



**ANIMAL WELFARE ASSESSMENT CONTEST 2019**



Karen Arnold CC-BY



# African Painted Dog Scenario

Animal Welfare Assessment Contest 2019

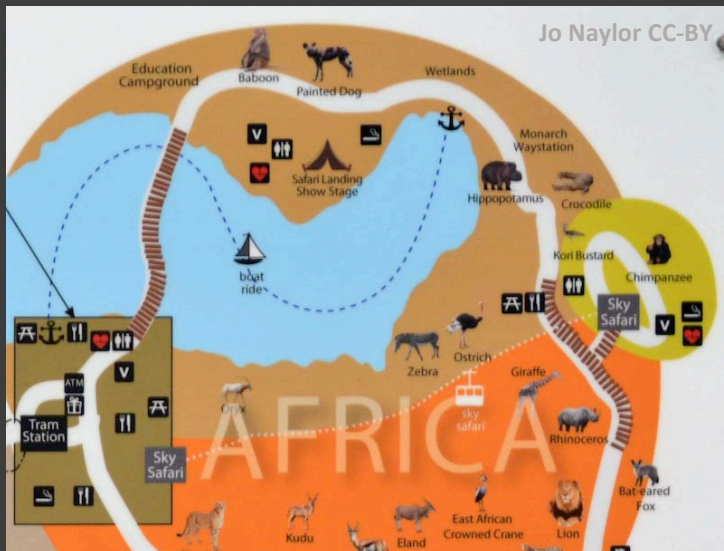
# NOTES

1. THESE ARE FICTITIOUS FACILITIES. They have been created using pictures and information collected from multiple sites, as well as realistic, yet fabricated information. *Neither facility actually exists as presented here.*
2. Please use the images provided throughout the presentation as well as text when making your assessment.

# Overview

## Zoo 1

- Founded in 1899
- ~600,000 people visit annually
- 85 hectares (210 acres)
- ~705 species of animals



## Zoo 2

- Founded in 1935
- >2 million people visit annually
- 87 hectares (214 acre)
- ~405 species of animals





# Habitat

## Zoo 1

- Located in a grassland biome in a humid subtropical region
  - Average temperatures =  $0^{\circ}\text{C}$  ( $50^{\circ}\text{F}$ ) –  $21^{\circ}\text{C}$  ( $70^{\circ}\text{F}$ )
  - Average precipitation = 573 mm (22 in)



## Zoo 2

- Located in temperate forest biome in a hot-summer continental region
  - Average temperature =  $-7^{\circ}\text{C}$  ( $18^{\circ}\text{F}$ ) –  $29^{\circ}\text{C}$  ( $85^{\circ}\text{F}$ )
  - Average precipitation = 914 mm (36 in)



# Personnel

## Zoo 1

- 2 full-time keepers for 10 species (31 animals total)
  - 1 keeper has 15 y experience with African mammals and helps with conservation of wild populations, has M.S. in Wildlife Conservation
  - 1 keeper has 5 y experience zookeeping, has been working with painted dogs for 1 y, has B.S. in Biology
- 1-3 interns assist with chores each semester

## Zoo 2

- 6 full-time keepers for 4 African mammal species (27 animals total)
  - 5 have B.S. in Zoology or related field, 1 has M.S. in Zoo and Aquarium Studies, all have >5 y experience zookeeping
  - 2 have worked with the dog pack since they arrived
- 1 seasonal keeper assists with chores and training in summer
- 1 intern helps with enrichment and behavioral observations each season

# Population – Zoo 1

- 4 sub-adult females
  - All ~2 years old
  - 3 are littermates
- All are wild-born rescues
- Brought to zoo and introduced as pups when < 2 months old





# Population – Zoo 2

- Multi-generational pack
  - Breeding pair (female is ~8 y, male is ~5 y)
  - 1 adult male (breeding male's littermate, ~5 y)
  - 4 sub-adult offspring of breeding pair, ~2 y (2 females, 2 males)
- All were captive born
  - Adult males transferred to current zoo 3 years ago
- Breeding female is pregnant
  - Due in 1 month





