



Dallas Zoo

23 pages

Elephant

Keeper

Manual

ELEPHANT STAFF MEETING

July 10, 2003

Present: Mike, Roman, Moriah, Gina, Audra, Kerrie & Jennifer

*Ken
Chuck
Staff
7/12/03*

Facility Issues -- started off by walking the entire facility and taking a fresh look at potential safety & husbandry issues. Generated a list of items to review or address.

ERD

- Need 2nd nylon leg strap. Don't believe ARC ever issued two. When the original roll was opened, only one strap was present. Chains work OK, but the straps can be ratcheted tight for better restraint. This item can probably be petty cashed through Grainger.
- Need two more pipes for the left end gate. Holes have already been pre-drilled so the single foot rest pipe can be adjusted up or down. May want to add extra safety factor, at least initially.
- May need to add trunk slap chains to the same gate, above the pipe holes.
- Initially the right end gate may be OK as is. We can position the elephant facing the left end for front access, and turn her around for rear access. We can add slap chains later, if necessary.

Work/Storage area

- Add shielding for hydraulic system electrical box that is within reach of elephants. Jenny has been able to reach it, but tends not to mess with it. Another elephant may be a different story.
- Replace domestic stock hotwire chargers with higher voltage systems.
- Purchase an additional rubber water trough. If elephants have to be separated, one will not have access to the pool. Need a trough in reserve in case the original is damaged.
- Repaint the safety stripe. Explore some other more durable way of marking this. For example gluing down some sort of red plastic strip or red tile.
- Replace leg chains with stainless steel chains (rusty). Have one full set for Jenny. Need to build an additional set.
- Replace slap chains at patio with horizontal bars. Has already been done in some portions of this area.
- Replace slap chain above footrest with detachable bar.
- New hay pallets of something other than wood.

Exhibit Double gates

- May need to add an additional barrier in front each gate. Could be one of several simple designs. Could be a heavy pipe that slides horizontally in front of gate, like Waco uses for their barn. Could be a heavy pipe that swings, like what used to be at the old forest buffalo exhibit. Could be a heavy pipe that is counter weighted and pivots upward, like a military checkpoint in the movies. The purpose is to block the elephant from getting out if the old gates are broken through.

Exhibit Containment Cables

- Many turnbuckles old and damaged. This has been a work order in process.
- The perimeter cables seem to be in good shape.
- The cables at the divider fence are not strong enough, are too slack and need to be replaced with heavier gauge. These were replaced with smaller cable, which was supposed to be temporary, a few years ago.

Stalls

- Several broken welds in protective mesh. Jenny has pulled at these in the past.
- Replace slap chains on the stall divider with heavier gauge and stainless steel.
- Cut or unbolt old metal hardware from stall walls. Some of these were remnants of the old swinging gates; some were from the old overhead doors and some were from the old hydraulic gates. ARC did not remove any of these during the gate renovation. They could be a source of injury or tusk damage.
- The hydraulic door control knobs are sticking, and don't spring back when released.

AK PK
HW HW
MC MC
KS KS
AC AC
GG GG
JM JM

- Lighting is dismal in winter. Need additional lighting for each stall. This is a safety issue, and visitors can't see the elephants when they are locked indoors on cloudy winter days.
- At least one of the keeper access doors still needs to be modified, so smaller sections can be opened for foot access. This will be necessary in winter when they are shut indoors for periods of time. We have gotten by with the detachable chains, but it is not the best or safest way to operate. If we could at least get one door modified, we could move elephants around to use this particular door. We explored the idea of sliding hatches with construction at one time, but a door modification seems to be more useful and will probably require less maintenance or repair.

Trailer Area

- Move hot wire charger box away from the gate. Although Jenny doesn't mess with it, she can reach it. The wood box is deteriorating anyway.
- We need to do something about the slope of the trailer ramp, especially since we will be dumping double the amount of waste in the future.
 - Move the chain link fenced area out, so the ramp can be extended and there is enough room to turn the wheelbarrow to line up with the ramp.
 - Explore the possibility of modifying at least one trailer to lower the height of the ramp. This would involve cutting out sections of the front of the trailer, where the ramp attaches.
 - Is there any possibility of incorporating a conveyer system, and eliminating the ramp? These are available through agricultural or industrial equipment companies. It would have to be mobile, however, or the trailer area would have to be resized to allow it to be placed perpendicular to the direction the trailer is moved. It probably wouldn't be very attractive, unless it was "low profile".

Moat

- The area drain in front looks horrible, with the black silt fence around it. The drain is buried with sediment already. What is the possibility of constructing a concrete apron to direct water from the exhibit outlet directly to the drain, like the ones around the other drains? These work nicely and are easy to clean out.



Safety Procedures – reviewed the existing safety principles and procedures for Protected Contact elephant management.

