



Management Adjustments to
Address Aging Populations

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- To create awareness surrounding the challenges and adjustments that occur in aging populations in zoos and aquariums.
- To give a variety of examples from our different experiences in caring for aging animals.
- To use several activities to simulate some of the changes aging animals encounter.
- We will NOT be addressing quality of life or euthanasia decisions in this workshop.

Topics of Discussion

Mobility, Vision & Hearing Challenges

Training for Medical Issues

Maintaining Healthy Weights

Training & Enrichment Alterations

Housing Modifications

Adjustments After an Animal Death

Mobility Challenges

- Arthritis
 - Limited mobility
 - Pain
- Fused spines
- Slower pace
- Loss of balance
 - Slipping
 - Falling



Flooring and Bedding

- Extra mats
- Connecting Mats/Mondo floors
- Substrate Options
- Bedding
- Loss of traction/slipping



Arthritis Activity



Ramps & Curbs



Komodo Dragon Chute before ramp
Off show holding area,
Disney's Animal Kingdom®

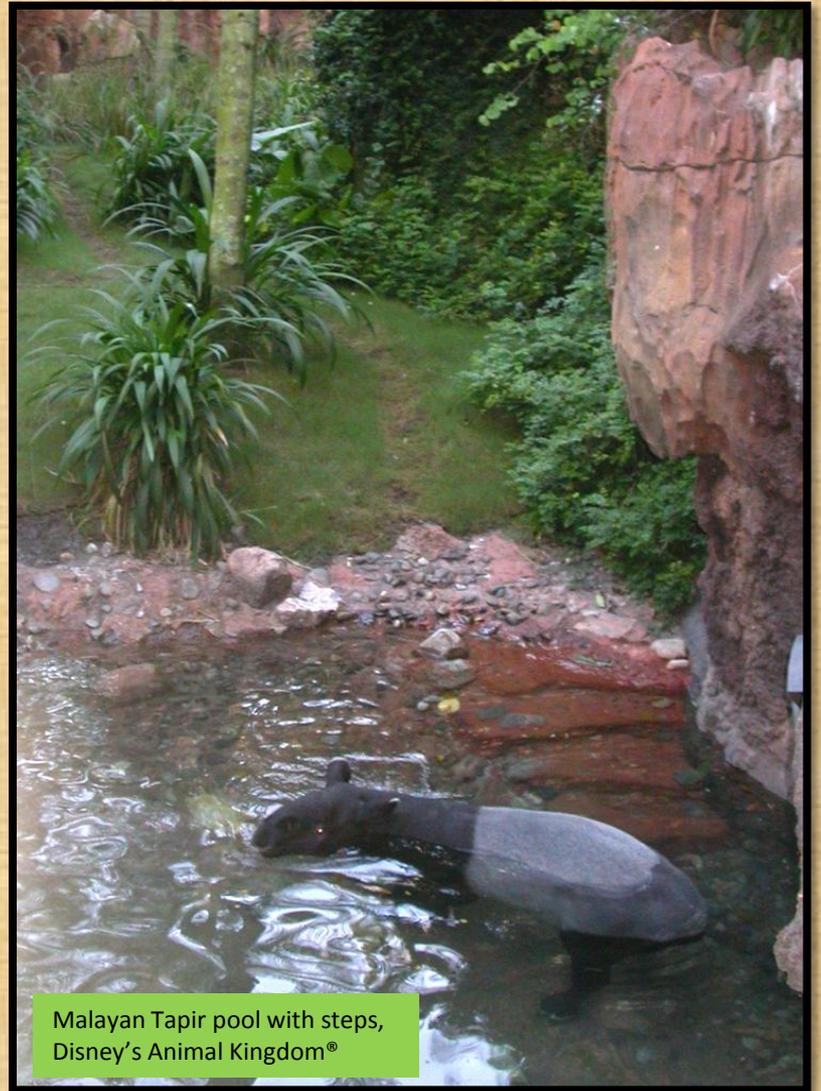


Komodo Dragon Chute with ramp
Off show holding area,
Disney's Animal Kingdom®

Pools



Malayan Tapir pool before steps,
Disney's Animal Kingdom®



Malayan Tapir pool with steps,
Disney's Animal Kingdom®

Pain & Loss of Balance Activity



Age-Related Vision & Hearing Impairment

Vision:

- Placing food and water in the same locations.
- Routine so animals learn the expected pattern.
- Adding verbal or movement cues.
- Making sure enrichment isn't a trip hazard.
- Turning lights on to make an area easier to see.

