

Quarantine Protocols, Enrichment and Training



Leanne Blinco
Hospital Zoological Manager
Disney's Animal Kingdom

Our goal for quarantine animals

- ⦿ Acclimate animals to our facility
- ⦿ Keep keeper staff and animals safe from injury
- ⦿ Keep animals healthy
 - Eating
 - Drinking
 - Behaving normally
- ⦿ Leave quarantine happy and healthy

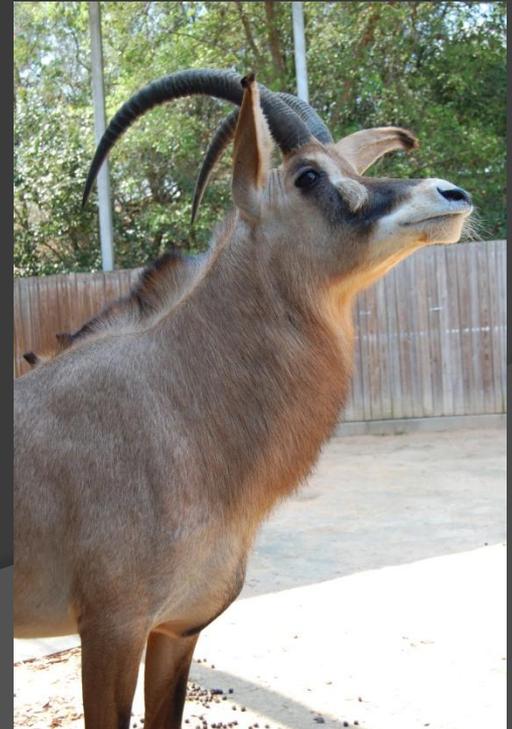
Overview

- Collection planning/ acquisitions
- Pre-shipment
- Shipments
- Quarantine facilities
- Zoonotic disease(s)
- Footbaths,PPE and tools
- Quarantine period
- Quarantine exams and testing
- Enrichment
- Training
- Wildlife cases



Collection planning

- ⦿ Existing animals in the collection
- ⦿ Adding animals to the collection
 - Housing requirements for new animals
 - Group dynamics
 - SSP recommendations
 - Education component



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Medical Records





Know what you are
getting.....

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State regulations

- Import permits
- Testing that is mandated by state

Testing

⦿ General Testing

- Three fecals for endoparasites
- Screen for ectoparasites
- Fecal culture for pathogens
- PE
- Some form of permanent ID
- BW

⦿ Test for avian species

- CBC/serum chemistry panel/EPH
- Fecal acid fast stain
- Infectious disease screening

Testing

- ◎ Test for Artiodactyla
 - CBC/serum chemistry panel/fibrinogen
 - TB test
 - Brucellosis test
 - Infectious disease screening
 - Johne's testing for all ruminants

Testing

- ◎ Test for primates
 - TB test
 - AP and lateral radiographs
 - Infectious disease screening
 - Current vaccination history against measles, tetanus, rabies and polio

Shipments

- How do we get the animal here?
- Hire a shipper
- Airway bill
- Crates



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Quarantine Facility

- ⦿ Quarantine Barns
- ⦿ Quarantine Building
- ⦿ How can you safely unload and hold animals in your barns and buildings



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Quarantine Facility

- ⦿ What species are/are not housed together
- ⦿ Birds
 - AZA birds not housed with private breeder birds
 - Columbiforms, psitticines and passerines all housed separately.
 - All in/ all out
- ⦿ Hoofstock
 - All in/all out (can be from separate AZA facilities)



Proper containment

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Enclosure set-up





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Zoonotic disease

- ◎ What is a zoonotic disease (or zoonosis)?
 - Refers to disease that can be passed from animals to humans.
 - Although some diseases are species specific, many other disease can be spread between different animal species.

Examples – Campylobacteriosis, Chlamydia psittaci, Pasteurella multocida, Salmonellosis

Zoonotic disease

- ⦿ At risk groups:
 - Children
 - Seniors
 - Pregnant woman
 - Immunosuppressed
 - Already sick
 - **Work with animals**

Zoonotic disease

- ① Handwashing is the **most important** technique for preventing exposure to diseases at home or work.
- ① Wear protective clothing and keep it clean
 - Wash or change coveralls, gloves, masks, and boots after exposure
- ① Reduce exposure to insects
 - Mosquitoes, ticks, and fleas can transmit disease

Footbaths

- ⦿ Do you need to use footbaths?
- ⦿ Do you have a foot bath policy?





Virkon® S

DISINFECTANT AND VIRUCIDE



15018A0095

KEEP OUT OF REACH OF CHILDREN
DANGER

Easy to use tablet form
Effective against viruses, bacteria

ACTIVE INGREDIENTS

Potassium peroxydisulfate
Sodium chloride
OTHER INGREDIENTS

TOTAL
Equivalent to 2.25% available chlorine

First Aid
If swallowed: Rinse mouth with water. Do not induce vomiting. If symptoms persist, call a physician.
If in eyes: Flush eyes with water for 15 minutes. Remove contact lenses if possible. If irritation persists, call a physician.
If on skin or clothing: Wash thoroughly with plenty of water.
If swallowed: Call a physician. Do not induce vomiting. If symptoms persist, call a physician.
Precautions: Use only for disinfection. Do not use on food surfaces. Do not mix with other disinfectants.
Storage: Store in a cool, dry place. Keep container tightly closed.
Made in Philippines





- A footbath should be set up in front of each stall

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Quarantine period

- ⦿ How long?
- ⦿ PPE and tools
- ⦿ Communication
- ⦿ Adjustment period



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How long do they stay?