Fundamental principals

1. For all activities, the elephant, as well as all staff, trainers and guests must be positioned in such a way that the elephant does not have the option of contacting any person through direct movement, without having to extend an appendage around or under a barrier or obstacle. This is accomplished through use of barriers or obstacles, which make it necessary for the elephant to break positioning, move to a new location or position and reinsert an appendage to make contact. This buys the trainer a marginal amount of time to react to ensure safety of all people present. At any given time, if this circumstance does not exist, then it cannot be categorized as Protected Contact and is unacceptable.
2. It is often necessary for staff to insert a body part (hand, arm or other) into the elephant's space for husbandry procedures. Note: the elephant's space is not just the elephant's side of the protective barrier. It includes any location outside the enclosure, which the elephant can reach with its trunk. The trainer team is responsible for ensuring that the elephant and people are positioned in such a way that it can't grab, strike, kick or crush the body part that is inserted into this zone.
3. The trainer team is responsible for ensuring that anyone involved in the procedure does not insert a body part into the enclosure any more than absolutely necessary to accomplish the task, and does not set up a situation where the elephant can crush it against the barrier (i.e. a hand or arm being crushed between the elephant and the bars).

Procedures

- All of the areas, which are described in the Elephant Keeper Manual as "Danger and/or Training Zones" should be treated as the elephant's space, as described in item 2 above -- even though they

lie outside of the containment barrier. These include the patio or ERD area, the stalls and at the exhibit cables. When anyone is in any of these areas, positioning of the animals and people must be according to the guidelines stated in principle number 1 above. Otherwise, no one may occupy this area.

- In most cases, and especially at the exhibit cables, simply having the elephant reach under the appropriate cable or bar is not adequate protection from the trunk. Positioning should be such that the elephant not only has to reach under the lower cable but around one of the vertical fence posts. This is especially important for close in work, such as chaining or inspecting the front feet. Otherwise, the trainer must stand back and toss the training reinforcement, rather than feeding hand-to-trunk.
- All of the above guidelines apply for all non-training interactions as well, and especially for special tours or demonstrations.



Heidi suggested for feeding Jenny (hours) to feed through mesh of stalls only. Roman + Menah agree. if not, is the space that was originally designated for tours (by hay storage) still the designated spot?

Revised Large Mammal Barn Routine Response to USDA Mandated Two Person Guideline

Note 1:

The icon "T" stands for "Team" and indicates a task that must be performed by at least two keepers. Both must be experienced and qualified by the supervisor to work with the species in question.

The icon "I" stands for "individual" and indicates a task that, under normal circumstances, may be performed by a single keeper.

Note2:

Volunteers may not work alone in the LM barn regardless of the location of animals, or the situation.

Note3:

All interactions with elephants will fall under the two-person category, in accordance with the elephant management manual.

First thing in the Morning

- ◆ I: Before entering the barn, make a general visual check on all animals and the facility through the windows at the breezeway. If alone, enter the barn through the door next to the old hippo holding.
- ◆ Obtain radios.
- ◆ Obtain pepper spray protective device.
- ◆ T: Prepare oral medication for Jenny elephant and administer.
- ◆ T: Weather permitting, shift Jenny out of stalls and lock her out on exhibit. Provide hay.
- ◆ I: Before leaving the "elephant" area, climb up to the loft and prepare and present male giraffe's diet.
- ◆ I: Prepare and present the female giraffes' diet.

Attend the morning meeting.

Cleaning Routine

- ◆ T: If Jenny has been previously locked out on exhibit, dry-clean both barn stalls.

Elephant Yard Cleaning:

Options:

T: Shift and lock Jenny into a stall. Clean both sides of exhibit simultaneously.

T: Shift Jenny into one side of the exhibit yard. Clean the empty side.

Cleaning Elephant Stalls

- ◆ T: Lock Jenny on exhibit.
- ◆ T: Clean stalls. If Jenny is locked out, one keeper may do cleaning activities while another performs other duties within the elephant work area and in close proximity. If Jenny must remain in a stall, at least two keepers must clean the empty stall.

Remaining Activities

- ◆ T: Training sessions
- ◆ T: Projects
- ◆ T: Closing Routine



**Dallas Zoo
Elephant Management Program
Mission Statement**

The Dallas Zoo elephant management program will provide the best possible care for their elephants based upon the AZA Standards for Elephant Management. The program will include the following components; husbandry, training, enrichment, medical, education, conservation, and research. These components will be reviewed and assessed on a semi-annual basis by the Dallas Zoo Elephant Management Committee.

The Dallas Zoo is a participant in the African Elephant SSP. We will continue to respond to recommendations that are in the best interest of the captive population, and seek guidance from the Elephant SSP and the Elephant TAG on relevant management issues and the design of new exhibits.

