

Draft for 30-day review period by institutional representatives – please respond by Oct 24
Population Analysis and Breeding & Transfer Plan

Chimpanzee

Pan troglodytes

Species Survival Plan®



SPECIES COORDINATOR & STUDBOOK KEEPER

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PMC

American Zoo and Aquarium Association
Population Management Center

Lincoln Park
Zoo

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Executive Summary

Chimpanzee (*Pan troglodytes*) SSP

The current population size of the Chimpanzee SSP is 270 animals (98 males, 172 females) distributed among 35 AZA institutions. The AZA Ape Taxon Advisory Group in their 2007 Regional Collection Plan set a target population size of 250 individuals for this species.

The standard genetic goal for AZA managed populations is 90% gene diversity for 100 years. When gene diversity falls below 90% of that in the founding population, it is expected that reproduction will be increasingly compromised by, among other factors, lower birth weights and greater neonatal mortality. Given the current gene diversity, this population is projected to remain above 95% for 100 years and above 90% for over 200 years. Genetic management strategies, including equalizing founder representation and incorporating potential founders, remain central to maintaining gene diversity for the long term.

DEMOGRAPHY

Current Population Size (N)	270 (98.172)
Individuals Excluded from Analyses	
Target Population Size	300
Mean Generation Time (T, in years)	22.2
Projected Population Growth Rate (λ)	1.00

GENETICS

	<i>Current</i>	<i>Potential</i>
Number of Founders	89	4
Founder Genome Equivalents	41.90	67.13
Founder Genomes Surviving	58.47	67.13
Gene Diversity Retained (%)	98.81	99.26
Population Mean Kinship	0.0119	--
Mean Inbreeding (F)	0.0088	--
Percent known pedigree prior to exclusions	73.5	--
Percent known pedigree after exclusions	100	--
Effective population size to census size ratio (N_e/N)	0.2460	--
Years To 90% Gene Diversity	> 200	
Gene Diversity at 100 Years From Present (%)		
Gene Diversity at 200 Years From Present (%)	92.12	

The number of pairs recommended to breed this year is intended to produce the number of births necessary to compensate for natural attrition and maintain the current population size. As with most managed populations, breeding pairs are prioritized to maintain or increase gene diversity through considerations of mean kinship, avoidance of inbreeding, differences in sire and dam mean kinships, and the degree of uncertainty within a pedigree. Only animals with 100% known pedigrees were included in the potentially breeding population and given breeding recommendations. In addition to these genetic criteria, the SSP also considered other factors such as group demographics and social needs and facility characteristics when making pairs and transfers. Transfers not related to establishing new breeding pairs were generally recommended to satisfy social needs or institutional requests.

Summary Actions 2008 - 2009: The SSP will recommend 24 females for breeding situations (with 20 males) and 10 transfers for this period. Recommendations contained in this master plan supercede those made by earlier plans.

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Acknowledgements

The 2008 Chimpanzee SSP breeding and transfer plan was developed at the Chimpanzee SSP master planning meeting at Lincoln Park Zoo on 14 – 15 July 2008. The meeting was attended by:

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Many thanks to all who participated in the population planning process.



This plan was prepared and distributed with the assistance of the AZA Population Management Center.
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Description of Population Status

Introduction: The Chimpanzee SSP was formed in 1989 and completed its first master plan in 1991. The role of this SSP, as designated by the Ape Taxon Advisory Group 2000 Regional Collection Plan, is primarily as a flagship species to support conservation efforts in the wild. The species is endangered (U.S.F.W., IUCN Red List) and is listed in Appendix I of the Convention on International Trade in Endangered Species (CITES).

Comprehensive genetic and demographic analyses of the captive Chimpanzee SSP population were performed in July 2008, resulting in the current breeding and transfer plan. Analyses of the North American Regional Chimpanzee Studbook (current to 8 July 2008) were performed using PopLink 1.3, and PM2000 1.212 (see Appendix A for more details). Recommendations contained in this breeding and transfer plan supercede those made by any earlier plans.