Cues and Vision Challenges

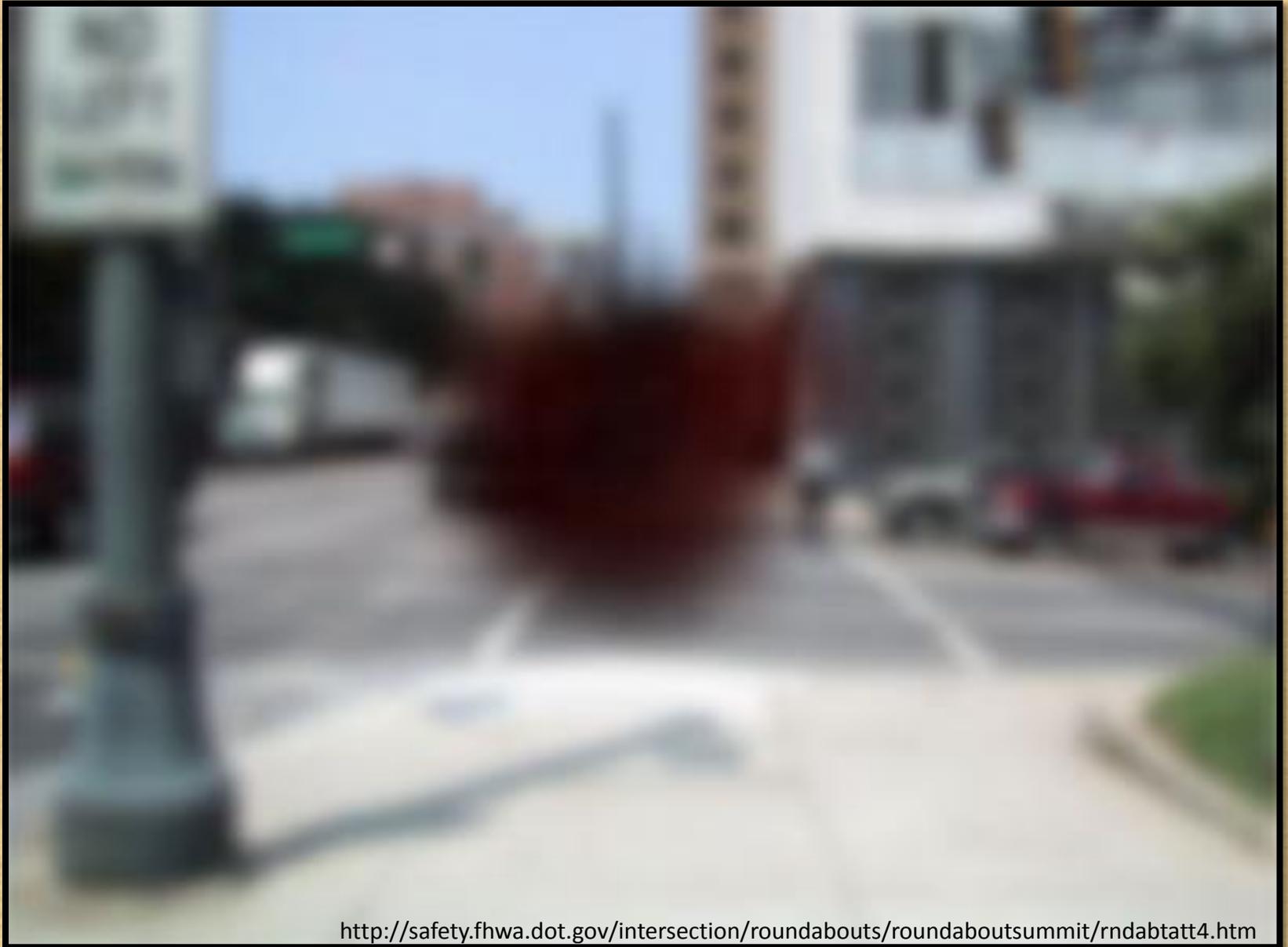


Malayan Tapir Target Training
Off show holding area,
Disney's Animal Kingdom®



Audio Cue Examples,
Disney's Animal Kingdom®

Vision Activity

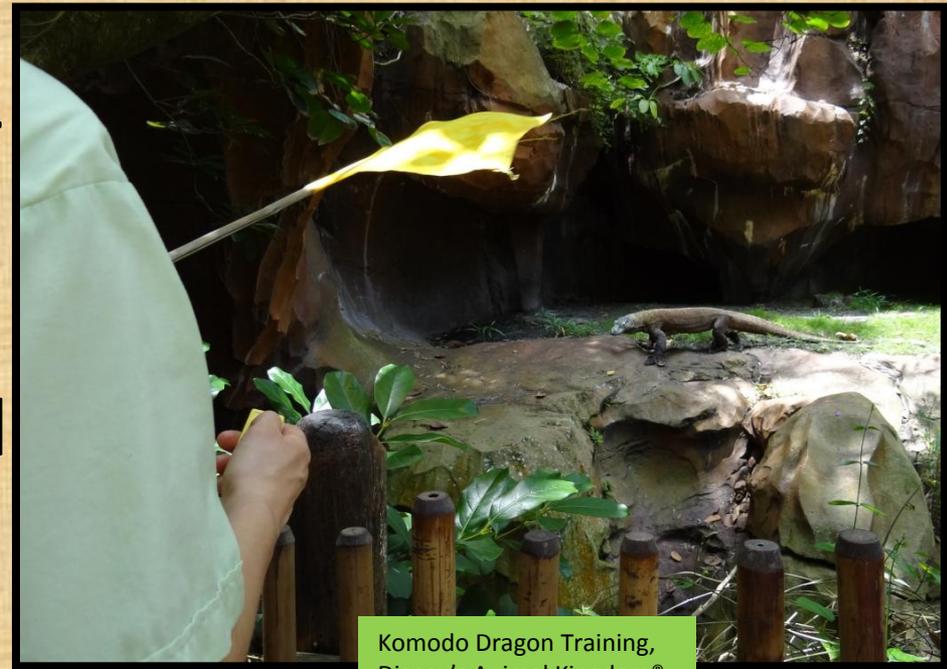


<http://safety.fhwa.dot.gov/intersection/roundabouts/roundaboutsummit/rndabtatt4.htm>

Age Related Vision & Hearing Impairment

Hearing:

- Consider their environment and social implications of interacting with other animals.
- Replace verbal and audio cues with visual or tactile cues.



Komodo Dragon Training,
Disney's Animal Kingdom®

Hearing Loss Activity



Training for Medical Issues



Malayan Flying Fox Training,
Disney's Animal Kingdom®