Strength

Enrichment

- Offer heavy objects for her to play with, push, and move (i.e. tires, pig ball, root balls, logs)
- Structures that enable her to climb and use muscles not normally used on a flat land surface. For example, give a rock pile that she has to climb and forage
- Hide food under objects that must be moved in order to get food (i.e. PVC pipe "jack" filled with cement, stumps, logs, holes in props)
- Digging through substrates with feet and trunk

Stretching

Training

- Behaviors such as down, stretch, extend trunk and upper body to reach and retrieve an object, standing on tub or rock as you would a tub
- Gradually increase the amount she must stretch muscles to accomplish a higher criteria of given behavior (i.e. light weight extension pole with treat on the end to make her reach up, items placed outside of cables to make her get to ground level)

Enrichment

- Offer browse very high so that she has to reach to get it
- Provide enrichment so that she has to reach forwards or down (if there is a place to do so)

There are just a few examples that can serve as a guideline to developing an exercise program that address various aspects of exercise. Clearly, enrichment is an important component of exercise, but be sure that the enrichment program is not limited to exercise. Your enrichment program and your exercise program are not mutually exclusive nor do they completely overlap and satisfy the goals of the other.

Enrichment should not only meet the physical needs of the animal, but must address the psychological aspects as well. A social animal being housed alone poses its own set of challenges regarding psychological well-being; this means that your enrichment program must be very dynamic to try to fill the void of social interaction with a con-specific. A few ideas that you may try to implement include:

- Puzzle feeders- challenging ones that you will need to design and have constructed, perhaps made from pipe with openings that she must manipulate food through to make it fall out an opening
- Training of new behaviors- the immediate ones to train, as we discussed, include ones that facilitate exercise
- Social interaction from keeper staff
- Social interaction with another species- the goat we talked about during march visit- see March report
- Big mirror so that she can see herself- have you seen the article on self-recognition in elephants?

Active Environments Report - June 2001
Addition to Report - August 12, 2001

Large Mammals/Elephant Exercise Program

Jenny

We discussed various aspects of Jenny's care, focused around creating a comprehensive program that can address her exercise, physical, psychological needs. A comprehensive program should address all of these needs by using a variety of techniques including training, enrichment, and an adjustment of operational procedures if necessary.

Beginning with exercise... I suggest that you consider different types of exercise and develop methods to meet each of these. I find it easier to bread the larger idea of exercise down into several categories, including, aerobic, strength or muscle building, and stretching of muscles. I suggest that you develop behaviors or activities that can meet each of these categories. Some examples follow:

Aerobic

Training

- A's to B's - to make this more interesting, attach a task such as fetching or carrying an object (i.e. grain lid, logs, sticks) and placing it in a specific location, etc.
- Kicking a ball like in soccer for extended distances (i.e. pig ball, boomer ball, keg)
- Reinforce running vs. walking or at least fast walking (i.e. "run", "chop chop")
- Walk or run for increased distances

Enrichment

- Activities that excite her to the point of playing with an object for extended periods of time(i.e. tire, chain in frozen snack, hang keg, dirt pile)
- For example, kicking a hanging tire, batting a ball, or kicking a ball on the ground (i.e. airline cable stretched across so things can be attached to and hung from it)

Operations

- Alter daily pathways so that she has to take the 'long way' into the stall or to get from one side of the exhibit to the other
- For example, use the gate close to the front of the exhibit when possible
- Scatter food to increase foraging and therefore walking
- Scatter food in pool

Strength

Training

- Lifting heavy objects (i.e. tires, drilling holes in log and attaching a thick rope for her to carry it around)
- Log pull and push
- Lifting objects in various positions, such as standing with a leg lifted
- Lifting with trunk, legs, and neck
- Large rock to climb on



February 22, 2000

United States
Department of
Agriculture

Marketing and
Regulatory
Programs

Animal and Plant
Health Inspection
Service

Animal Care
Central Region
PO Box 915004
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To Whom it May Concern:

As a USDA licensee exhibiting elephants, you should be aware of the current Animal Welfare Act requirement for following the "Guidelines for the Control of Tuberculosis in Elephants" and the "Elephant Necropsy Protocol" as outlined in Animal Care Policy #21.

The National Tuberculosis Working Group for Zoo and Wildlife Species has recently updated these two documents." Current editions of these are enclosed and should be used in your tuberculosis monitoring and treatment programs. I have also enclosed a copy of Policy # 21.

Also enclosed is a brief summary of the major changes in the new tuberculosis guidelines. We strongly recommend that your attending veterinarian and key husbandry personnel review the new guidelines to assure that proper procedures are being followed.

Please feel free to contact this office at 818-885-6923 if you have any further questions.

Sincerely,

W. A. Christensen, D.V.M.
Director - Animal Care
Central Region

Enclosures (4)



Animal Care is a part of the Department of
Agriculture's Animal and Plant Health Inspection Service.