Analytical Population: The current population size at the time of analyses is 270 (98 males, 172 females) distributed among 35 AZA institutions. However, we included in the genetic analyses only animals that can or should one day contribute genetically to the population by breeding. Excluded from the breeding population were 132 animals, for reasons including sterility, age, poor health, behavior, or less than 100% known pedigree. New pedigree information has decreased the number of animals excluded for unknown pedigree from last year. The SSP encourages institutions housing any of the individuals with some degree of unknownness in their pedigree to research & clarify their origins or ancestry in order to enable their inclusion in the genetic analyses.

All individuals excluded from the breeding population are listed in Appendix B. The managed population following these exclusions is 138 individuals.

Demography: Chimpanzees have been in North American zoos as early as 1902 according to studbook records. The first recorded captive birth occurred in 1927, although it has only been since the late 1960s that captive born animals have been steadily increasing in numbers in the population. With the signing of the Convention on International Trade in Endangered Species, imports of chimpanzees from the wild essentially ceased and the population became more dependent on captive births for growth and maintenance.

Annual growth rates due to zoo births have varied widely ($\lambda = 0.89 - 1.50$) since the population's inception. For the last 20 years, the population has maintained an average annual growth rate at or near 0% growth (lambda of 1.00). However, annual growth rates in the past few years show a slight decline of 2% (annual lambda = 0.98) due to deaths of older animals and a birth rate insufficiency to compensate for these deaths.

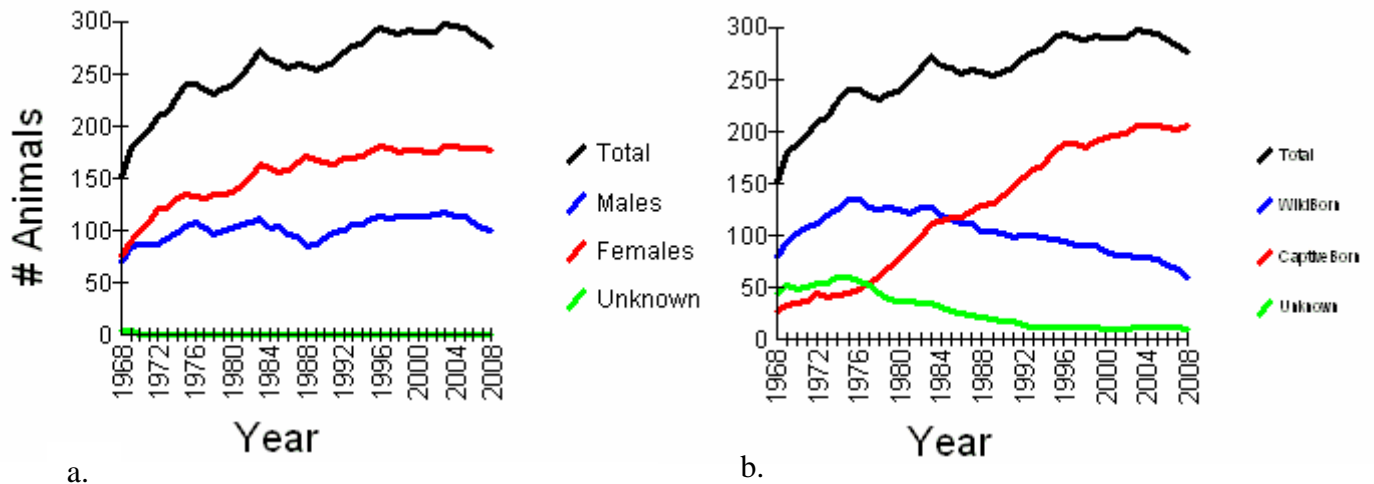


Figure 1a. Census of chimpanzees in AZA institutions (1968 – July 2008) by sex.

