the Enrichment Box water can be sprayed to give a cooling effect for big cats to beat the stress caused by heat in tropical countries.

The sequence of the leopard entry through the box was noted and recorded, during spraying it was noted that the tail was in contact with the box during spraying. This indicates that he has marked his ownership on the Semi hidden-grooming enrichment box.

2. Furniture Enrichment

Any object with which the animal



Actual Picture of the Leopard using the Semi hidden-grooming enrichment box

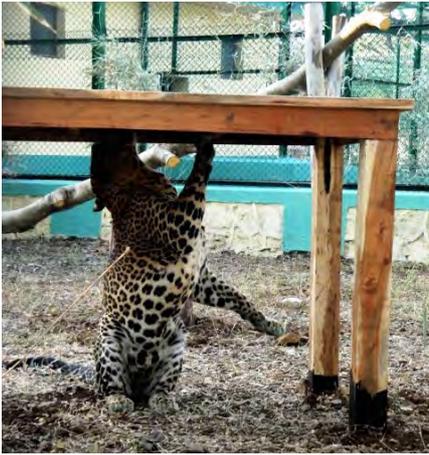
can safely interact.

Popular items are trees, tree trunks, branches, rocks; ropes; suspension platforms; plants, sand, water, sawdust, etc. Some can be moved, added and removed from an enclosure to add novelty, create new locomotive pathways, and encourage exploratory behaviours. Non-stationary furniture can add unpredictability to locomotion.

Enrichment used

a. Wooden Table:





The movement of the leopard showed his interest of exploring the new furniture, and tail movements is indicative that leopard liked the table as tail was in contact of table throughout the exercise



Leopards spend more of time sitting on the table and relaxing. This table will be more useful during the rainy seasons, that will provide them dry place for sitting and cover from the showers during rain

b. Wooden Log placed at 35 & 90 degree from ground level (Climbing & Scratching)



c. Wooden logs placed perpendicular of height 2 feet & 3 feet (Marking & Scratching)



These wooden logs are placed in such a way, that they use their skills of jumping from one log to another like in wild

3. Dietary Enrichment

Feeding frequency; feeding time; rawhide bones; un-chopped and unpeeled foods; shape, size, and color variation; hidden food in the furnishing of the enclosure, etc. In this case we have avoided any dietary enrichment, as there was chance of food getting adulterated, and the leopards were trained to go in the night shelter for food.

4. Olfactory Enrichment

The sound of utensils during feeding time, which gives them the message, that food is ready in the night shelter and they have to get inside for food.

Features of Environmental Enrichment Exhibits / Activities:

- a) It is easy to implement and can be replicated by other zoos.
- b) It's a continuous process once adapted.
- c) It will be benefited by Zoo Community & zoo inmates in India & abroad.
- d) The visitors will not only get an idea of the physical appearance of the animal but also of their natural habitat and behaviour.
- e) Enrichment devices that stimulate the ability of the animal in captivity may serve the purpose of 'training' them for eventual reintroduction.
- f) Increased behaviour repertoire can reduce stereotypic behavior.
- g) Optimum utilization of resources.
- h) It will serve the purpose of

educating the visitors.

- i) It is integrated teamwork and involves all the relevant staff member including Director, Curator, Veterinarian, Vet-Nutritionist, Horticulture, Engineers, Animal Keepers, etc., and can be supported at all levels of the institution.
- j) Enrichment plays an important role in maximizing good animal welfare both in term of health (increasing activities -> decreasing obesity) and psychological well-being (providing opportunity for animals to perform species appropriate behavior).

Safety Considerations

- a) Animals can become entangled in ropes, nesting material or novel hanging items.
- b) Plants or parts of plants may be toxic to some animals.
- c) Dietary enrichment can lead to weight gain if not properly managed.
- d) Animals may become aggressive toward each other in mixed species exhibits.
- e) Animals can choke on large pieces of food.
- f) Live insects such as mealworms have been known to bite small birds that swallow them; whole worms should be killed before being offered to small birds.
- g) Parasites are a potential risk with some enrichment; items such as feathers or snakeskins should be sterilized (heated, frozen, autoclaved) to eliminate the risk of parasite contamination.
- h) Foreign items, (pieces of toys, bedding material, plastic bags, etc.) if ingested, can cause indigestion, infection and impaction.

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