- ◎ 30 days
 - Birds
 - Most Reptiles
- ◎ 60 Days
 - Snakes - Crypto
- ◎ 90Days
 - Hoofstock – Johnne's



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PPE and tools

- ⦿ Gloves
- ⦿ Masks
- ⦿ Rubber boots
- ⦿ Eye protection – birds
- ⦿ Separate tools for each set of quarantined animals



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Separate tools
for each set of
animals
- Color coded

Communication

SENSITIVE ANIMAL



Authorized Personnel Only

Please contact a hospital staff member for a key assist

I.O Nyala

Triangle cue

Adjustment period

⦿ Housing

- The quarantine “black hole”
- Change is “bad”



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Nightlights

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Adjustment period

- Diets





Animal Diet Sheet

Disney's Animal Kingdom

Feeding Group Name:

Diet Contact Team:

Status: Approved

Species:

Tragelaphus angasii

Common Name:

Nyala

Location:

AP27

Non/Accession	Sex	Birthdate	House Name	Current Wt.	Wt. Date	Prev. Wt.	Target Wt.
120212	Male	31 Oct 2010					

Effective Date:

4/11/2012

Food Item	Manufacturer	Form	Indiv. Measure	Indiv. Amount	Group Measure	Group Amount	Schedule	Freq
I Alfalfa	Hay Exchange	Flake	0.255	600 g	0.255	600 g	DAILY	
I N/A ADF-16	Mazuri	Pellet		600 g		600 g	DAILY	
M Timothy Hay	Hay Exchange	Flake	0.465	600 g	0.465	600 g	DAILY	
M Wild Herbivore Pellets - 5Z0X	Mazuri	Pellet		600 g		600 g	DAILY	

Food Component Notes:

Packaging: Delivery Location:

Forage Bulk QUARANTINE CAGES (Formerly QUARANTN) (Formerly QH)

Grain Bulk QUARANTINE CAGES (Formerly QUARANTN) (Formerly QH)

Prep Instructions:

Keeper Instructions:

Diet Notes:

4/11/2012 2:40:00 PM New arrival from Miami. Incoming diet was 1 lb (454 g) Mazuri Hi Fiber and 1.25 lb (568 g) ADF 16, browse, alfalfa and 1/2 banana twice a week. Started on DAK diet of 600 g Wild Herbivore 5Z0X and 600 g Incoming ADF 16 and a mixture of timothy (DAK) and alfalfa (incoming). Added to Pembe savannah enrichment group diet and DAK Lodge Nyala Group. Next transition to 75% Wild Herbivore and 25% ADF 16 in 5-7 days.









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Quarantine Exams

⦿ Quarantine exams

- Coordinate with other area managers (enough staff)
 - Safety person
- Immobilizations
- Drop shoots (tamers)
- Keeper Training
- What happens during the quarantine exam?

Staffing



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Immobilizations

- ▣ Netting and transport
- ▣ Crating/transport
- ▣ Hand Grab
- ▣ Darting/transport



Netting









Hand Grabbing



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Darting





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Tamer (Hugger)



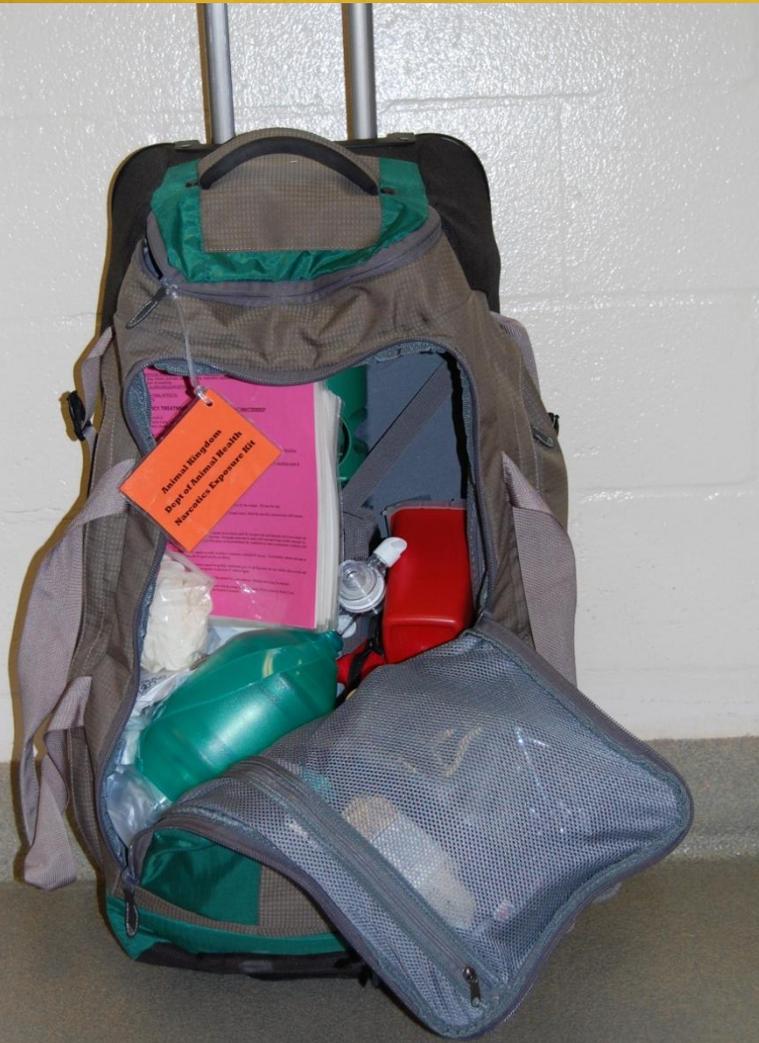
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Keeper Training