Figure 1b. Census of chimpanzees in AZA institutions (1968 – July 2008) by birth origin.

From North American Regional Chimpanzee Studbook current to July 2008.

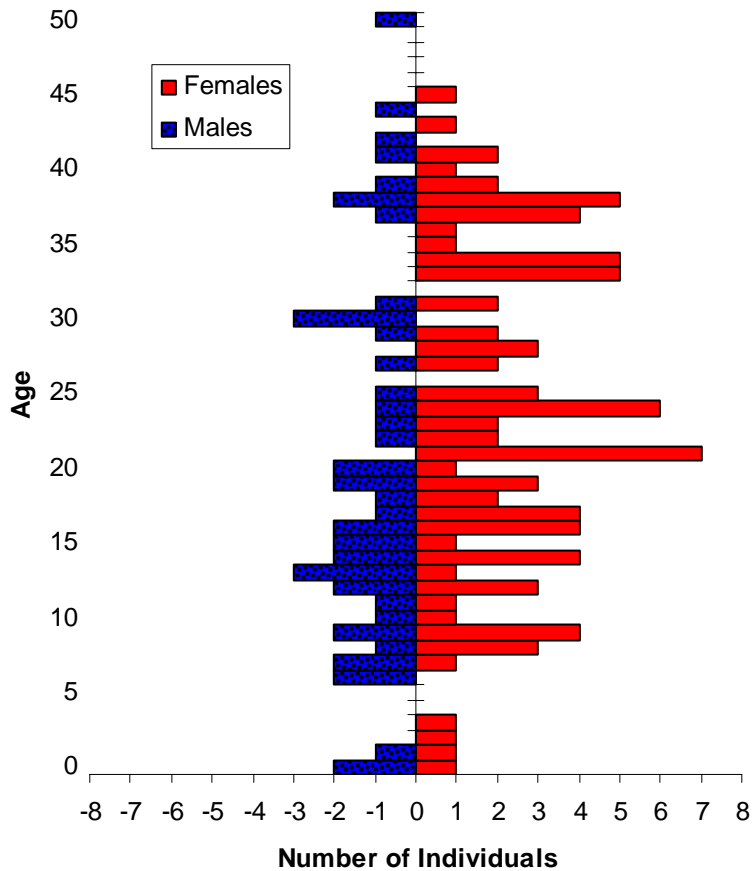


Figure 2. Age structure of the 138 potentially breeding animals in the Chimpanzee SSP (i.e., after exclusions for sterility, unknown pedigree, etc). From North American Regional Studbook, current to September 2008.

The age structure of the population varies from a stable distribution due to a low number of individuals in the juvenile age classes and a female-biased sex ratio (Figure 2). This female bias is also apparent in the census graph (Figure 1a). With a long-lived species such as chimpanzees that exhibits little or no reproductive senescence, a slight departure from a stable age distribution in terms of sex ratio is not a concern. However, a small number of juvenile and a decreasing number of reproductive animals may be a concern in a social species for which group structure can complicate breeding recommendations.

According to studbook data from 1975 to present, the age at which males and females reach sexual maturity is approximately 5 years of age. Males appear to be reproductive into their 50s and females into their 60s. First-year mortality is 30% for males and 25% for females (Appendix C). Median life expectancy is estimated as 32 years for males and females in AZA zoos (based on live births only); that is, 50% of chimpanzees die before 32 years of age and 50% die after this age. The maximum longevity observed for chimpanzees in zoos is 60 for males and 70 for females (based on some estimated birthdates of wild-born animals).

Genetics: The current potentially breeding portion of the chimpanzee population is descended from 89 founders with 4 additional potential founders remaining. Genetic diversity in the population (98.81%) is very high relative to the average mammal SSP (93%). New pedigree information has increased the number of founders known to have contributed genetically to the living population. Due to the large founder base of this population, gene diversity is projected to remain at or above 90% for at least 200 years and will remain above 95% for 111 years. When gene diversity falls below 90% of that in the founding population, it is expected that reproduction will be increasingly compromised by, among other factors, lower birth weights and greater neonatal mortality.