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MAJOR CHANGES FOR NEW TB GUIDELINES 2000

1. Swabs are no longer recommended for taking trunk samples as they are of questionable value. Should only be used when no other method is possible.
2. BTB and skin tests are no longer recommended as ancillary tests.
3. Treatment for recently exposed animals has changed from two drug to one drug (Isoniazid) regimen. Target blood levels and frequency of medication have also changed.
4. Treatment for positive animals has changed from three drug to two drug regimen. Target blood levels and frequency of medication have also changed.

Safety Protocol

General Guidelines

Two qualified keepers must be present at any time that elephants are being worked.

In the event that any area protocol needs to be violated (due to mechanical failure, emergency, etc.) a supervisor must be notified as soon as possible with a full report of incident details and resolution.

Should you witness a situation that seems unsafe, you have the responsibility to first call it to the attention of the person you believe to be at risk, and then report the incident to a supervisor.

Check to be sure areas are clear of people, tools, and other items before opening any doors.

Check stalls and yards before opening barn's hydraulic doors as someone may have entered stalls or yards to clean, feed, etc. NEVER ASSUME.

The Patio area may be used for safe training opportunities if the gates are closed. Interactions with the elephants may not be conducted if the gates are open.

The barn keeper stall doors may be opened for training opportunities if chains are placed across the access areas.

Always notify an elephant staff member before leaving or upon entering the elephant complex.

Check to be sure all tools, wheelbarrows, trash cans, etc. are out of reach of the elephants at all times - they have an amazingly long reach and mischievous demeanor.

Be sure to have extra locks in storage for gate pin.

Be sure to have two sets of chains and one pair of bolt cutters readily available at all times.

Animal Locations

Always know locations of animals and other keepers before entering enclosure or operating doors.

When both elephants are locked in the barn, both gate pins must be locked in place.

Never turn your back to animals when you are near "danger zones" (see definition below).

At the end of a set or during a pause in training always step back out of trunk reach of the animal.

Danger Zones

- All exhibit perimeters within grassy area
- Training zones
- Keeper aisle when keeper doors are open
- Patio area as indicated by red line on floor
- Patio area outside stalls when elephants are locked in
- Six feet along divider wall when elephants are on other side

Guest Policy

Guest: Guests include anyone not in the Large Mammal Section.

Guest Procedure

- *Supervisor and curator must be notified prior to any guests entering the elephant complex.*
- All non-large mammal staff must notify keepers before entering elephant complex and keepers are responsible for notifying supervisor.
- *All guests must be accompanied by elephant staff whenever in the elephant complex.*
- Any interaction with elephants must be done under the direction and supervision of two qualified personnel.
- Guest/s must be positioned at safe distance at all times.

Routines

Daily

7:00 - 11:30 a.m.

- Present Jenny's morning dose of medicated produce.
- Group planning for the day's husbandry and training tasks.
- Lock Jenny in stall or adjacent yard.
- Before entering the yard to clean, ensure safety pins are locked into the stall gates. Also ensure all keepers know the yard is "hot" (keepers out there).
- After cleaning, remove any loose rocks or other projectiles. (Note: branches may be given, per enrichment schedule, but should not be removed if a throwing problem develops).
- Police the grassy area and buffer area in front of the public viewing area, removing any trash, debris or enrichment items that have left the yard.
- Remove any remaining enrichment items from the previous day as appropriate.
- After the yard has been cleaned, ensure all gates are properly secured with all appropriate bolts latched and all locks secured.
- Restring the hot wire in front of the service gates.
- Prepare morning enrichment items, per the schedule, and place them out in the yard.
- Before setting up for exhibit access, ensure the giraffe yard cleaning routine is complete.
- Lock Jenny out of barn. Consideration should be given duration of exposure due to cold weather.
- Move hay and produce deliveries from the public breezeway to inside the barn prior to 9:00, the time the public is admitted.
- Rake/sweep hay drop area.
- Hose barns to thoroughly clean floors, walls, bars, ceiling and windows. Disinfect walls, bars. Squeegee excess water from floors. Clean all debris from drains.
- Thoroughly hose down the patio.
- When Jenny appears uncomfortably hot, do one of the following: bathing, or sprinkler enrichment. Allow access to stalls.
- Hose the trailer service area along with cleaning tools. Store tools on the hanging rack. Organize the service area so there is a clear path through to the outdoor training area.
- Set up for morning treatments or training.
- Finish preparing remaining enrichment items, per the schedule.

9:00 - 10:00

Bath

11:00 - 11:30 a.m.

Treatment, training session, foot care or grooming.

11:30 - 12:00 a.m.

Feeding of coastal hay at cables or patio.

Present enrichment items, per the schedule, having prepared them earlier in the morning.

Routines

1:00 p.m.

Feed coastal hay at the cables.

Prepare any afternoon enrichment items, per schedule.

1:30 - 3:00 p.m.