- Anesthesia induction
- Dangerous drugs
- Anesthesia recovery



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Dangerous
Drugs



Recovery

- Give your staff multiple escape routes
- Have each door manned

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Quarantine Exams

- What happens during the quarantine exam:
 - Intubation
 - Check transponder
 - BW
 - Blood collection
 - Vaccines
 - Hoof trimming
 - Float teeth
 - TB test
 - PE
 - Radiographs
 - Documentation





Intubation

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Transponder



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0.0145kg

Ranger



ON/ZERO OFF

PRINT UNITS

G/WT MENU

TARE

Model: 10415-10P
Mettler-Toledo, Inc.
1-800-521-5123

Mettler-Toledo, Inc.
1000 Mettler Way
Columbus, OH 43260
1-800-521-5123



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Vaccines



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TB Test



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Disney's Animal Kingdom

QUARANTINE RECORD

MISSING NUMS ON
(P) orig 3+4
3+4

Common Name: AFRICAN JACANA Accession#: 180468
 Sex: 1.0 Transponder: _____ ID _____
 Arrival Date: 13 JUN 12 Arrival Body Weight: 169.0gm
 QR Exam Date: 17 June 12 QR Exam Body Weight: _____
 Release Date: _____ Release Body Weight: _____

Fecal Examinations

Fecal Test	Date	Results	Recheck	Date	Results
Q1-O&P	<u>16 June 12</u>		#1		
Q2-O&P			#2		
Q3-O&P			#3		
Culture					
Johnes - #1					
Johnes - #2					
Johnes - #3					
Drenchrite					
Rota Corona					
Sedimentation					
Trichrome					

Quarantine Examination - Veterinarian _____

Procedure	✓	Comments
PE		
WT		
Radiographs		
Transponder		
Blood Collection		
Cultures		
Vaccines		
Rx		

Documentation

Quarantine Fecal Testing

- Ova/parasite check
- 3 in a 30 day period



FECAL SUBMISSION FORM

use 1 form per animal/group sample- check multiple tests below

Species: Greater Flamingo Coll Date: 6/21/18
 Accession #(s): 060303
 Location: (Circle one) DAK Lodge Ranch Seas Enclosure: (e.g. AP45) AP80 E01
 Contact # & Radio Call Sign: LODGE 10
 Collection Time: 1500 Coll By: A. Koehler
 Weight: 8.6 Kg g/kg/lb Appearance: Typical Atypical

"Submission Reason" and "Requested Test" sections are MANDATORY & should be completed by the person submitting the sample

SUBMISSION REASON (Mandatory):

- Routine
 Quarantine: #1 ___ #2 ___ #3 ___
 Preshipment: #1 ___ #2 ___ #3 ___
 Recheck/Post Treatment
 Diagnostic: Which Vet Notified? _____
 Resubmission

REQUESTED TEST (Mandatory):

- Direct/ Float (general O&P)
 McMaster's Study
 Occult Blood
 Cytology: GS: ___ AF: ___ Crypto: ___ DQ: ___
 Culture BASIC (pathologic report) or EXTENDED (basic + culture, protozoa)
 Drenchrite Study
 Johne's (Separate sample needed)
 Salmonella Cult & PCR (2 Separate samples needed)
 Other

FOR LABORATORY USE ONLY BELOW THIS LINE

Lab Technician: _____ Date / Time Examined: _____

Consistency: FRESH WATERY SOFT

Storage: REFRIGERATED

Unusual Findings: MELENA/TARRY

METHOD

(e.g. Direct, Float, OB, McMasters)

QUANTITY

(e.g. epg, rare, occ, 1+, 2+, etc)

Accession #: 060303
 Band: 741 02
 G. Flamingo - AP80 E01
 DATE: 6/21/18
 O&P

FECAL SUBMISSION FORM

use 1 form per animal/group sample- check multiple tests below

Species: Greater Flamingo Coll Date: 6/21/18
 Accession #(s): 070308
 Location: (Circle one) DAK Lodge Ranch Seas Enclosure: (e.g. AP45) AP80 E01
 Contact # & Radio Call Sign: LODGE 10
 Collection Time: 1500 Coll By: A. Koehler
 Weight: 3.1 Kg g/kg/lb Appearance: Typical Atypical