Potential gene diversity is also very high (99.26%) and could be exploited by breeding the four unrepresented founders and breeding animals with low mean kinship values in order to equalize founder representation (Figure 3).

GENETICS SUMMARY

	2003	2004	2005	2006	2007	2008*	Potential
Number of Founders	85	85	85	89	91	89	4 additional
Founder Genome Equivalents	36.61	36.61	37.66	39.35	41.02	41.90	67.13
Gene Diversity Retained (%)	98.63	98.62	98.67	98.73	98.78	98.81	99.26
Population Mean Kinship	0.0137	0.0138	0.0133	0.0129	0.0122	0.0119	--
Mean Inbreeding (F)	0.0083	0.0083	0.0106	0.0093	0.0088	0.0088	--
Percent known pedigree prior to exclusions	69.1		71.6	72.1	74.0	73.5	--
Percent known pedigree after exclusions	100	100	100	100	98.9	100	--
Effective population size to census size ratio (N_e/N)	0.285	0.284	0.31	0.3055	0.2710	24.60	--
Years To 90% Gene Diversity	≥ 250	≥ 250	≥ 200	>275	>275	≥ 250	--
Gene Diversity at 100 Years From Present (%)	≥ 90%	≥ 90%	≥ 90%	≥ 90%	≥ 90%	≥ 90%	--

Summary data between years may not be comparable due to changes in pedigree data, individuals excluded/included, and target size.
 *2008 analyses assume $\lambda = 1.00$ and target population size $K_t = 250$ (in previous years, $K_t = 300$).

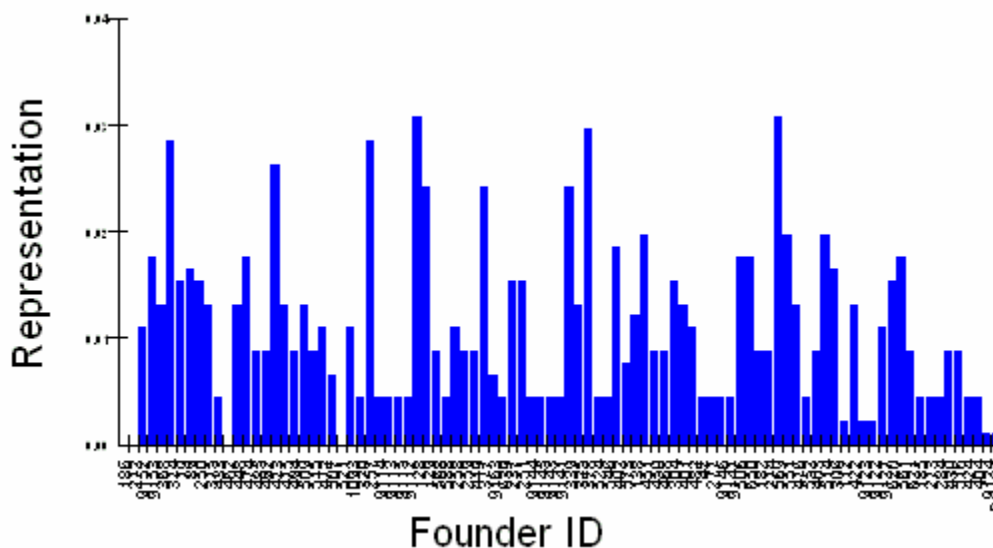


Figure 3. Founder representation of chimpanzees illustrating inequality of representation, or proportion of each founder's genes in the living descendant population. Additional potential founders not expected to reproduce have been excluded from the genetic analyses.