# Housing Overview – Zoo 1

- Outdoor yard = ~0.42 hectares (1.0 acres)
  - Enclosed by 3 m (10 ft) high fence
  - Fence is angled inward at the top
- Indoor housing = 28 m<sup>2</sup> (300 ft<sup>2</sup>)
- Holding run = 37 m<sup>2</sup> (400 ft<sup>2</sup>)
  - Attached to yard
  - Used to shift dogs off exhibit for cleaning, veterinary care, or other management procedures



# Housing Overview – Zoo 2

- Outdoor yard = 0.2 hectares (0.5 acres)
  - Dogs are contained by:
    - Moat with 6 m (19.6 ft) horizontal jumping distance
    - Fence has 1 m (3.2 ft) 45° climbing barrier
- Indoor housing = 930 m<sup>2</sup> (10,000 ft<sup>2</sup>)
  - Concrete flooring and walls and floor-to-ceiling steel fencing throughout





# Housing – Zoo 1





# Housing – Zoo 2





# Outdoor Housing – Zoo 1

- Yard primarily surfaced with grass
  - Variety of natural vegetation throughout the enclosure
  - Some dirt patches and paths
  - Weed trimming during cleaning
- Dogs are shifted into the holding run 1x/month for yard cleaning and maintenance
  - A paid keeper always shifts dogs
  - A keeper or intern walks yard and picks up feces, bones, carcass parts, or trash in the exhibit
  - A keeper or intern checks perimeter fence and reports issues



# Outdoor Housing – Zoo 2

- Yard has mix of plants and mulch
  - Mulch added annually
  - Cleaned and checked daily
- Dogs climb and rest on naturalistic rocks (2 heated)
- Dogs rest or play in dry moat surrounding yard
- Dogs stand and play in pool
- Sleep in den of faux rock
- Dogs are locked out of indoor holding daily 10:00-17:00 unless:
  - Temperature is  $>29^{\circ}\text{C}$  ( $85^{\circ}\text{F}$ ) or  $<12^{\circ}\text{C}$  ( $55^{\circ}\text{F}$ )
  - It is raining or storming



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# Indoor Housing – Zoo 1

- Dogs have access to a building with indoor holding areas inside the exhibit
  - Located beneath public viewing platform
  - Straw is provided in cooler weather
  - Indoor holding is checked and cleaned 2x/month
    - On an as needed basis, straw is removed and replaced, floor is swept and scrubbed
  - Dogs have free access, except during cleaning



# Indoor Housing – Zoo 2

- 5 holding pens
  - Each has a waterer and two extra large dog cots
  - All are interconnected by lockable doors
    - Doors are typically kept open
    - Closed as needed (e.g., separate dogs, clean)
  - One has a den box
  - One has a platform and is visible through viewing window
- Holding is heated 21°C (70°F) between October and May
- Holding is cleaned and disinfected daily
- 2 keepers are always present when shifting dogs or cleaning





# Diet and Feeding – Zoo 1

- Dogs get whole beef parts 1x/day
  - Each dog gets 1 kg (2.2 lb)
  - Keepers and interns drive around on truck and throw food in over the fence
- 2 waterers in the enclosure
  - 1 is a stainless steel automatic waterer. It gets visually inspected daily, and scrubbed and disinfected monthly
  - 1 is on fence line and is dumped and filled with a hose daily
- Body Condition Scores range from 2-3 (5 point scale)
  - One dog was underweight (BCS = 1.5). Keepers fed her extra beef until she reached BCS = 2



# Diet and Feeding – Zoo 2

- Dogs get commercial wild canine diet (i.e., ground horse meat)
  - Thawed and rolled into 30 g (1 oz) meatballs
  - Dogs fed 2x/day
  - Used for training at one meal
- Offered bones weekly
- 3 waterers outside, 5 waterers inside
  - Checked and cleaned daily
- Dogs weighed daily as part of training
- Diets adjusted weekly as needed
  - Each dog gets approximately 1-1.4 kg (2.2-3 lb) diet/day
  - Alpha female gets 10% increase in food weekly
  - Alpha pair are separated from others during feeding to monitor female's intake
- Body Condition Scores range from 2.5-3.5 (5 point scale)