- Medicating Animals
- Monitoring health without anesthesia
- Health concerns for the species or individual
- Reviewing and adjusting training plans

Administering Medications in Groups



Blackbuck Cue Training
Disney's Animal Kingdom®



Blackbuck cue training
Off show holding area,
Disney's Animal Kingdom®

Monitoring Health



Tiger Voluntary Blood Draw
Off show holding area,
Disney's Animal Kingdom®



Tiger Fluid Therapy
Off show holding area,
Disney's Animal Kingdom®



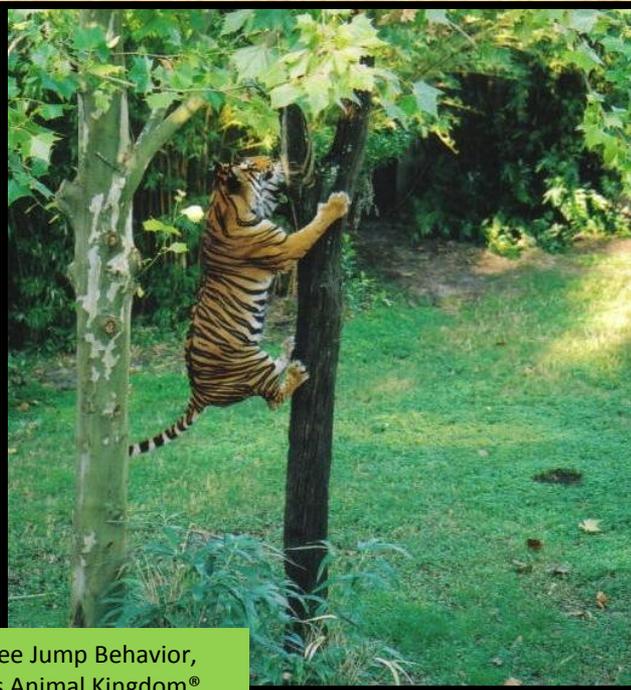
Tiger Blood Pressure
Off show holding area,
Disney's Animal Kingdom®



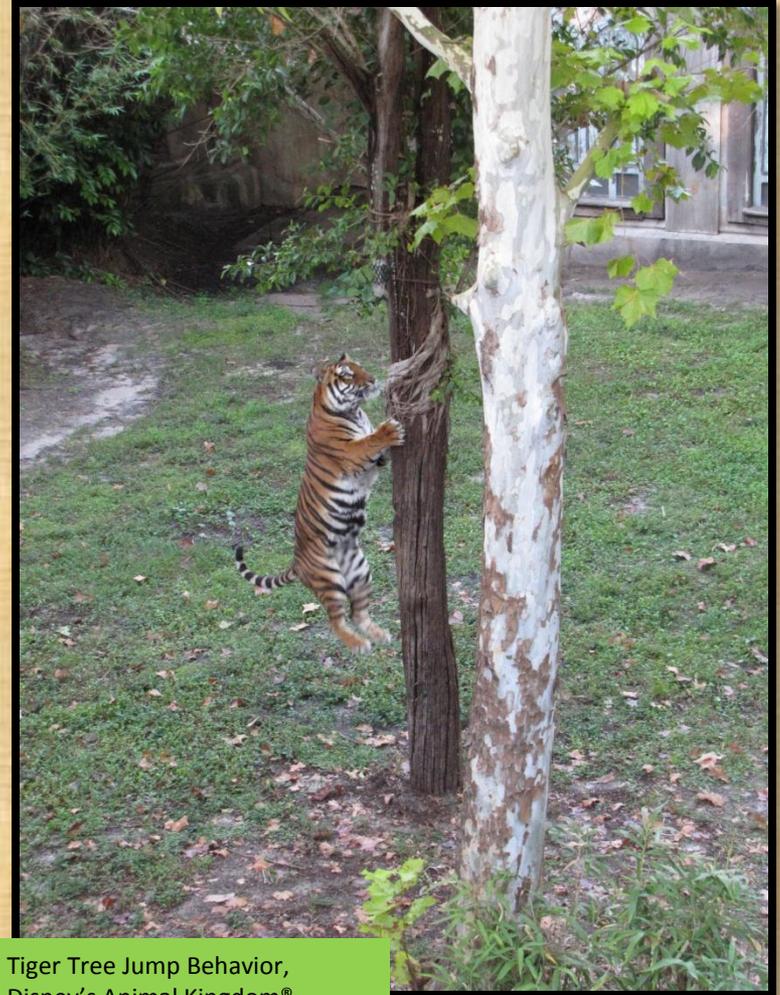
Tiger Ultrasound
Off show holding area,
Disney's Animal Kingdom®