Management Strategy: The previous TAG target population size for the Chimpanzee SSP was set at 300, but the loss of institutions in recent years and the deaths of older animals has caused the population to decrease to 270. The Ape Taxon Advisory Group (TAG) in their 2007 Regional Collection plan set a new target size of 250 for this species. Demographic analyses indicate that approximately 8 – 9 births per year are necessary to offset deaths and maintain the current population size (0% growth or $\lambda = 1.00$). To achieve these demographic and genetic goals, 24 females and 20 males were selected as recommended breeders from the known-pedigreed portion of the population. As with most managed populations, breeding pairs are prioritized to maintain or increase gene diversity through considerations of mean kinship, avoidance of inbreeding, differences in sire and dam mean kinships, and the degree of uncertainty within a pedigree. In addition to these genetic criteria and the previously mentioned demographic goals, the Chimpanzee SSP also considered a broader set of criteria when making breeding pairs (in no particular order):

- | | |
|--|---|
| ❖ location (to avoid unnecessary transfers) | ❖ transfers/introductions |
| ❖ social group | ❖ individual behavior |
| ❖ facility capacity | ❖ keeping natal/compatible males together |
| ❖ facility quality/limitations/characteristics | ❖ forming male cohorts |
| ❖ institutional needs | ❖ probability of success of producing offspring |
| ❖ mother rearing | ❖ age of animals |
| ❖ ability to hold offspring | ❖ demographic structure of institutional groups |
| ❖ disease issues | ❖ data quality / pedigree |

Of these criteria, the SSP agreed that priority should be placed on:

- ❖ genetic & demographic considerations
- ❖ social group need
- ❖ facility characteristics, including carrying capacity and limitations

Finally, it is important to note that currently the Chimpanzee SSP population is a closed population. No individual chimpanzee is considered “surplus” and all institutions are collectively committed to providing lifetime care for every chimpanzee. In some rare circumstances, the program may accept a chimpanzee for inclusion into the SSP population but under no circumstances will individuals transfer from an SSP institution to a non-SSP institution.

Management Strategy Summary:

1. **Recommend 25 females for breeding situations with 20 males.**
2. **Recommend 10 transfers, some for non-breeding purposes, and to meet institutional needs including one institution phasing out of chimps.**

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Summary Breeding and Transfer Plan 2008

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

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ASHEBORO

North Carolina Zoological Park

Asheboro, NC

Institutional contact/representative: Jennifer Ireland (336-879-7670)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
449	143	s	39	Terry	HOLD	ASHEBORO	DO NOT BREED		excluded
507	1201	F	37	Tammy	HOLD	ASHEBORO	DO NOT BREED		
516	162	s	37	Ruthie	HOLD	ASHEBORO	DO NOT BREED		excluded
571	155	F	35	Maggie	HOLD	ASHEBORO	DO NOT BREED		excluded
588	116	F	34	Betty	HOLD	ASHEBORO	DO NOT BREED		
622	48	M	33	Hondo	HOLD	ASHEBORO	DO NOT BREED		excluded
785	407	F	25	Amy	HOLD	ASHEBORO	DO NOT BREED		
1019	1289	F	14	Maki	HOLD	ASHEBORO	DO NOT BREED		
1050	1401	F	12	Ruby	HOLD	ASHEBORO	DO NOT BREED		
1077	1404	M	12	Jonathan	HOLD	ASHEBORO	DO NOT BREED		excluded
1083	1752	M	7	Sokoto	HOLD	ASHEBORO	DO NOT BREED		
1084	1753	M	7	Lance	HOLD	ASHEBORO	DO NOT BREED		excluded
1166	1754	M	9	Kendall	HOLD	ASHEBORO	DO NOT BREED		excluded

Summary:

Pre-plan: 5 males, 9 females

Post-plan: 5 males, 9 females

Notes

- The SSP commends Asheboro for their excellent work on socializing 1166 Kendall to date
- Continue integration of Kendall into social groups. Should a better situation arise for Kendall (within the SSP), we will consider a transfer but for now, Asheboro remains the best situation with multiple social options, modern facility, and dedicated staff.