"Submission Reason" and "Requested Test" sections are MANDATORY & should be completed by the person submitting the sample

SUBMISSION REASON (Mandatory):

- Routine
 Quarantine: #1 ___ #2 ___ #3 ___
 Preshipment: #1 ___ #2 ___ #3 ___
 Recheck/Post Treatment
 Diagnostic: Which Vet Notified? _____
 Resubmission

REQUESTED TEST (Mandatory):

- Direct/ Float (general O&P)
 McMaster's Study
 Occult Blood
 Cytology: GS: ___ AF: ___ Crypto: ___ DQ: ___
 Culture BASIC (pathologic report) or EXTENDED (basic + culture, protozoa)
 Drenchrite Study
 Johne's (Separate sample needed)
 Salmonella Cult & PCR (2 Separate samples needed)
 Other

FOR LABORATORY USE ONLY BELOW THIS LINE

Lab Tech: _____ Date / Time Examined: _____

Consistency: HARD/DRY WATERY SOFT

Storage: FROZEN REFRIGERATED

Unusual Findings: ADULT/LARVAE MELENA/TARRY

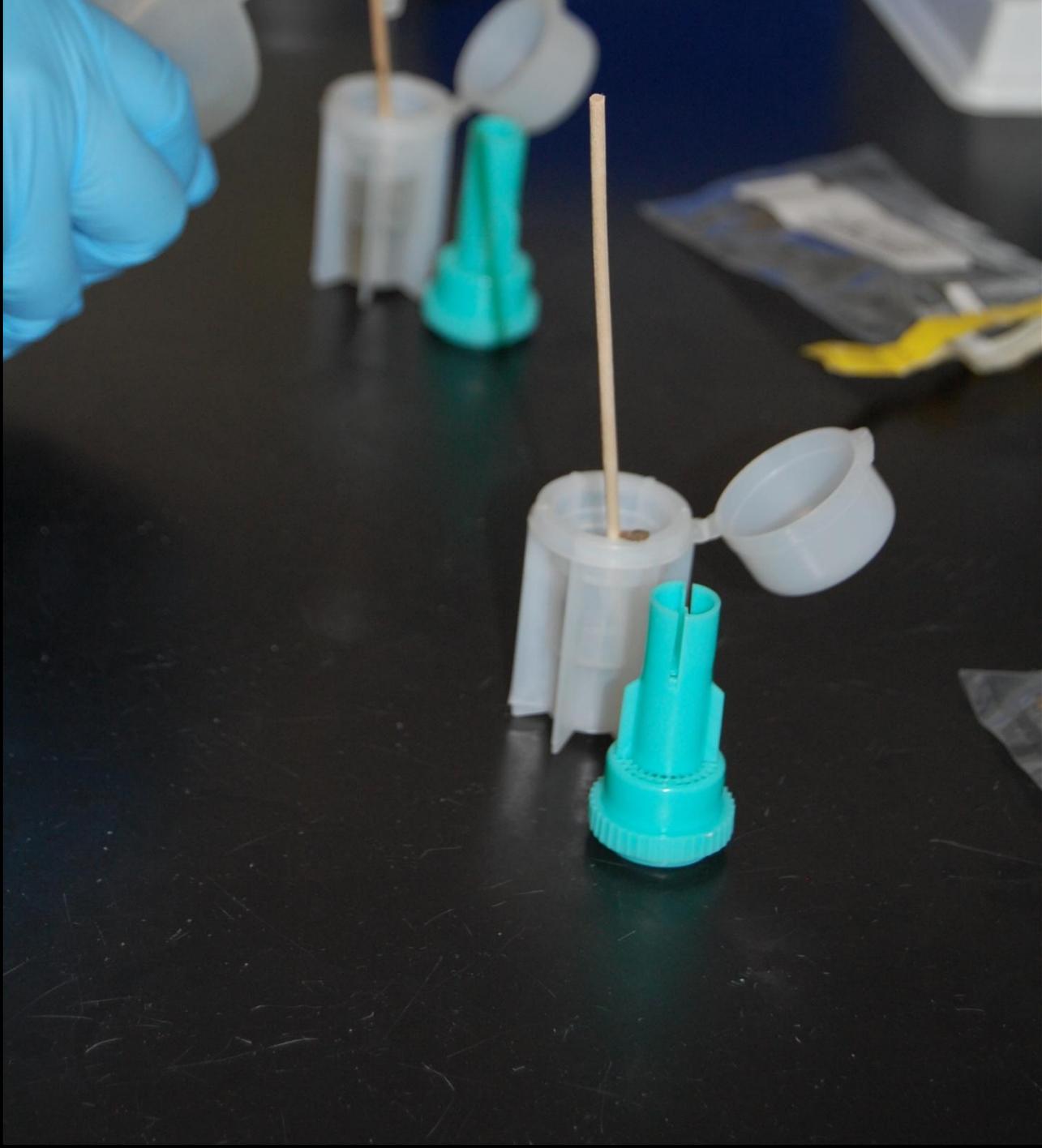
Accession #: 070308
 Band: White/green 93R
 G. Flamingo - AP80 E01
 DATE: 6/21/18
 O&P