Training with Geriatric Animals

- Decreased Flexibility
- Decreased Stamina
- Change expectations based on abilities

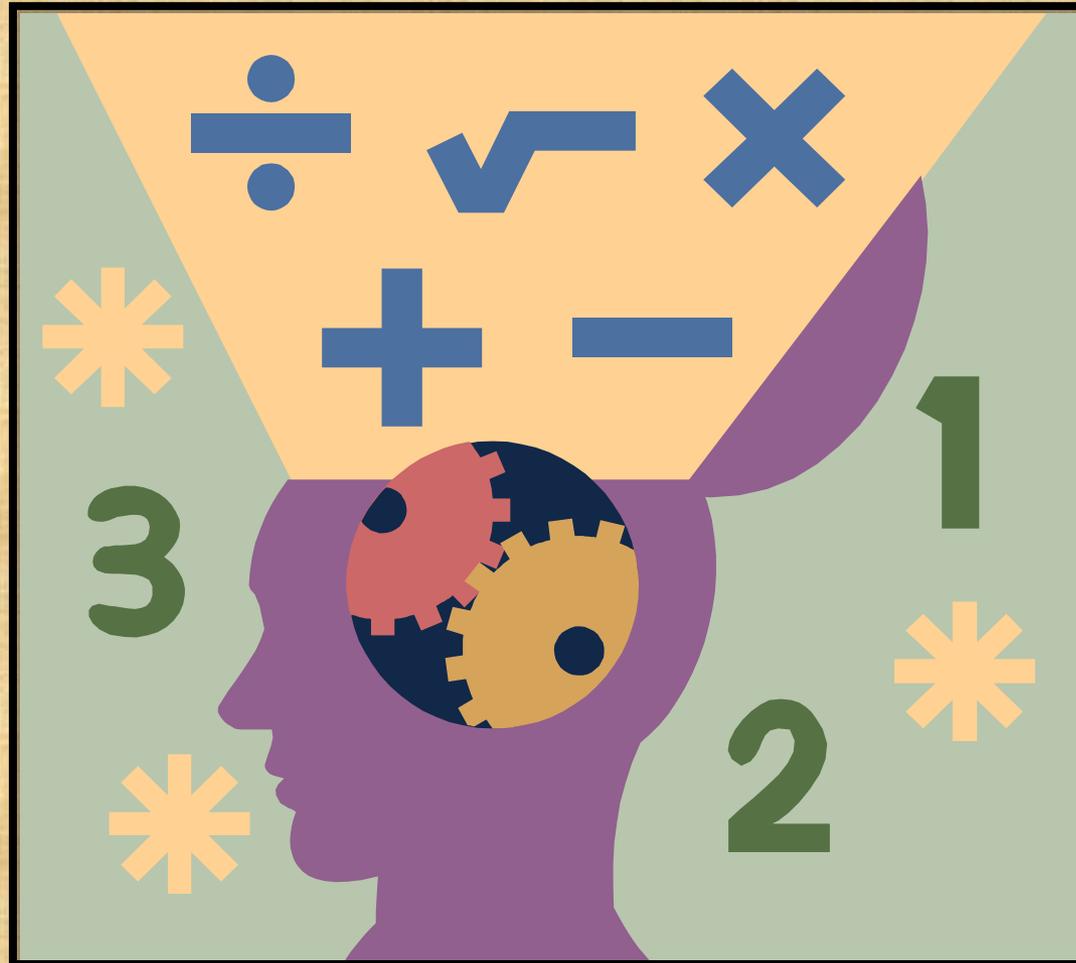


Tiger Tree Jump Behavior,
Disney's Animal Kingdom®



Tiger Tree Jump Behavior,
Disney's Animal Kingdom®

Activity Effects on Performance



Maintaining Healthy Weights

- Adding weight to thin animals
- Closely monitoring weight changes and consumption
- Challenges associated with herd animals
- Diet modifications (dental, stomach issues)