- Treatments, footwork or grooming as necessary.
- Conduct training sessions according to weekly objectives and the morning planning.
- Clean the floors of the stalls as necessary. Squeegee floors as necessary so they are dry for the evening.
- Clean and arrange the keeper service area.

3:00 - 4:00 p.m.

- Complete the training records, daily reports and hay order.
 - Present afternoon enrichment items, per the schedule.
 - Set up evening enrichment items.
 - Set up evening feeding and watering (if locked in at night).
 - Shift Jenny as appropriate for the evening.
 - Prepare Jenny's medicated produce and stage it for night keepers.
 - Deliver the daily report to Station One.
-
- Announce evening report during night keeper roll call.
 - Check all locks to gates and doors.
 - Latch all bolts to all stall doors at the keeper aisle.
 - Police the keeper aisle to remove any tripping hazards for the night keepers.
 - Check the exhaust fans or the heater and its thermostat for proper operation and temperature settings.
 - Ensure that no tools or hazards are within reach of the elephants.
 - If the elephants are shut in for weather, close the overhead doors and the windows at the keeper aisle. (Note: The windows are normally left shut during the winter months and opened during the summer.)
 - Turn off all lights - double check the light switches for the lofts.
 - Turn off the break room air conditioners to preserve their operating life.

Weekly Routine

- Clean and disinfect the pool.
- Pump out the mud wallow.
- Disinfect the portable watering troughs.
- Clean and disinfect medical supply storage containers.
- Check medical supply inventory and restock as needed.
- Check grain inventories and restock as needed.
- Check housekeeping supply inventory and restock as needed.
- Check hydraulic fluid level and report it if low and needs fluid.

Monthly

- ◆ Rework the substrate in the yard, using the Bobcat, and add substrate if necessary.

Hydraulic Door / Shifting Guideline

General Requirements

- Requires two people.
- Do not talk during shifting procedures unless it pertains to the procedure.
- Use "STOP" and "GO" or "thumbs up" or "thumbs down" as communication signals.
- If animals break from trailer before door is fully opened, two options:
- If access is limited such that elephants cannot get through the gate opening, stop the door and close it partially if this can be done in a manner safe for the elephants. Regain control of animals and begin again.
- If door is opened enough that elephants will fit, continue opening as it would be too difficult to regain control.
- ALWAYS double check that shifting procedures are complete before entering area.
- ALWAYS double check the exhibit yard before animals are let out.

To Lock Animal In

- Station animal outside door.
- Once under control, begin opening door.
- After door is completely open, release animal into stall.
- Once inside stall, station animal while door is being closed.
- Place pins, with locks, in stall doors if necessary.

Overhead Door Trouble Shooting Checklist

Large Mammal Section

This checklist is to be used in the event that an overhead door fails to operate. Some minor problems may be resolved without the need to wait for outside service. In addition, this may help isolate the problem, so it can be more effectively communicated to the Maintenance Department. This could speed up the process for resolving the problem.

1. Check adjacent door. If it operates, electric power is at least getting from the circuit breaker to the control buttons.
2. If neither door operates, check and reset the circuit breakers upstairs. If you are unfamiliar with the circuit breaker panel, ask for assistance. Do not perform any other action to the circuit breaker panel, aside from operating the circuit breaker switch.
3. Try pressing the control button again and listen for any noise from the motor. If any noise or motion is detected from the motor unit, this indicates that electrical power is getting at least to the motor. Therefore, the control button is OK and either the motor or the drive gears are bad. Call Maintenance immediately. Do not make any contact with the motor or its wiring.
4. Some doors have outdoor control switches. Make sure one of the buttons isn't stuck in the "in" position.
5. Try manually operating the door using the pull chain system. The pull chain is tied or wrapped up high out of the way, so you will have to free it before attempting to use it.
6. If the door still won't move, check the gear reversing switch. This is the small rocker arm at the front of the unit. It may be canted in the reverse position.
7. If this doesn't work, some possible reasons are: the gear drive may be bad, the motor is seized up or the door itself is binding in the track. Call Maintenance immediately.

To Let Animal Out (Either Out Of Stall Or Between Yards)

- Station the animal until the door is completely open.
- Release the animal into yard.

To Close Animal Out Of Barn

- ◆ Either remove wooden winter door panels or fully open door.

Training Protocol

Protected Contact System

The method of elephant training at the Dallas Zoo is known as "Protected Contact". This involves the trainers working from behind a protected barrier or in a protected environment, *using operant conditioning and positive reinforcement*. Trainers should not enter the same enclosure with the animal or interact with an elephant without the protection of a physical barrier.

Terminology

Training- Teaching

Operant Conditioning- A type of learning in which behaviors are altered primarily by regulating the consequences that follow them.

Reinforcement- Anything which, occurring in conjunction with an act, tends to increase the probability that the act will occur again. It is information. It tells the subject what it is you like. *Reinforcements are relative, not absolute.*

Positive Reinforcement- Something the subject wants: food, praise, play, whatever.