# Social Environment – Zoo 1

- All dogs have been at zoo since ~2 months of age
- No plans to add or remove dogs in near future
- ~35% of interactions between the dogs are aggressive
  - Most occurs around feeding
  - Most is directed towards the unrelated female
  - 1 minor skin injury in the last 3 months
  - No vet attention needed



# Social Environment – Zoo 2

- Sub-adults born into pack ~2 years ago
- Sub-adult females will be sent to another zoo in 2 months
  - Keepers are acclimating them to being separated from main pack and entering travel crates
- 60% of interactions between dogs are aggressive
  - Most aggression is between sub-adult and alpha female
  - 4 skin injuries in the last 3 months
  - Alpha female has a wound being monitored





# Enrichment – Zoo 1

- Once a month, dogs get a whole carcass
- Interns sometimes toss enrichment into enclosure
  - Soiled bedding from other animals
  - Paper bags or boxes
  - Food tossed into sandy area
- Between enrichment, dogs show more pacing, resting and aggression
- During enrichment programs, dogs explore, mark and play more
- Dogs sometimes fight over enrichment



# Enrichment – Zoo 2

- Dogs get enrichment 5 days/week
- Rotating enrichment schedule:
  - Food (e.g., carcass feeding, scattered food, frozen treats)
  - Sensory (e.g., soiled bedding from other animals, mirror, music, hair)
  - Objects (e.g., cardboard boxes, Christmas trees, feed bags)
- 1x/month, dogs get pig carcass on zip line to bring down together
- 1x/day with meal, dogs are trained on husbandry behaviors or stationing
  - Alpha pair participate reliably
  - Other adult male is sporadic
  - Sub-adults sometimes too excited to focus
- Keepers have increased number of enrichment items offered at once to prevent aggression or guarding by alpha pair



# Veterinary Care – Zoo 1

- A veterinarian is on zoo staff part-time
  - Visits routinely ~2x/month
  - Walks around zoo to visually inspect animals
  - Is on-call for emergencies
- Keepers put in requests if they need an animal checked
  - Loose stool was reported a few months ago, but did not persist
- Dogs received rabies and distemper vaccines from a wildlife conservation group when they were pups
- Dogs were checked by the veterinarian and quarantined when they first arrived at the zoo
- No health emergencies in the last 6 months with the dogs
- Feral, unvaccinated dogs sometimes enter the zoo and mark near the painted dog enclosure



# Veterinary Care – Zoo 2

- Zoo has a fully-equipped veterinary hospital on site
- Dogs are sedated for a full health exam every year
  - All dogs are put under within 2 days of each other and several dogs done together to prevent prolonged separation of pack
- Keepers do husbandry training with dogs to help monitor their health between exams
  - Aim is to end annual exams requiring sedation
- Males and sub-adults are closely monitored for a hereditary heart defect
- Noninvasive, weekly fecal sampling is used to monitor the alpha female's pregnancy
- No health emergencies in the last 12 months with the dogs
- Dogs are vaccinated annually against rabies, distemper, and parvovirus
- Dogs receive monthly parasite prevention
- Previous male painted dogs at the zoo died of gastric torsion and cancer at 9 and 10 years old. 2 wolf pups at the same zoo recently died of eastern equine encephalitis