Blackbuck Scale Training
Off show holding area,
Disney's Animal Kingdom®

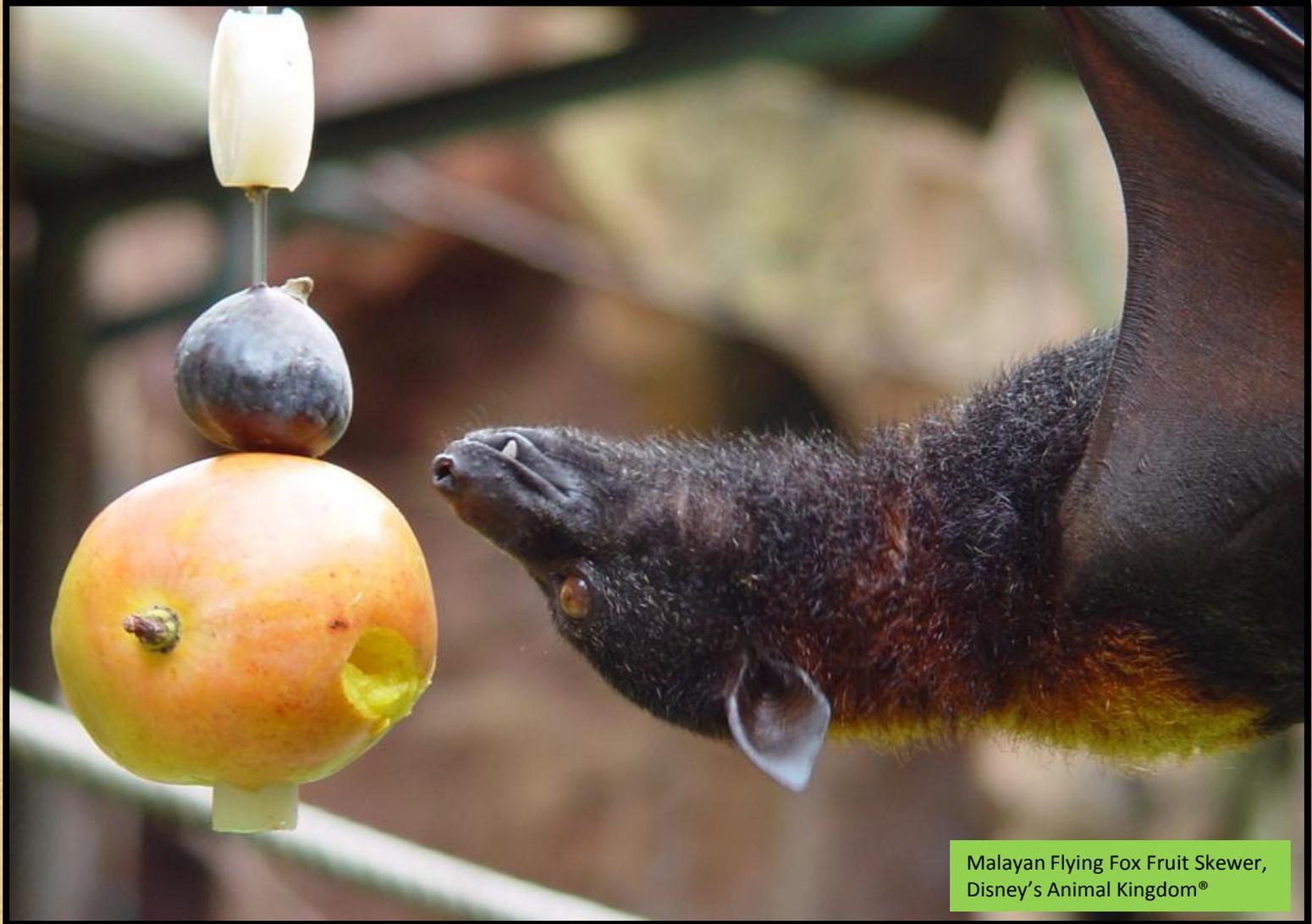
Enrichment and Diet Makeovers

- Reduced interest in previously favored food items.
 - Offer items in different formats
 - Try new items
- Tastes change in old age
 - Sight
 - Smell
 - Taste Buds