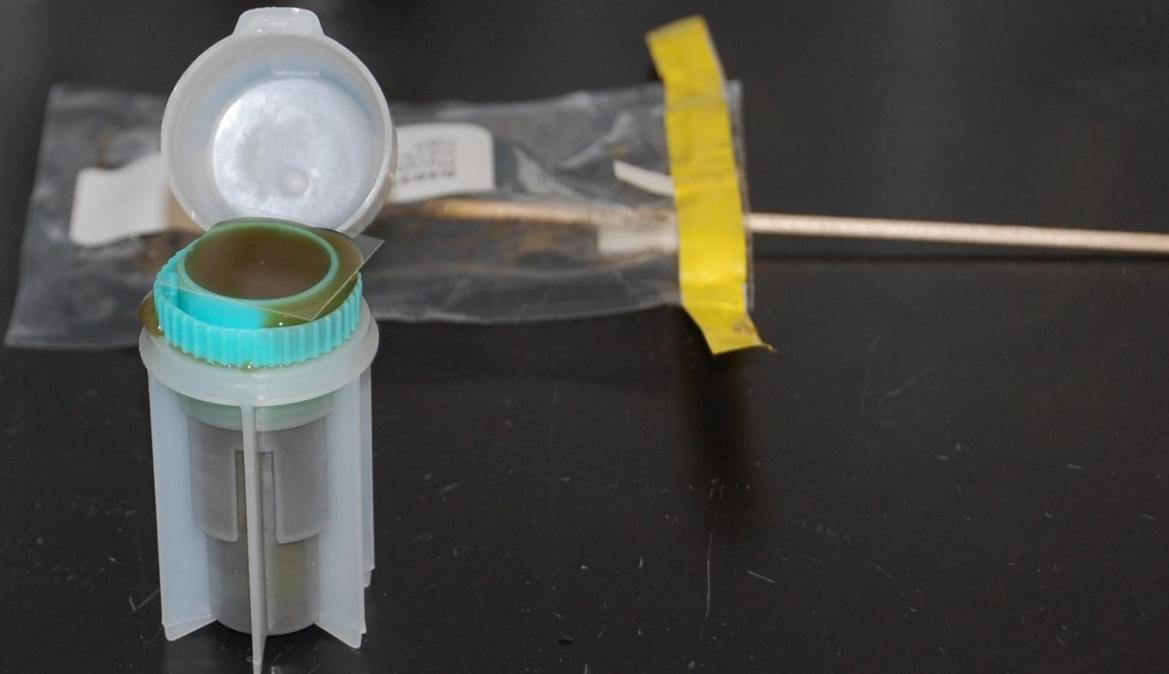
RESULTS

(e.g. Direct, Float, OB, McMasters)

QUANTITY

(e.g. epg, rare, occ, 1+, 2+, etc)



