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Elephant Welfare Consultant

March 7, 2016

RE: Preliminary Welfare Evaluation - HANAKO

Dear Mr. Hidemasa and Dr. Hideo Tajima,

Thank you for your time and interest in having Hanako's living environment, general health and behavior evaluated. Below are my preliminary findings and suggestions on a systematic approach to improving her welfare.

Conditions Observed

Social Deprivation

The single most important welfare component for captive-held female elephants is companionship. Having a trusted friend most certainly reduces fear and the stress of isolation, contributing to improved health and comfort. Companionship appears to be strong medicine for female elephants, especially as they age.

Hanako is living alone with only her keepers to fulfill her social needs. She derives no pleasure from the visiting public, spending the majority of her time on exhibit psychologically detached. On our visit Hanako displayed anticipatory behavior 30 minutes prior to seeing her keepers at the end of the day. Once inside her barn, Hanako immediately became animated and engaged and vocalized and solicited their attention and physical affection.

Solutions; Immediate:

1. Increase skinship with keepers.
2. Schedule opportunities/activities throughout the day when keepers interact safely with Hanako.
3. Educate the keepers regarding elephant language and behavior to increase their elephant knowledge, so they can better communicate with and understand Hanako.
4. Implement a behavioral enrichment program to help Hanako remain engaged when keepers are not present.

Long Term:

1. Expand the outside exhibit area.



Health - Shivering

On our visit, Hanko shivered the entire day, nonstop. Asian elephants live in subtropical climates. Being cold causes low level stress, which compromises the immune system, threatening health. Drafts and cold weather can cause pneumonia, especially in aged individuals. Every effort should be made to ensure that Hanako does not get chilled. If she does become chilled, Hanako should have access to a fast and easy way to warm up.

Solutions; Immediate:

1. Install a thermostat with 24-hour memory of the highest and lowest temperature readings in a 24-hour period.
2. Install an infrared lamp station inside and outside (infrared lamps heat objects, not the air). <https://www.infraredheaters.com/animal.html>
3. Change air flow/eliminate the draft caused by the ceiling fan (direct fan toward the wall, not toward the floor).
4. Give Hanako free-choice access to the barn so she can self-determine her comfort zone.
5. Winterize visitor area/install rubber flaps on visitors' overhead door (will stop the draft and hold in the heat).
6. Line the barn floor with rubber mats to prevent the chill from standing on concrete. Start with the side of the barn that she does not use. <http://www.matsmatsmats.com/commercial-industrial/specialty/livestock-rubber-flooring.html>
7. Provide a small pile of wood shavings inside and outside for dusting (put in a location that does not disturb Hanako).
8. Stop using air conditioning and leave the barn door open in the hot season.

Long Term:

1. Expand outdoor exhibit.

Health - Dehydration

A healthy adult elephant drinks on average 113 liters of water each day. Most elephants prefer running water to still water. Hydration is a key component of good health. Drinking an adequate amount of water benefits every cell in the body and helps prevent constipation.

Solution:

1. Offer Hanako water from the hose.
2. Install automatic waterers for moving water inside and outside. <http://www.horses.com>



one style

Health - Hygiene

Hanako's skin is dehydrated, with a buildup of dead skin. This condition can be painful, causing itching and wounds, and interferes with the body's ability to regulate temperature. Her cuticles are dry and cracked, her footpads are thin and bruised (from standing on concrete) and her nails are decayed, which can cause infection and lead to osteomyelitis.



Solution; Immediate:

1. Bathe daily with warm water (do not use soap).
2. Moisturize her skin with oil with spray bottle or long handled brush (only when she has access to the barn).
3. Moisturize her cuticles with oil anytime, by hand
4. Use rakes and hard, long handle brushes to scrub her body.
5. Provide a small pile of clean/dry dirt outside for dusting to protect her sensitive skin from the sun (put the dirt in a location that does not disturb Hanako). * Do not use sand: combined with concrete it is too abrasive.
6. Provide scratching posts inside and outside.
7. Install rubber mats to cushion the floor.
8. Discontinue the use of air conditioning (dries the skin/makes the air too dry for a subtropical animal).