# Human-Animal Interaction – Zoo 1

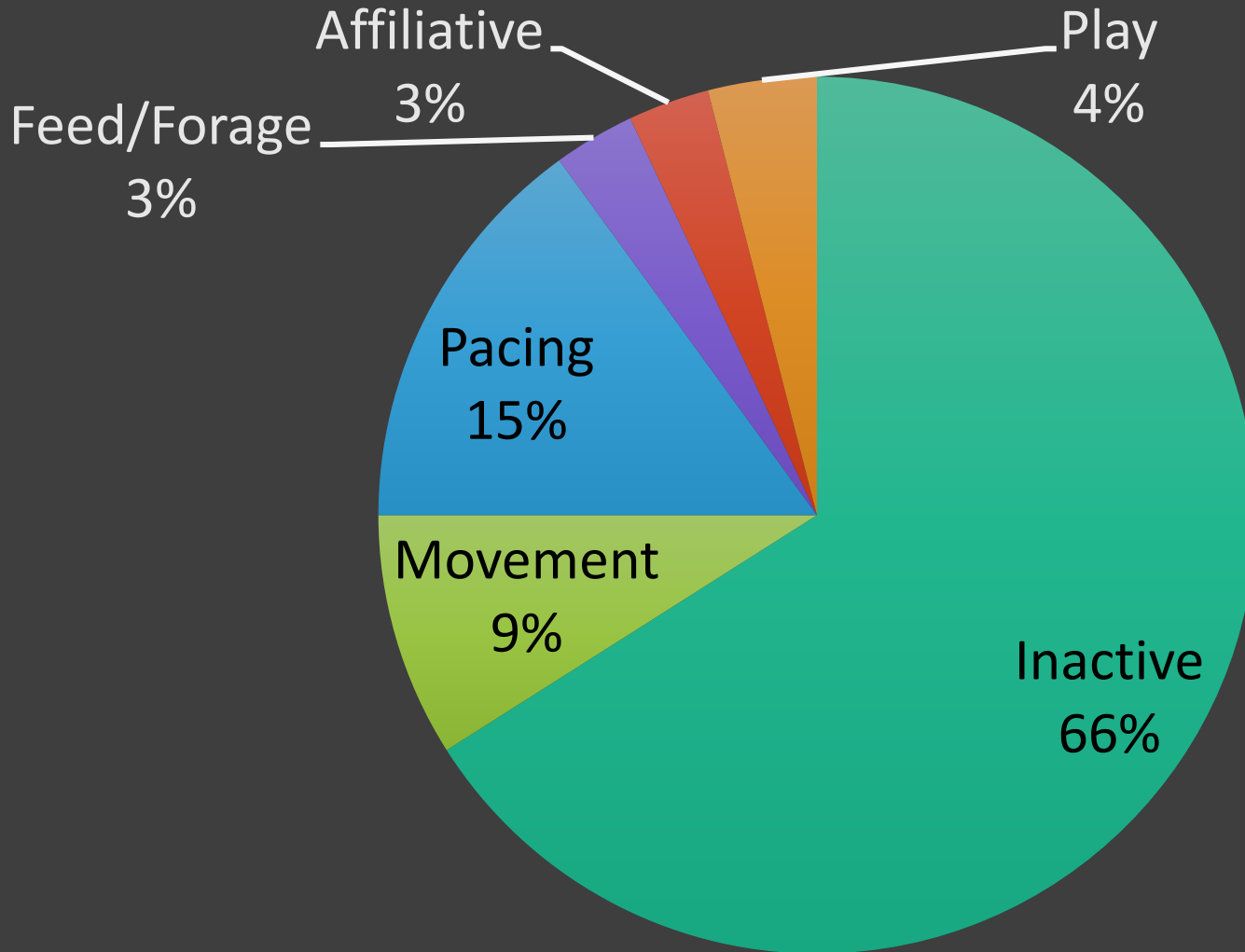
- Dogs have limited human-animal interaction
- Keepers use food to shift dogs into holding run
- Dogs pace at fence when food truck is out
- Dogs do not approach when keepers walk around the perimeter of the enclosure
- When keepers approach dogs in holding, they retreat, cower in the back and show threat behaviors
- The dogs retreated to far side of enclosure when a zoo guest tried to climb perimeter fence

# Human-Animal Interaction – Zoo 2

- Each keeper specifically trains 1-2 dogs
  - Write up a training plan and evaluate monthly
  - Positive reinforcement training is used exclusively
- Keepers handled current sub-adults when they were < 2 months old
- Dogs show no fearful or aggressive behaviors towards keepers
- Dogs direct their attention towards keepers when they walk by the exhibit
- Keepers recently ran an emergency recall drill with the dogs
  - All dogs came inside when called