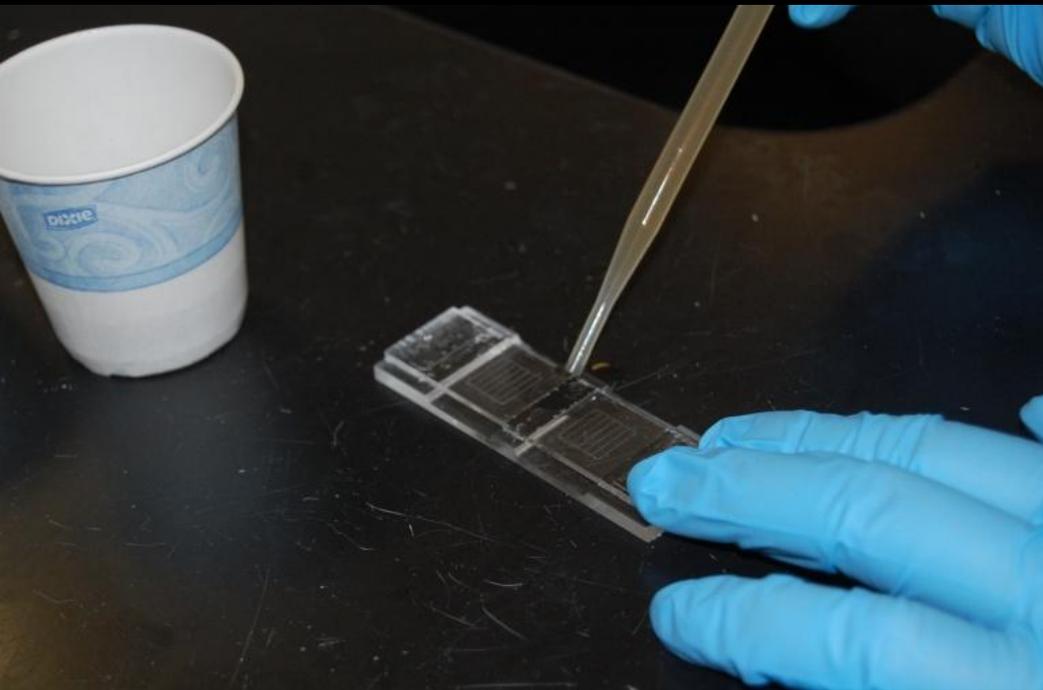


Quarantine Fecal Testing

▣ McMasters



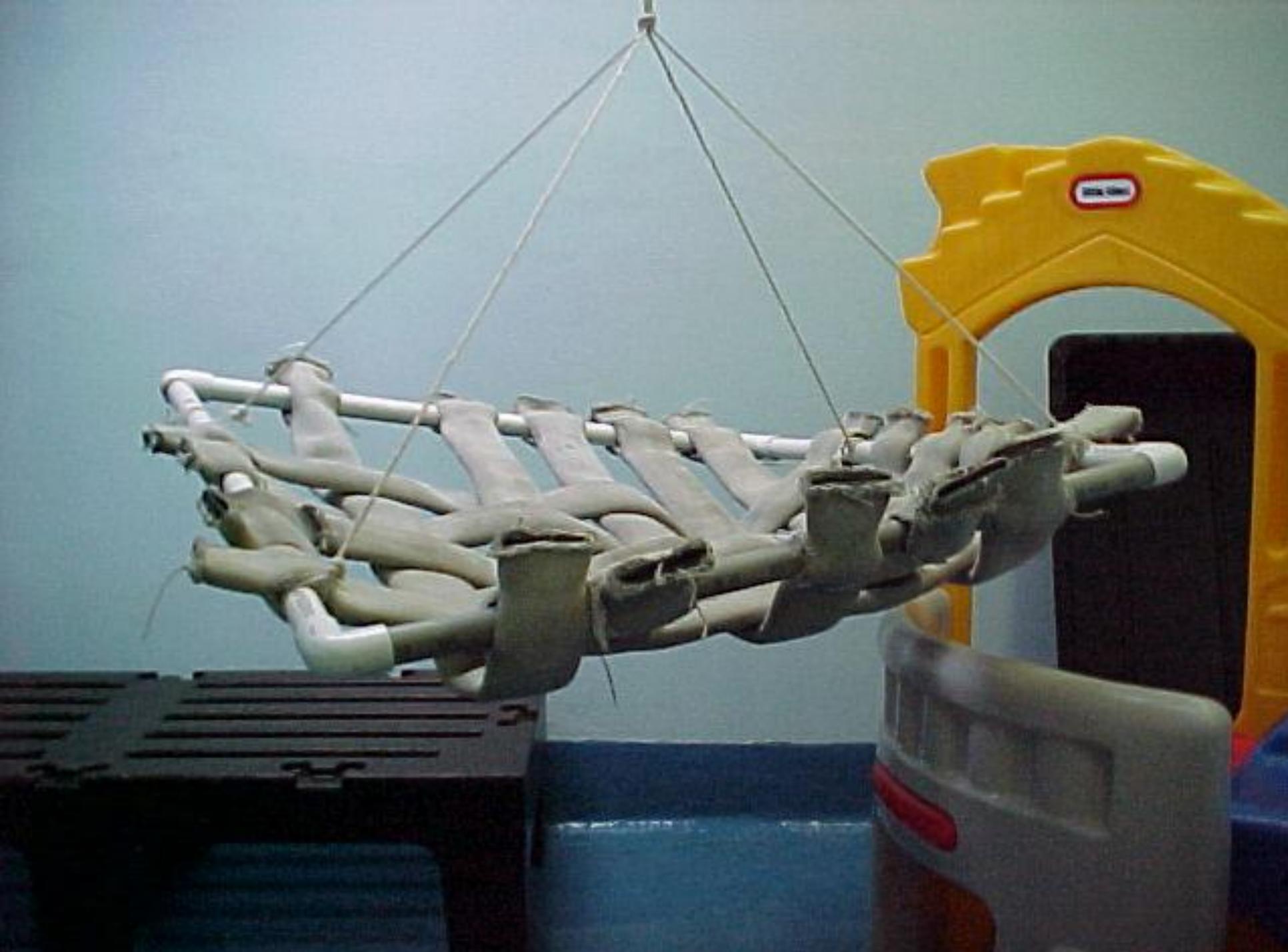




Enrichment

- ◉ When is the right time to start enrichment
- ◉ Animal specific enrichment
 - Enrichment plans determined by husbandry team
- ◉ Man made enrichment
- ◉ Store bought enrichment





THE
DUCK DABBLER 2000



Bat Enrichment



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Provides shade and security for your pet.

