

Riverbanks Zoo and Garden Elephant Management Program

Mission Statement:

The Riverbanks Zoo and Garden elephant management program maintains its elephants in a manner that meets or exceeds the AZA standards for captive elephants. In so doing, we have committed to the conservation of elephants, public education and the empowerment of our staff to make a difference.

Goals:

- I. Provide for the social, psychological and physical needs of the African elephant herd through protected contact management program.**
- II. Develop a successful breeding program that complies with AZA elephant SSP.**
- III. Explore the conservation needs of elephants and participate in research supported by AZA.**
- IV. Provide public programs and demonstrations to educate zoo visitors about captive elephant management and the conservation needs of their wild counterparts.**

Riverbanks Zoo and Garden's Elephant Exercise Protocol 03-11-2004

Obesity has been identified as a contributing factor leading to joint and ligament defects in the legs and feet of captive elephants. A high incidence of stillbirths in captive elephants may also be related to overweight conditions of the mothers. Studies comparing elephants' weights of both working (circus and elephants in Asian logging camps) and elephants held in zoological institutions that found zoo elephants weighing 31-72% more [Taylor, V.J. and Poole, T.B. 1998]. This difference was attributed to whether they were trained and exercised daily. Therefore, Riverbanks Zoo and Garden have developed an optimal exercise program for the elephants in their collection ensuring not only the physical but also, the psychological well being of the animals in their care.

Due to the mild climate in the southeastern region of the U.S., the elephants are able to access their spacious, 1 acre exhibit, complete with a 300,000 gallon pool, virtually every day of the year. Minimum exhibit temperatures have been established at 35 °F. with access to the barn, allowing animals to back and forth between the exhibit and heated barn. Temperatures 40°F. and above, the animals are given access only to the exhibit during business hours (9:00am-5:00pm). Coastal bermuda hay and enrichment items are distributed throughout the exhibit encouraging the elephants to be active while foraging prior to shifting the animals to the exhibit.

The elephants are trained daily, prior being shifted to the exhibit, in order to perform daily husbandry and medical procedures. Riverbanks Zoo and Garden has adopted a protected contact management where the elephants are trained to perform many body positions for daily inspection of their entire body, included feet, skin eyes and ears. Training the animals' to step up into the ERD for routine weighing is also an activity the elephants perform for physical activity and psychological stimulation. The animals are shifted one by one to their exhibit by following the trainer through the outside paddock and onto the exhibit to forage.

A 15 minute, daily, public demonstration provides the animals with physical activity and a mentally stimulating, interactive training session for enrichment. It also explains elephant physical characteristics, elephant conservation and how training facilitates captive elephant care. During this presentation the animals demonstrate natural behaviors to educate our visitors about these important concepts. While on exhibit the animals are routinely provided with mid-day enrichment items that usually consists of local browse, hosing during the summer months, or food tosses that also increase activity.

Taylor, V.J. and Poole, T.B. 1998. Captive breeding and infant mortality in Asian elephants: A comparison between twenty western zoos and three eastern elephant centers. *Zoo Biology* 17: 311-332.

Species: 0.3 African Elephant (Loxodonta africana)

Diet:

- Coastal hay available on exhibit throughout the day.
- Produce portion of daily diet as well as a variety of breads may be utilized for training (both on exhibit and in backup area) and for shifting.
- Produce portion of daily diet may be hidden or broadcast on exhibit.
- Logs available on exhibit. Replaced as consumed.
- Local approved browse offered on exhibit and/or in backup area as available.
- Novelty food items such as watermelons, pumpkins, bananas, banana plant leaves and stalks, and sugar cane may be offered on exhibit and in backup area as available.