Negative Reinforcement- Any unpleasant event or stimulus, no matter how mild, that the subjects want to avoid. It can be halted or avoided by changing one's behavior. For example, a loud buzzer, spray from the hose, hot shot, ankus.

Punishment- An action whose purpose is to eliminate a behavior. However, it does not have any information about how to change the behavior. Occurs after the response, so the subject does not have the opportunity to change the behavior.

Conditioned Reinforcer (Bridge)- Initially meaningless signal that is paired with a reinforcer. It can be exact, so there is a way to communicate exactly what part of the behavior is wanted. Immensely powerful so should be used wisely.

Primary Reinforcer- Anything the subject wants (*food, water, tactile, play*).

Schedules of Reinforcement

Continuous- Reinforcement given after every response. This is necessary in learning stages.

Variable- Reinforcing occasionally on a random or unpredictable basis. This is better for maintaining behaviors.

Fixed Interval- Reinforcement that is given after the same number of responses (after every third behavior).

Selective of Differential Reinforcement- Reinforcing selected responses of higher quality to improve performance.

Jackpot or Bonus- A reward that is much bigger, maybe ten times bigger, than normal reinforcer, and comes as a surprise to subject.

Latency- The time period between a signal and the behavioral response.

Shaping or Successive Approximation- Taking a small tendency in the right direction and then shifting it, one small step at a time, toward an ultimate goal.

Stimulus- Anything that causes some kind of behavioral response; a cue or signal. It can be anything the subject can perceive.

Acclimation- The process of gradually getting an animal used to an overall situation which it normally avoids.

Desensitization- Actively and specifically pairing a positive reinforcer with a negative event until the negative event loses its ability to adversely influence behavior. Over time it can actually turn the event into a positive one.

Generalization- Reinforcement of specific behavior increases the frequency of similar behaviors.

Regression- Deterioration in learning progress or performance for a behavior, usually temporary; a normal part of the training process.

Extinction- Method of eliminating a behavior by no longer reinforcing it.

Time Out- Mild form of punishment in which positive reinforcement is withheld for brief period of time immediately following an inappropriate or undesirable response.

Incomplete Behavior- One that interferes with, or cannot be performed at the same time as another behavior.

The Training Zone

The physical area within which the trainers interact with the elephants is termed the training zone. These areas include:

- Within six feet of the containment cables.
- Within six feet of the yard divider cables.
- Anywhere inside of an unoccupied stall.
- Anywhere in the keeper aisle in front of the stalls and within six feet of the posts at the patio.

Training Safety

When ANYONE is occupying a training zone, the following discipline must be adhered to:

- *Maintain body positioning such that the elephant cannot make any aggressive contact. Never reach between the elephant and any solid structure, including poles, chains, and cables. No body part should be placed into the animal's space beyond the forearm, and no body part should ever be placed between the elephant and any portion of the barrier that might expose it to compression by an elephant.*
- When working at the cables, use the vertical poles as additional safety to block animal's reach (e.g. when in the lean-in position, put the pole between the animal and the trainer or technician, trunk fully extended under the lowest cable etc.)
- When working at the cables, trunks should be extended fully beneath the lowest cable, and the animal's head positioned against the cables or pole. This reduces the opportunity and ability to reach out and grab at people.
- Attention is focused on the elephant at all times.
- During a pause in a training session, when no work or training is taking place, all parties should step out of the training zone and clearly out of the animals reach.
- Long targets should be used for Jenny, allowing trainers to remain out of trunks reach.
- Animal positioning will be accomplished through means of targets, hand signals, and verbal commands; at no time should a trainer exert any force (pull, push or grab) on the animals to achieve or maintain positioning.

Training Safety

If an animal becomes agitated or aggressive during a training session, the session may be ended and the trainers should withdraw from the immediate area. Ending the session may be in the form of a time out or actually ending the session, depending on the situation. During time outs, animals must not receive any type of attention and it is best for trainers to walk away from the area.

Carry radios. Radio, verbal or visual contact must be maintained at all times.

In the event of a medical procedure the use of chains may be required; therefore it is important to have two sets of chains, one set for training purposes and one set for whenever the need arises. In addition, a set of bolt cutters are to be kept with the chains in case of an emergency.

During shifting, never "free wheel" an animal from one area to another (animal shifting should not be sloppy or uncontrolled). Always shift them in a "controlled" manner.

When working at the cables, use the vertical poles as additional safety to block animals' reach (e.g. when in the lean-in position, put the pole between the animal and the trainer or technician, trunk fully extended under the lowest cable. Trunks should be extended fully beneath the lowest cable, and the animal's head positioned against the cables or pole. This reduces the opportunity and ability to reach out and grab at people.

Communication

Communicate before beginning a session; once a plan is made, try to adhere to it. If changes need to be made during the session alert all trainers of the situation.