FLUKER'S



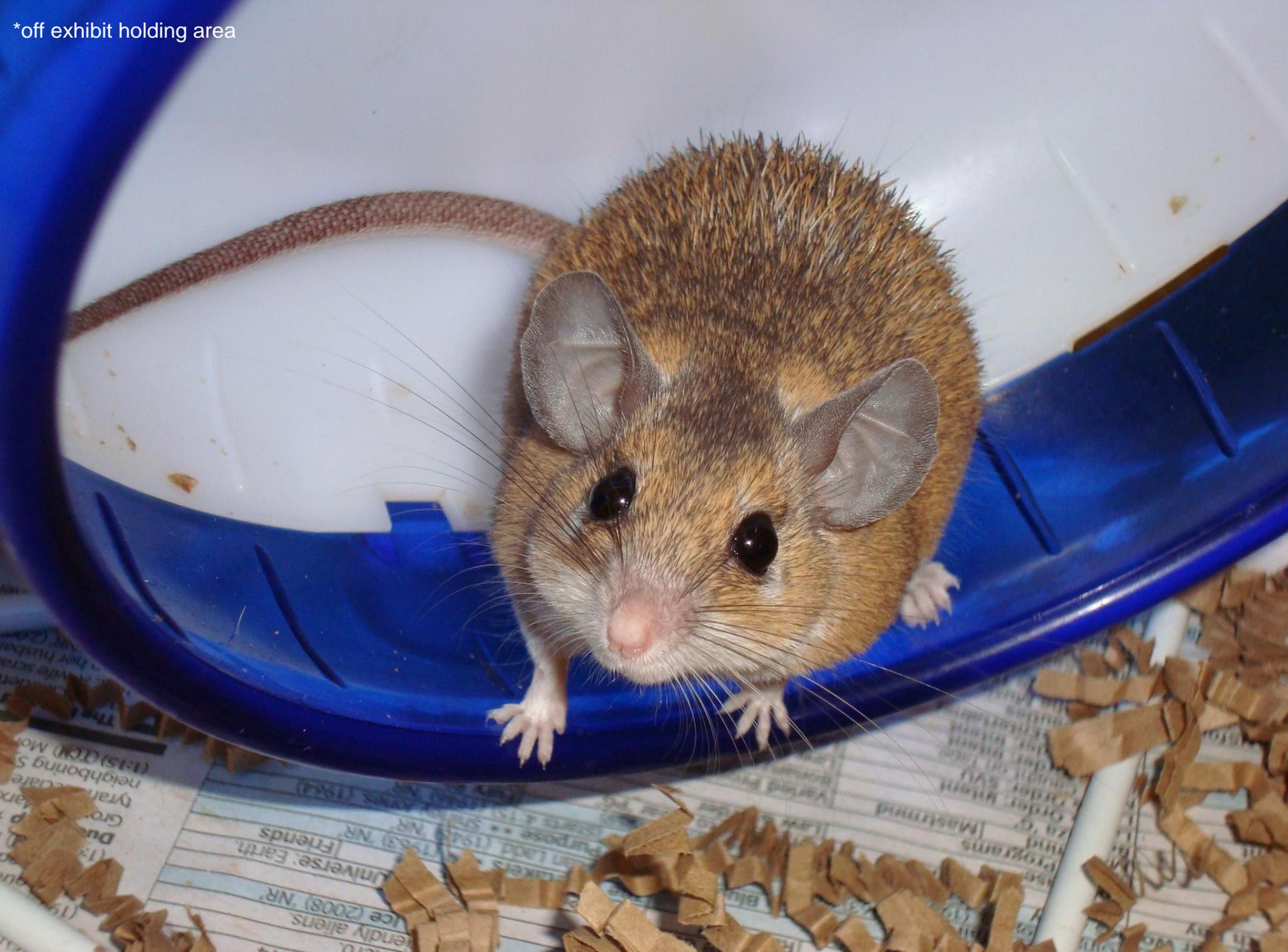


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Training

- Can depend on animals' disposition, animals' length of time in quarantine and animals' previous training experience
- Spider framework
- Determined by husbandry team

Spider Framework

- The S.P.I.D.E.R. framework is a tool that can be used to develop and maintain a successful (goal oriented, self-sustaining) husbandry training program. It can serve as a potential model for institutions to review, refine, and modify to fit their own needs. We call this the SPIDER model or framework because the first letter of each component spells out the word “spider” (Sevenich MacPhee and Mellen, 2002).

Spider Framework

- ① Setting Goals
- ② Planning
- ③ Implementing
- ④ Documenting
- ⑤ Evaluating
- ⑥ Re-Adjusting