Tiger Ice Block Enrichment,
Disney's Animal Kingdom®

Smell and Taste Activity

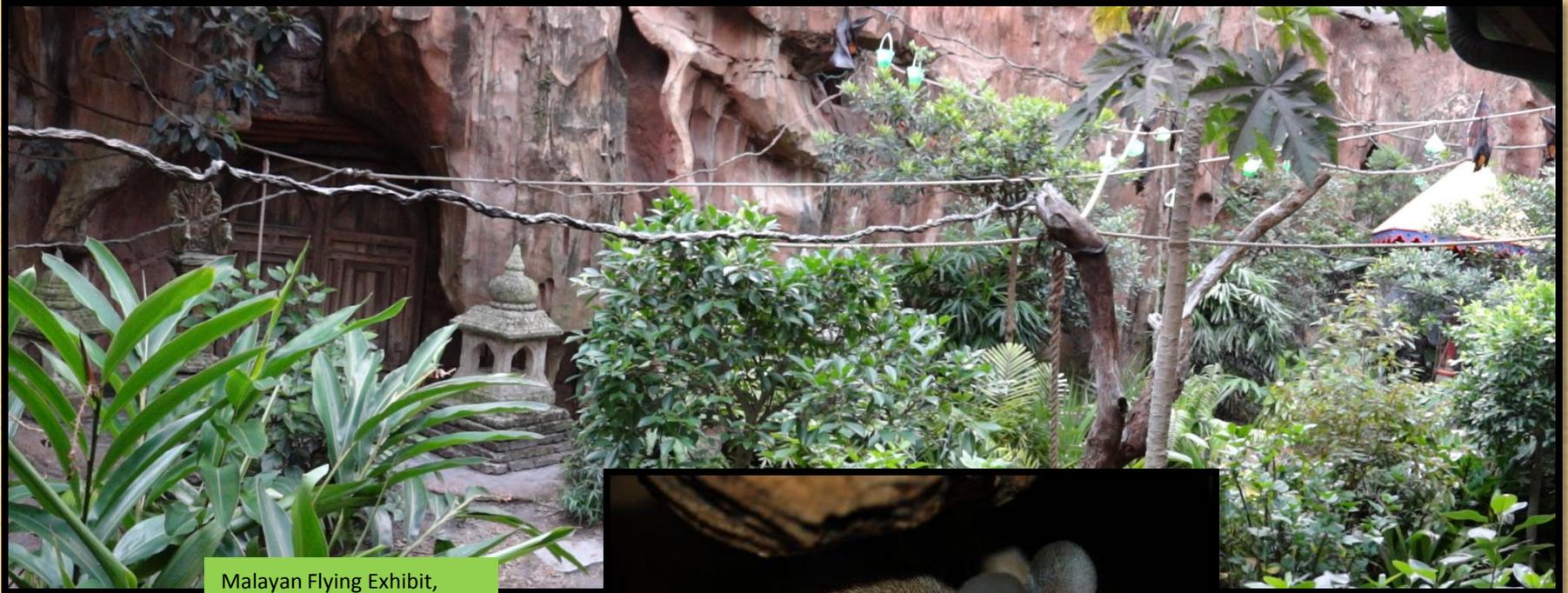


Malayan Flying Fox Fruit Skewer,
Disney's Animal Kingdom®

Housing Adjustments

- Looking at spaces in the area to see if they can be modified to better accommodate the animal
- Creating spaces for animals
- Pulling animals out of a group for the day or permanently
 - Buddies and the future of buddies
- Separation training
 - Preparing animals for new groupings or to being alone
- Adapting for extreme heat or cold
- Ramps, flooring, etc.