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BALTIMORE

Baltimore Zoo

Baltimore, MD

Institutional contact/representative: Rebecca Gullott, (410-396-7102)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
721	3900	s	28	Charley	HOLD	BALTIMORE	DO NOT BREED		excluded
1022	95052	F	36	Joice	HOLD	BALTIMORE	DO NOT BREED		with offspring
1024	95054	F	20	Carole	HOLD	BALTIMORE	BREED WITH	1073	
1025	95055	F	18	Bunny	HOLD	BALTIMORE	DO NOT BREED		excluded
1026	95056	F	16	Renee	HOLD	BALTIMORE	BREED WITH	1073	
1027	95059	F	13	Raven	HOLD	BALTIMORE	DO NOT BREED		excluded
1073	5487	M	10	Kasoje	HOLD	BALTIMORE	BREED WITH	1024, 1026	
1154	4919	F	3	Asali	HOLD	BALTIMORE	DO NOT BREED		excluded
1155	4896	F	3	Rozi	HOLD	BALTIMORE	DO NOT BREED		
1158	4948	F	2	Jambo	HOLD	BALTIMORE	DO NOT BREED		

Summary:

Pre-plan: 2 males, 8 females

Post-plan: 2 males, 8 females

Notes:

- Breeding recommendations for 1024 Carole and 1026 Renee with 1073 Kasoje
- Work with Sedgwick County Zoo to determine parentage for 1154 Asali

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BROWNSVIL

Gladys Porter Zoo

Brownsville, TX

Institutional contact/representative: Jerry Stones (956-546-7187)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
473	1616	M	38	Doyle	SEND TO	DALLAS	BREED WITH	914, 613, 629	
506	1420	s	36	Rusty	HOLD	BROWNSVIL	DO NOT BREED		
617	1421	s	34	Shaba	HOLD	BROWNSVIL	DO NOT BREED		
638	2150	M	32	Sancho	HOLD	BROWNSVIL	DO NOT BREED		
784	2043	s	25	Camille	HOLD	BROWNSVIL	DO NOT BREED		
808	2149	s	24	J.K.	HOLD	BROWNSVIL	DO NOT BREED		
890	3375	s	21	Arby	HOLD	BROWNSVIL	DO NOT BREED		
970	4306	s	19	Jaby J.b.	HOLD	BROWNSVIL	DO NOT BREED		
1009	5048	s	17	Fiona	HOLD	BROWNSVIL	DO NOT BREED		

Summary:

Pre-plan: 2 males, 7 females (2 groups)

Post-plan: 1 male, 7 females (1 group)

Notes:

- Transfer 473 Doyle to Dallas per 2007 recommendation
- Following the transfer, integrate the groups to form a single, non-breeding social unit of 1.7
- The SSP is available for guidance on introduction planning.

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BUSCH TAM

Busch Gardens

Tampa, FL

Institutional contact/representative: Lisa Harris (813-987-5250)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
258	15142	s	46	Smokey	HOLD	BUSCH TAM	DO NOT BREED		
259	15143	s	46	Patsy	HOLD	BUSCH TAM	DO NOT BREED		
545	15147	F	37	Sally	HOLD	BUSCH TAM	DO NOT BREED		
613	15154	F	34	Samantha	SEND TO	DALLAS	BREED WITH	473, 1063	
629	15153	F	33	Penny	SEND TO	DALLAS	BREED WITH	473, 1063	
993	53982	s	17	Mtoto	HOLD	BUSCH TAM	DO NOT BREED		
1079	61088	M	8	Mwanzi	HOLD	BUSCH TAM	DO NOT BREED		
760	612003	F	26	Abby	RECEIVE	OKLAHOMA	DO NOT BREED		excluded
781	613005	M	25	Mr. C	RECEIVE	OKLAHOMA	DO NOT BREED		

Summary:

Pre-plan: 2 males, 5 females

Post-plan: 3 males, 4 females

Notes:

- Transfer 613 Samantha and 629 Penny to Dallas per 2007 recommendations
- Receive 781 Mr. C and 760 Abby from Oklahoma City for future breeding potential and social stability
- The SSP is available for guidance on introduction planning.