Punctuality is extremely important. If a time is set for a session, be on time and ready to go ahead with the training objectives set for the day.

During a training session or an actual procedure, keep all conversation to a minimum unless it pertains to the session. "Outside noise" may be distracting to both the trainers and to the animal.

Training Guidelines-General Things to Follow

Always try to set up situations in which animals have the opportunity to succeed. Try to think of behaviors as composed of logical and simple units. If you are reinforcing to be with, the animal will want to be with you. If you make it crystal clear what the animal is to be doing at all times, then the animal's chance of success rises. If attitude and enthusiasm are reinforced, the animal will be eager to do what you ask and will pay attention to you. This builds trust between animal and trainer, thus making being with the trainer reinforcing and reducing chances of the animal leaving or bolting.

Training Guidelines-General Things to Follow

All trainers must follow the program consistently for it to work. This will build the clarity and trust the animal needs to feel comfortable with the trainers in a variety of situations.

Bridge only once; rapid bridges from the whistle will confuse the animal, decrease the efficiency of the bridge, and may lead to superstitious behaviors. Be specific and clear with the whistle. Short, clear bridges are the most effective. Additional reinforcement can be given with verbal praise.

Always call the animal with an upbeat voice. Never yell at an animal, this is not reinforcing the appropriate behaviors and may reinforce undesired behaviors.

Plan the training sessions before they begin. If the trainer is confused, the animals likely to pick up on this and the result may be a much less successful training set.

The animal has to feel confident with the trainer; being with the trainer must be reinforcing.

Do not argue, fight, raise voices, or disagree forcefully in the presence of the animals. They will pick up on the tension among trainers and this may lessen the animals' confidence in the trainers. If you are having a bad day, do not even attempt to approach the animals without attitude adjustment. **THIS INCLUDES ALL STAFF, ELEPHANT OR OTHERWISE.**

Always bring the animal to a control point or target at the beginning of the session. This make it clear to the animal exactly what its position is expected to be in relation to the trainer.

Selectively bridge and reinforce the animal for being relaxed, focusing attention on trainer, and tolerating the presence of other animals or people. The animal's attitude is as important as the behavior it is asked to do.

Remember, bridge and reinforce attitude and enthusiasm, even if the behavior is not done to its fullest. This should not be done all the time as the quality of the behavior may diminish, but should be used selectively to reinforce a good attitude and an enthusiastic response. Strategically plan out the individual steps to be done for a new behavior and bridge and reinforce those steps.

Training Guidelines-General things to follow

Desensitization work should always be broken into steps. Regression is normal but may play a somewhat more significant role in desensitization work.

Vary each training set: the duration, behaviors performed, amount and type of food. This will keep the animal guessing and attentive.

Time outs are used when:

- Respond in an aggressive manner to trainers or other animals.
- Asked to perform an established behavior and does not comply.
- Repeatedly refuses to cooperate.

Before a time out is given, the trainer should attempt to redirect the animal's behavior. Make sure the animal understands what it is being asked to do. This may require starting at a control point or target. Give the animal a chance to succeed before a time out is given.

When a time out is given, make it very clear to the animal which response was not desired. This will require that there be little to no time delay between the occurrence of the undesired behavior and the removal of the positive reinforcement (trainers, food, etc.) to make this truly effective. If more than one trainer is involved, it may need to be decided ahead of time exactly what will result in a time out.

Time outs are not appropriate when:

- Learning a new behavior and is confused rather than non-compliant.
- Not responding appropriately due to stress or social situation (harassed by dominant animal).
- Trainer has confused the animal or not given him several simple commands first.

After a time out, if the animal performs the behavior, do not give as much reinforcement as they would have received had the behavior been performed when first asked. The goal is to let the animal know that the most reinforcement will be given for doing the behavior correctly the first time.

Compatibility training is a very effective means of training animals to work together. This is accomplished by teaching the dominate animal to allow the subordinate animal to earn rewards and the subordinate animal learning to have the confidence to work in close proximity to the dominant. This is generally done by stationing animals at their closest proximity threshold and being rewarded at the same time. Then progress to feeding the subordinate slightly ahead of the dominant (the dominant may receive better or more reward). Gradually, the dominant learns it is not rewarded until the subordinate receives reward.

