

FISSION-FUSION MANAGEMENT AS A STRATEGY TO MITIGATE AGGRESSION IN CHIMPANZEES

Tina Cloutier Barbour, Ph.D.

Associate Vice President of Animal Care & Welfare; Dallas Zoo

Chimpanzee SSP Coordinator




NATURAL HISTORY

- Live in groups from ~15-~200 individuals
- Multimale/Multifemale, Multigenerational groups
- Male philopatric
- Strict dominance hierarchy (among males)
- Fission-Fusion Societies
 - Common home range
 - Split (fission) into smaller groups, but come back together (fusion) into larger groups...often depending on resources, social bonds, age, reproductive status, etc.



CHIMPS IN MANAGED CARE


- $N = 273$ (106.167)
- 31 institutions
- Not currently managed as a male philopatric population
 - We need to introduce unrelated males on occasion
 - Sometimes, they're simply incompatible
- In those cases, only a few solutions:
 - Move animals out (not ideal)
 - Long-term medication
 - Females on birth control sometimes helps...
 - **F/F management!**
 - Modified form
 - Not always for aggression mitigation (life stage, choice/control, social introductions, medical management, etc)



CASE STUDY— MARYLAND ZOO


- $N = 16$ (4.12)
- New subgroups each day, which vary in size & composition
- Keeper staff carefully plan these groups, and then offer managed choices
 - Chimps are trained to choose which subgroup they'd like to be a part of that day by approaching one door or another
- End result: Dynamic and intellectually stimulating environment for both the chimps and the staff!
- [Navigating Chimpanzee Society \(aza.org\)](http://aza.org)





CASE
STUDY—
HOUSTON
ZOO

- $N = 13$ (5.8)
- 2 main groups (Virginia Chimps & California Chimps)
 - + Scooter
- 2 incompatible males (Willie & Scooter)
- 2 central groups, with females moving between them routinely
 - Lower-ranking males (3) also successfully moved between groups for a while, but was causing increased agitation in the 2 respective alphas, which actually + aggression... so there's not a "one size fits all" approach!



CASE
STUDY—
OKLAHOMA
CITY ZOO

- $N = 2.4$
 - Began when there were 2.5 individuals in troop... geriatric management
 - 95% of time, remain together nowadays
- Use the sound of locks & howdy doors to signal to the chimps that an opportunity to Fission or Fuse is present
- Relationships change often throughout the course of a chimp's life (sometimes daily!), so work to mitigate bias and rely on behavioral cues



ALSO USING
F/F
MANAGEMENT

- Sedgwick County Zoo—10 (4.6)
- North Carolina Zoo—16 (7.9)
- Dallas Zoo—9 (4.5)
- LA Zoo—14 (6.8)
- Oregon Zoo—8 (2.6)
- Saint Louis—9 (3.6)
- ...and others!

THANK YOU!

Tina.CloutierBarbour@DallasZoo.com