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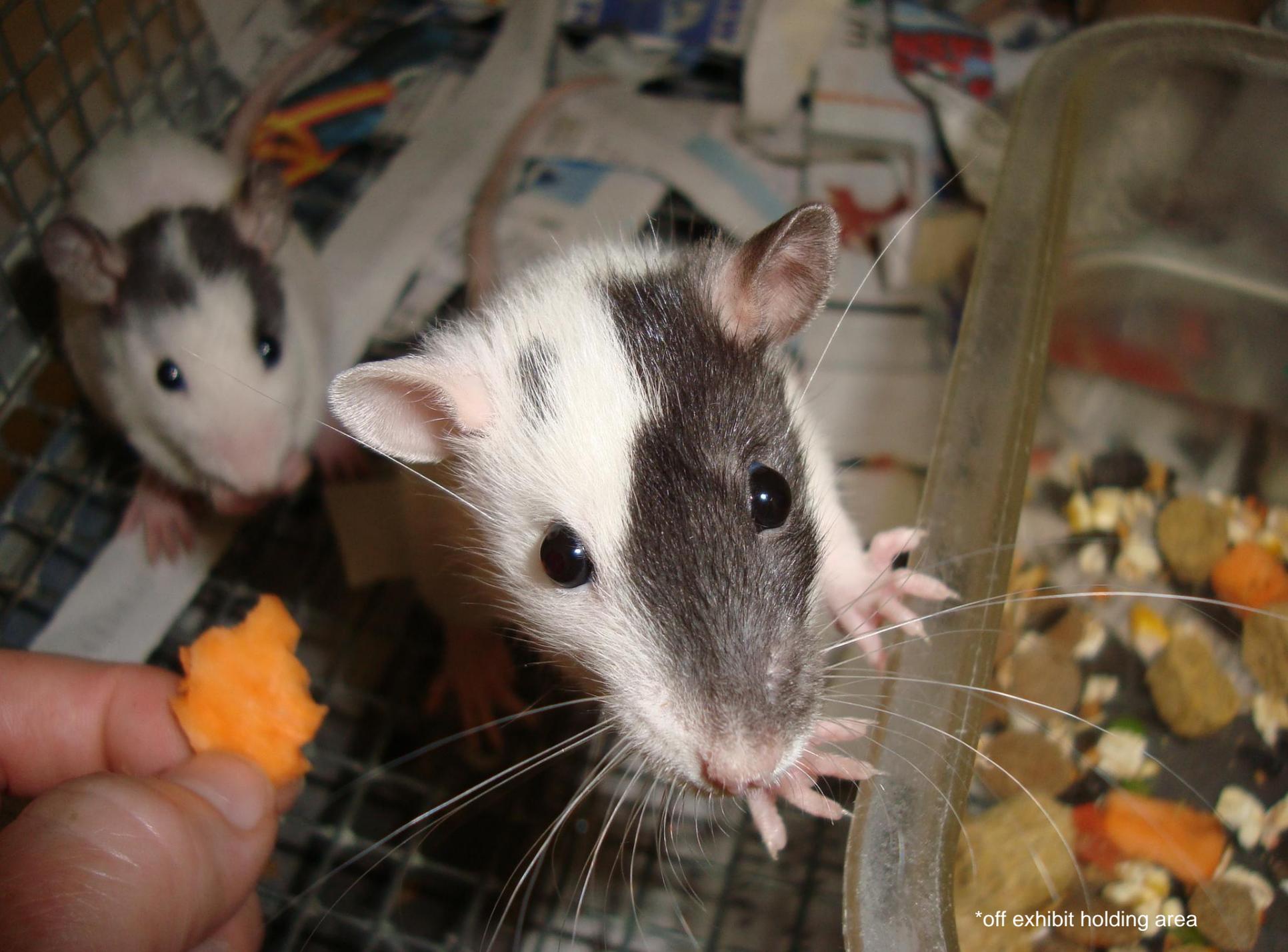
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AP25 Y01B

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Double Door Deluxe

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Wildlife Cases

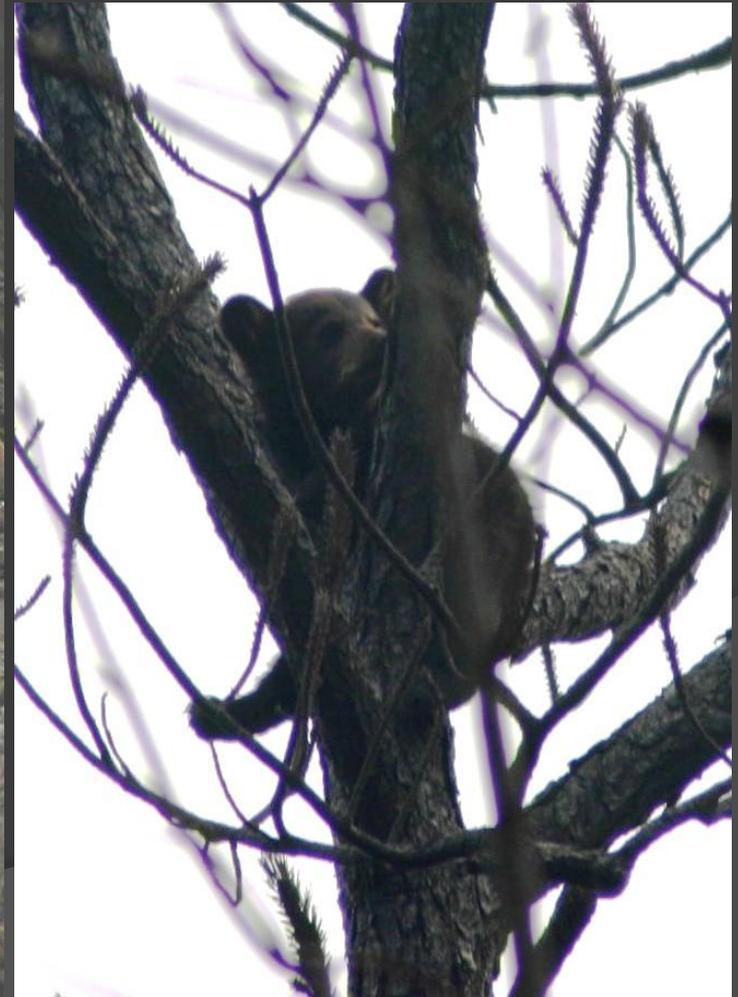
- ◉ Wildlife permits
- ◉ FWS contacts
- ◉ Interesting case
 - Black bear



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Black Bear









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