Commonly Used Species from "Approved Browse" List:

- Bamboo (including stalks)
- Mimosa
- Sweet gum
- Tulip Poplar
- Willow

Natural Stimuli:

- Animals together on exhibit daily. Visual, auditory, olfactory and limited tactile access to each other when separated in backup area at night.
- Exposure to natural sunlight, photoperiod and weather on exhibit.
- Exposure to natural sunlight and photoperiod in backup area, weather permitting, via large window and door areas.
- Exhibit terrain includes a slope and a dry moat providing increased exercise opportunities such going down into the moat and climbing back out.
- Boulders for rubbing and scratching are on exhibit.
- Substrate, consisting mainly of sand, on exhibit for dust bathing. Replaced as needed.
- Access to large deadfall (used as secondary barrier) on exhibit.

Artificial Stimuli / Furniture:

- Visual, auditory and olfactory stimuli from and interaction with visitors viewing exhibit from walkways along front and sides of exhibit.
- Gunite boulders (in addition to natural) on exhibit for rubbing and scratching.
- Exhibit includes a 200,000 gallon gunite pool with two sets of steps to enter and exit the pool.
- Hosing may be offered during temperature appropriate days on exhibit or in backup area.

- Warm water drinks may be offered via hoses in the backup area.
- Food tosses on exhibit three times per week.
- Paper bags and cardboard boxes (free of staples or tape) with or without treats, scents, and ice blocks (plain or with treats) may be offered periodically on exhibit or in backup area.
- Tires of various sizes and rubber balls may be offered in backup area.

Training / Keeper Interactions:

- Daily AM operant conditioning of behaviors for husbandry and medical care. Provides mental stimulation as well as physical activity.
- Daily educational demonstration of conditioned behaviors given by alternating trainers on exhibit for visitors. Provides mental stimulation as well as physical activity.
- Painting in backup area.

Elephant Foot Care

Introduction: All feet are inspected daily for cracked toenails, excessive fungus growth or foreign objects embedded in the foot pad. Every foot is trimmed and toenails are filed every three-four weeks depending upon the elephant and weather conditions. Seasonal weather conditions effect the rate of fungus growth and warm moist conditions requires frequent trimmings.

Goal: Conservatively trim foot and file nails to remove all fungal growth and cracks to ensure protection from trauma (rocks) and allow for sufficient pad and nail protection. Limit the time to 15-20 minutes per foot. When trim is completed, animal should bare weight evenly on all of the foot.

I. Pads

- Remove sand, hay, feces from foot using a brush to assess foot condition. Sand will dramatically decrease the life of the blades.
- Lightly scrape surface of the pad to identify problem areas. Fungus will not always be obvious until first layer is removed.
- Fungus will appear as a dark spot, sometimes very small until further trimming occurs.
- Continue to scrape area where fungus has penetrated, removing small amounts at a time until it is gone.
- Depth you trim is monitored primarily by color. Black>Dk. Brown>light brown>white>pink>blood (vascular tissue). Seldom should you trim beyond the light brown layer. Could cause soreness after trimming.
- Texture and hardness can be used to monitor pad thickness.
- If you can't remove all of the fungus by the light brown area, schedule follow-up trims in one week. Usually just opening up the area and exposing it to air will often remedy the problem.
- Blend rest of the pad where fungus was removed, attempting to make pad a uniform surface.
- Lightly trim pad edges. Fungus will also invade the foot-pad junction.

II. Nails

- When animal is bearing weight on foot, nail should just meet or be off the ground ¼ inch. Cracks develop from too much pressure on the nail.
- If crack is starting to develop, open up the crack and remove sand, feces etc. Extreme care should be utilized during this process to not cut into vascular areas. The nails are thin compared to the pad and often the crack cannot be eliminated in one trimming. Files are the safest ways to address toenail cracks.
- File corners of nails to create an open area around cuticle so feces cannot be trapped, promoting fungus growth.
- Nails grow from the cuticle downward and excessive filing should not be done on the nail surface. This causes the nail to be thin and more susceptible to cracking and injury.
- Inspect cuticle growth around edges and remove it with the small file if it becomes excessive.