Retirement Reasons

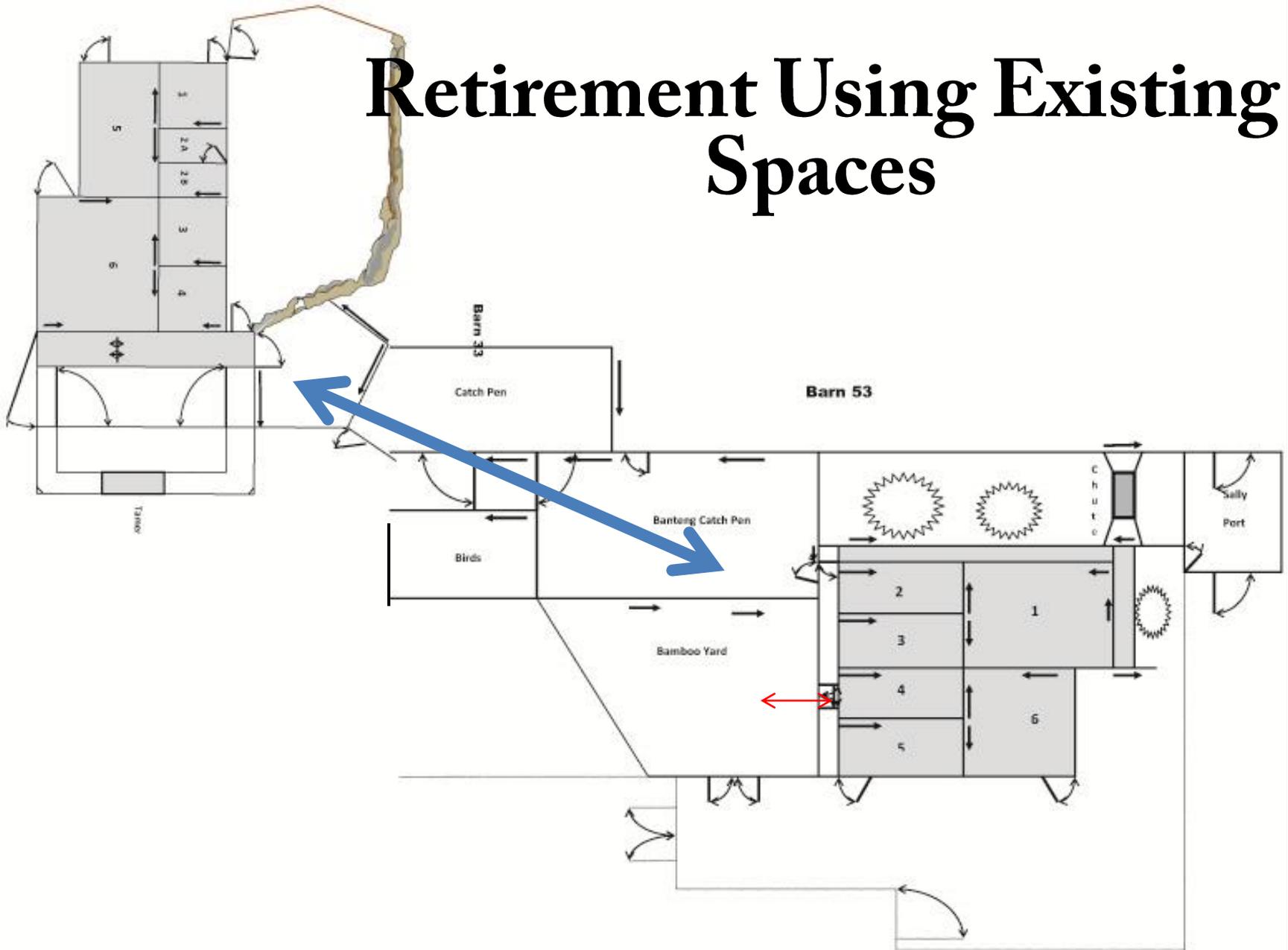


Malayan Flying Exhibit,
Disney's Animal Kingdom®



Spiny Mouse,
Disney's Animal Kingdom®

Retirement Using Existing Spaces



Modify Existing Spaces



Chute to Connect Bedroom and Holding Area,
Off show holding area,
Disney's Animal Kingdom®

Extreme Temperatures Alterations

- Modifying general temperature guidelines for older animals.
- Bedding
- Heat, fans, air
- Pools & misters



African Guinea Hog
Off show holding area,
Disney's Animal Kingdom®



Tiger Indoor Pool
Off show holding area,
Disney's Animal Kingdom®

Adjustments After an Animal Death

- Pairs of Animals
- Social dynamics in groups



Blackbuck Herd
Off show holding area,
Disney's Animal Kingdom®

Pairs of Animals



Javan Banteng Pair
Off show holding area,
Disney's Animal Kingdom®



Javan Banteng Bedroom
Off show holding area,
Disney's Animal Kingdom®

Social Dynamics in Groups



Tiger Bout of Aggression,
Disney's Animal Kingdom®

- Monitor for changes
- Make adjustments

Topic Recap:

Mobility, Vision & Hearing Challenges

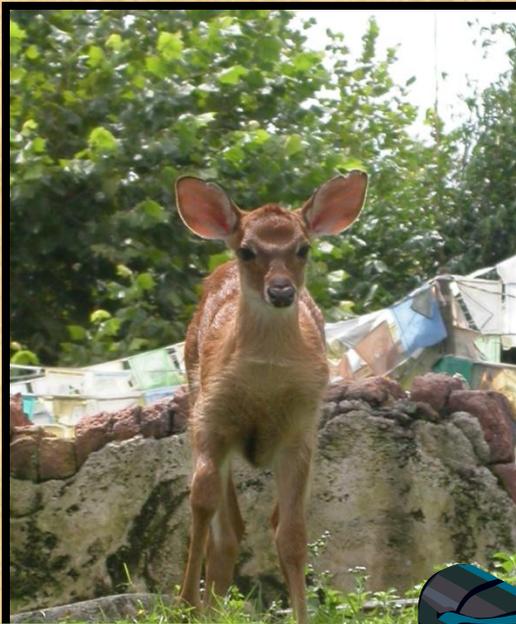
Training for Medical Issues

Training & Enrichment Alterations

Maintaining Healthy Weights

Housing Modifications

Adjustments After an Animal Death



Eld's Deer,
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Eld's Deer,
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- Look at aging animals with a fresh perspective.
- Inspiration to modify husbandry practices for geriatric animals at your institution.