Training - Roles of Individuals

Trainer

- Maintains orientation of animal
- Gives commands to animal
- Feeds animal
- Communicates trunk location to technician
- Reinforces technician's bridges with verbal and food rewards
- Directs others in area

Technician

- Works on animal (bathes, foot care, ear, additional targets)
- Does not give commands unless asked to by the trainer
- Communicates command needs to trainer (e.g. reposition of animal)
- Bridges when animal tolerates stimuli from technician

Safety

- Primarily responsible for watching overall situation and to alert others of potential problems
- Carries pepper spray in hand or belt
- Assists trainer (filling bucket) and technician (getting tools)
- Alert others to any potentially dangerous situations or positions of trunk
- Responsible to the crew for knowing positions of other animals at all times

Dallas Zoo Elephants' Command Catalog

Protected Contact

lean in	beak	blow	tub	go
no	half	leave it	come in line	
rear	stretch	pick it up	get around	
foot	knee	sit	ears	
pad	trunk	move up	steady	
down	trunk down	target	open	
tongue	head down	All right	take it	
back	change	give it	salute	
wave	rumble	dance	paint	

Back-up Elephant Keeper Orientation

January 2001

- Keeper has thoroughly read the elephant manual.
- Introduction to Safety Protocol/Review.
- Review catalogue of basic behavior commands/queues.
- Demonstrate standard commands.
- Review behavior profiles for both elephants.
- Discuss queues, or behavioral occurrences, that used to determine each elephant's psychological state.
- Discuss queues, or observations, used to assess each elephant's physical condition.
- Explanation and demonstration of mechanical operation of hydraulic doors.
- Explanation and demonstration of safety procedures for operation of hydraulic doors.
- Shown location of emergency equipment.
- Review "trunk reach" areas.
- Seasonal cleaning routine.
- Review emergency procedures (Chapter 3: Animal escapes) for the LM Barn duties.
- Explanation and demonstration of seasonal cleaning routine.
- Review "two-person" guidelines for the LM Barn.
- Review volunteer guidelines for the LM Barn.

Employee/Date

Supervisor/Date

OUTLINE FOR TRAINING A NEW ELEPHANT KEEPER

Trainee Name: _____

Date: _____

PHASE I: FAMILIARIZATION

- New keeper assigned to Sr. Keeper as trainer and mentor. Trainer: _____
- Must read and review Elephant Keeper Manual.
 - Must learn safety rules from the elephant keeper manual.
- View selected videos of elephant behavior, husbandry & training.
- Begin "fun" feeding with other elephant keepers present. Non-training.
- Do cleaning routine with other elephant keepers present.
- Provide enrichment.
- Watch training and husbandry sessions, standing in a location that is non-invasive to the elephant. Must remain in view of the elephant. For example, stand against the back wall of the stall when elephant is being trained in the other stall.
 - Other keepers should use fundamental training techniques that would be eventually used by the new trainer, so as not to add confusion or inconsistency to what the new trainer sees and perceives as the correct method.
 - Bridging with whistles at all times.
 - Emphasize the use of a target or multiple targets.
 - Trainers explain aspects of the elephant's behavior, posture, etc. during training sessions.
- Learn guidelines for shifting.
- Study training terms from Elephant Keeper Manual.
- Read "Don't Shoot the Dog", by Karen Pryor, to learn the basics of operant conditioning.
- Study catalogue of trained behaviors.
- Test with scenario questions to ensure the new trainer has a good grasp of safety issues and procedures.
- Test on training terms and theory from our manual and the Pryor book.
- Supervisor check-off.

Trainee (initial): _____

Trainer (initial): _____

Supervisor (Initial): _____ Date: _____

PHASE II: INITIATION OF TRAINING

- Frequent "jackpot" sessions, where the new person provides food reinforcement without asking the animal to work for it. A bridge should still be used.
- Provide food reinforcement during training sessions. Simply feed whenever the main trainer bridges. Second trainer should be right there with the new trainer, pointing out behaviors and other important information.
- Start simple tactile sessions, with other trainers present.
 - Tactile areas: trunk, face, ears and shoulders.
 - Avoid touching flanks or rear.
 - Stand within sight of the elephant – never behind.
 - Elephant should remain relaxed during session.
 - Trainee should display proper consideration for safety guidelines.

- Supervisor check-off.

Trainee (initial): _____

Trainer (initial): _____

Supervisor (Initial): _____ Date: _____

PHASE III: ESTABLISHMENT OF THE TRAINER

- Have elephant come to the new trainer when called. Start with a short distance. Work toward having elephant come across yard. Target not used at this point. If elephant regularly responds appropriately, it shows there is some sort of trust and the elephant recognizes that she will receive reinforcement for coming to the new person. This sets the stage for initial stage of training sessions. If the elephant does not respond appropriately, more time needs to be spent building trust. Backtrack.
- Start training sessions for behaviors that involve positioning only. No desensitization work. Always use target(s) and whistle.
- Learn to use multiple targets.
- Check off on basic behaviors. Work toward getting "released" on more difficult behaviors.
- Tactile Desensitization sessions, touching flanks and rear.
- Positioning for footwork.
- Positioning for blood draw.
- Positioning and feeding for controlled baths.
- Hosing for Fun baths.
- Hosing for controlled baths.
- Supervisor check-off.
- Start checking off remaining behaviors in catalogue.
- Designation as elephant trainer and backup.

Trainee: _____

Trainer: _____

Supervisor: _____

Curator: _____

Date: _____