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CHATTANOOG

Warner Park Zoo

Chattanooga, TN

Institutional contact/representative: Dardenelle Long (423-697-1319)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
634	997	F	33	Josie	HOLD	CHATTANOOG	DO NOT BREED		
649	998	s	32	Goliath	HOLD	CHATTANOOG	DO NOT BREED		
831	999	F	23	Randi	HOLD	CHATTANOOG	DO NOT BREED		
857	1000	F	22	Ann	HOLD	CHATTANOOG	DO NOT BREED		
1107	1001	s	40	Hank	HOLD	CHATTANOOG	DO NOT BREED		

Summary:

Pre-plan: 2 males, 3 females

Post-plan: 2 males, 3 females

Notes:

- Female 999 Randi is genetically valuable and will be considered for possible future breeding situations.
- Further consideration of placement of privately-owned chimpanzees will be made

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CHICAGOLP

Lincoln Park Zoo

Chicago, IL

Institutional contact/representative: Sue Margulis (312-742-2345)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
185	314	s	50	Keo	HOLD	CHICAGOLP	DO NOT BREED		
304	1935	F	44	Vicky	HOLD	CHICAGOLP	DO NOT BREED		
371	464	F	43	June	HOLD	CHICAGOLP	DO NOT BREED		
716	6239	F	28	Kibali	HOLD	CHICAGOLP	DO NOT BREED		
813	21172	F	24	Cashew	HOLD	CHICAGOLP	DO NOT BREED		
976	21174	F	18	Kathy	HOLD	CHICAGOLP	DO NOT BREED		
979	21169	s	18	Hanky	HOLD	CHICAGOLP	DO NOT BREED		
1029	21175	F	14	Nana	HOLD	CHICAGOLP	DO NOT BREED		
1076	21171	s	9	Optimus	HOLD	CHICAGOLP	DO NOT BREED		
1119	21170	s	8	Kipper	HOLD	CHICAGOLP	DO NOT BREED		
1129	21173	F	9	Chuckie	HOLD	CHICAGOLP	DO NOT BREED		

Summary:

Pre-plan: 4 males, 7 females (2 groups)

Post-plan: 4 males, 7 females (2 groups)

Notes:

- Maintain two non-breeding groups.
- The SSP will continue to consider options for adding individuals depending on group membership changes over the next few years.

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DALLAS

Dallas Zoo

Dallas, TX

Institutional contact/representative: Todd Bowsher (214-671-0432)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
473	1616	M	38	Doyle	RECEIVE FROM	BROWNSVIL	BREED WITH	914, 613, 629	
613	15154	F	34	Samantha	RECEIVE FROM	BUSCH TAM	BREED WITH	473, 1063	
629	15153	F	33	Penny	RECEIVE FROM	BUSCH TAM	BREED WITH	473, 1063	
212	001034	F	50	Bon Bon	HOLD	DALLAS	DO NOT BREED		
368	001101	F	43	Missy	HOLD	DALLAS	DO NOT BREED		
828	854223	F	23	Koko	HOLD	DALLAS	DO NOT BREED		
914	06G948	F	21	Ramona	HOLD	DALLAS	BREED WITH	473, 1063	
954	959806	F	19	Victoria	HOLD	DALLAS	DO NOT BREED		
962	959805	s	19	Mookie	HOLD	DALLAS	DO NOT BREED		
1063	97B518	M	12	K.C.	HOLD	DALLAS	BREED WITH	914, 613, 629	

Summary:

Pre-plan: 2 males, 5 females

Post-plan: 3 males, 7 females

Notes:

- Receive 473 Doyle from Brownsville and 613 Samantha and 629 Penny from Busch Gardens
- Multiple breeding recommendations are possible with both viable males. Non-recommended females should be placed on temporary contraceptives.
- The SSP is available for guidance on introduction planning.