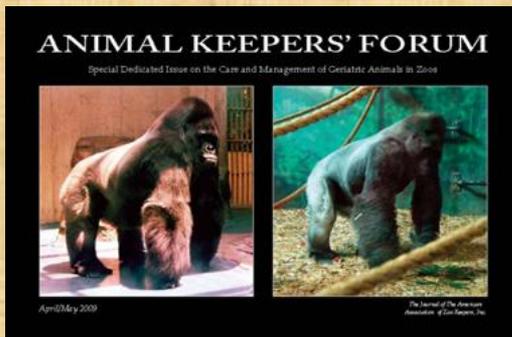


Geriatric Animal Care:

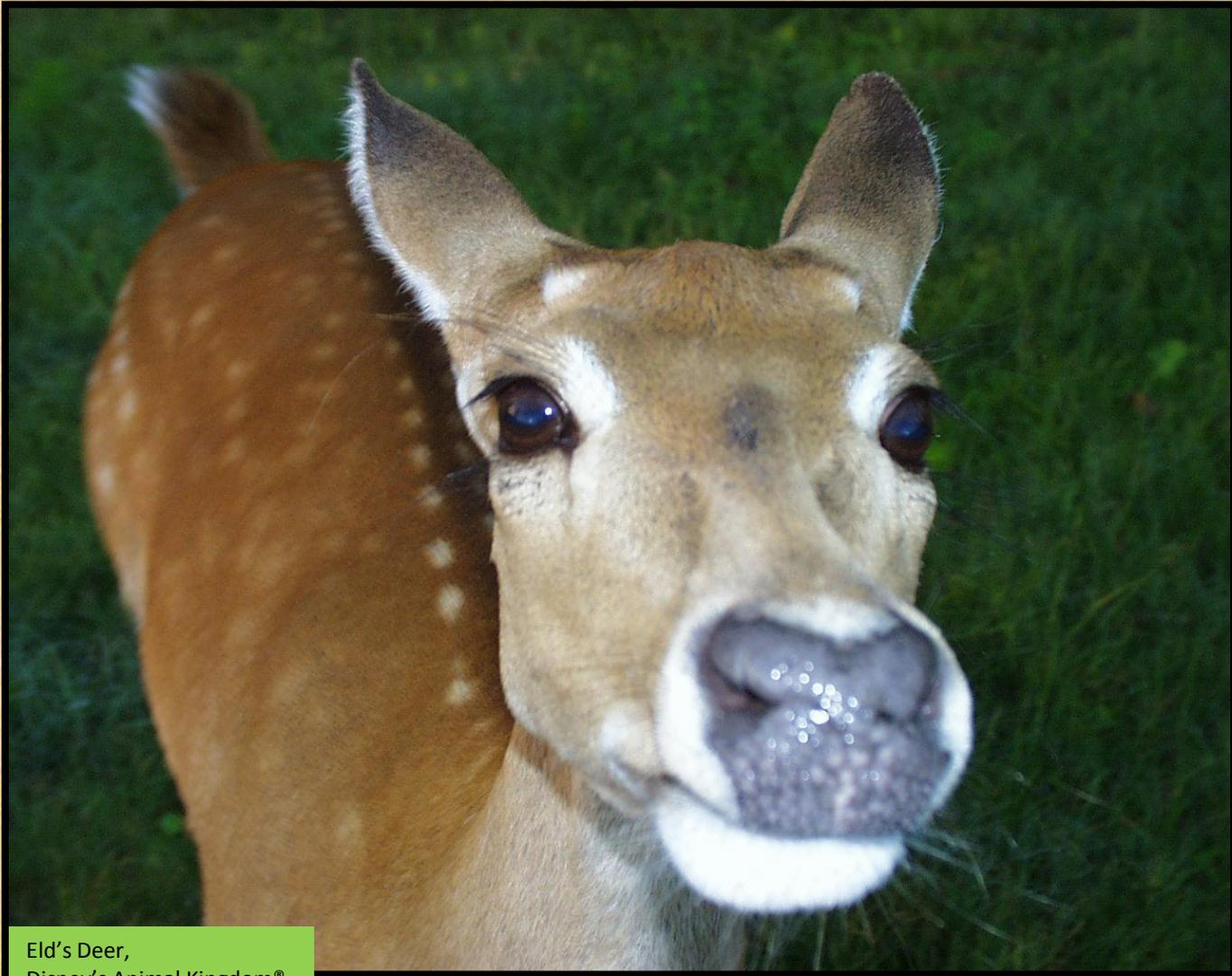
Special Dedicated Issue on the Care and Management of Geriatric Animals in Zoos. 2009. Animal Keepers' Forum.

Activities Influenced By:

Wood, MD. Sociology of Aging Age Related Impairments: A Simulation Exercise. Rutgers University. 2006. <http://crab.rutgers.edu/~deppen/teach.htm>



Questions?



Eld's Deer,
Disney's Animal Kingdom®