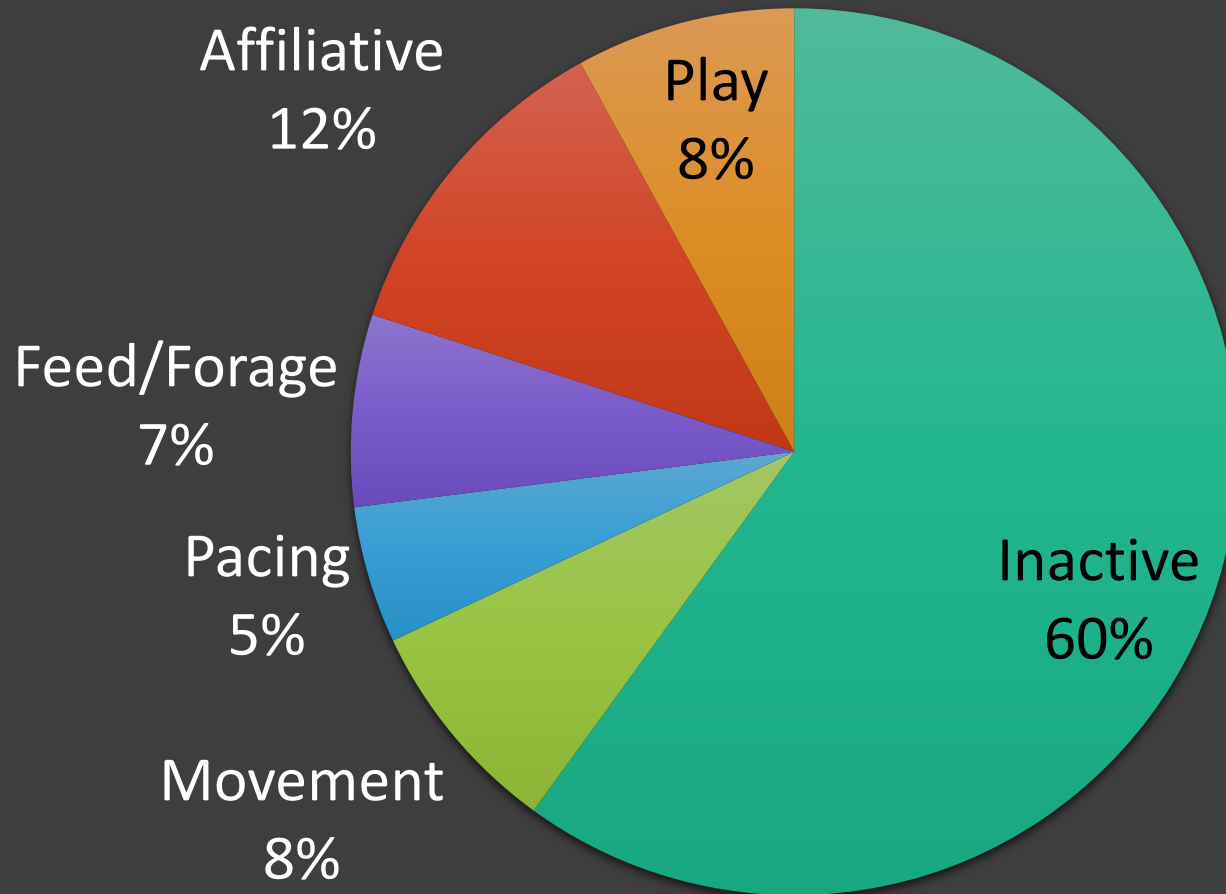


# Time Budget – Zoo 1



- Summarized over 3 months of observations
- Dogs pace when keepers first arrive in morning, when feed truck drives around zoo, and when keepers leave at end of day

# Time Budget – Zoo 2



- Summarized over 3 months of observations
- Dogs pace before meals and when locked out of indoor housing