Long Term:

1. Install a training wall for foot trimming.
2. Remove concrete floor from outdoor exhibit

Safety - The Moat

The use of moats in zoos is obsolete. Since the advent of zoos, dozens of elephants have been crippled or died as result of falling into a moat. At her advanced age, Hanako could easily trip or misstep and fall into the moat again. Such an accident could prove fatal.

Solution:

1. Fill the moat in with earth or install a four-foot-high steel pipe barrier on the edge of the moat.

Safety - Zoo Visitors

Hanako disassociates from the viewing public and is known to behave aggressively toward some strangers. Her inside space does not provide a great enough distance from the public for her personal comfort. Having her personal space violated causes her stress and anxiety.

Solution:

1. Inside the barn, move the security railing back to create a greater distance between Hanako and visitors.



*Hanako's *Body Condition Index* rates her at 15, good condition. A copy of the index is attached below.

Asian Elephant Body Condition Index				
Elephant name HANAKO		Elephant ID #		
Observer CAROL BUCKLEY		Date MARCH 5, 2016		
Body area	Observation			Score
1. Head: temporal depression (view from several angles)	full and convex in outline when viewed from behind, frontal ridge vaguely outlined = 2 points	slightly to moderately concave, frontal ridge defined = 1 point	deeply concave, frontal ridge forms a crater-like rim around the temporal depression = 0 points	1
2. Scapula (shoulder blade) (view from side)	spinous process not visible, or slightly visible = 2 points	spinous process visible as a vertical ridge with a concavity between the ridge and the posterior edge of the scapula = 1 point	spinous process pronounced and blade line with the acromial process appearing as a knot = 0 points	2
3. Thoracic region (view from side)	ribs not visible, barrel smooth = 2 points	some ribs visible, but the extent and demarcation not pronounced = 1 point	many ribs strongly demarcated with pronounced intercostal depressions = 0 points	2
4. Flank area (immediately in front of pelvis) (view from side and behind)		no depression visible, flank bulges outwards in front of the pelvis = 1 point	depression visible as a sunken area immediately in front of the pelvis = 0 points	1
5. Lumbar vertebrae (behind ribs and in front of pelvis) (view from behind; an elevated vantage point may be necessary)	not visible, lower back smooth and rounded = 2 points	visible as a ridge; skin slopes away from the top of the ridge; height of the vertebrae does not exceed width = 1 point	visible as a knife-like blade; sides of the spinal ridge are parallel, and the height exceeds the width = 0 points	2
6. Pelvic bone (external angle of the ilium) and rump (view from several angles)	not visible (or slightly visible); rump region between ilium and caudal vertebrae filled with tissue (and not forming a depressed zone) = 2 points	visible but not pronounced; the rump is slightly depressed between the ilium and the caudal vertebrae = 1 point	visible but as a jutting bone; rump is a pronounced sunken zone between the ilium and the caudal vertebrae = 0 points	2
7. Axillary fat (immediately behind joint of humerus and scapula)	the SQ contains a thick handful of fat, easily seized = 2 points	the SQ contains some fat = 1 point	the skin thin and little tissue palpable beneath = 0 points	2
8. Brisket fat (between forelegs at base of neck)	sternum well padded with muscle and fat; bone neither visible nor palpable = 2 points	sternum not visible but palpable = 1 point	sternum both visible and palpable = 0 points	2
9. Tail		fat and muscular, not bony feeling = 1 point	thin and bony, feels stringy, individual joints palpable = 0 points	1
Total score				15
Score: 0-5 = emaciated, 6-10 = average condition, >10 = fat or very good condition				
(Developed by Dr. V. Krishnamurthy, Dr. C. Wemmer, and John Lehnhardt; Adapted from personal communication, Dr. V. Krishnamurthy, India, 2000. A version of this table appears in Das, D. ed. 2003. Healthcare, Breeding and Management of Asian Elephants.				