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DETROIT

Detroit Zoological Institute

Royal Oak, MI

Institutional contact/representative: Scott Carter (248-541-5717 x3160)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
492	2897	F	38	Trixi	HOLD	DETROIT	BREED WITH	1052, 804	
521	1847	F	37	Bubbles	HOLD	DETROIT	BREED WITH	1052, 804	
774	2621	F	25	Abby	HOLD	DETROIT	DO NOT BREED		
804	11081	M	24	Bahati	HOLD	DETROIT	BREED WITH	492, 521, 983, 984	
891	2849	f	21	Akati	HOLD	DETROIT	SEE NOTES		postpartum
923	11833	s	19	Kiri	HOLD	DETROIT	DO NOT BREED		
983	3411	F	17	Nyani	HOLD	DETROIT	BREED WITH	1052, 804	
984	3412	F	17	Tanya	HOLD	DETROIT	BREED WITH	1052, 804	
1047	4154	F	14	Chiana	HOLD	DETROIT	DO NOT BREED		
1052	11105	M	13	Imara	HOLD	DETROIT	BREED WITH	492, 521, 983, 984	
1173		M	0		HOLD	DETROIT	DO NOT BREED		

Summary:

Pre-plan: 4 males, 7 females (transitional subgroups)

Post-plan: 4 males, 7 females (goal of one group)

Notes:

- Continue socialization process in the hopes of a single group. Communicate with the SSP as to the progress of 923 Kiri's socialization. Placement elsewhere will be considered if necessary.
- Multiple breeding recommendations per 2007 plan

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

FORTWORTH

Fort Worth Zoological Park

Ft Worth, TX

Institutional contact/representative: Kurt Giesler (817-759-7500)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
630	282	s	33	Martin	HOLD	FORTWORTH	DO NOT BREED		
635	283	F	33	Margaret	HOLD	FORTWORTH	DO NOT BREED		
922	730	s	19	Kirk	HOLD	FORTWORTH	DO NOT BREED		
986	750	s	18	Nick	HOLD	FORTWORTH	DO NOT BREED		

Summary:

Pre-plan: 3 males, 1 female

Post-plan: 3 males, 1 female

Notes:

- Maintain non-breeding group of 3.1

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

HONOLULU

Honolulu Zoo

Honolulu, HI

Institutional contact/representative: Richard Ball (808-971-7193)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
509	940027	F	38	Boo	HOLD	HONOLULU	DO NOT BREED		
569	940023	M	36	Roscoe	HOLD	HONOLULU	DO NOT BREED		
687	940025	F	29	Kumi	HOLD	HONOLULU	DO NOT BREED		
841	940028	F	22	Tatu	HOLD	HONOLULU	DO NOT BREED		
960	940026	M	18	Kibale	HOLD	HONOLULU	DO NOT BREED		
1012	940029	M	15	Konakona	SEND TO	LOSANGELE	BREED WITH	1100	
1035	940404	M	14	Kealoha	HOLD	HONOLULU	DO NOT BREED		
1036	950217	M	13	Nalu	SEND TO	LOSANGELE	BREED WITH	1100	
1081	990224	M	9	Pu'lwa	HOLD	HONOLULU	DO NOT BREED		

Summary:

Pre-plan: 6 males, 3 females

Post-plan: 4 males, 3 females

Notes:

- Transfer 1012 Konakona and 1036 Nalu to Los Angeles for breeding recommendation with 1100 Zoe
- Confirm vasectomy for 569 Roscoe and maintain non-breeding group of 4.3

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

HOUSTON

Houston Zoo

Houston, TX

Institutional contact/representative: Hollie Collahan (713-533-6528)

- Continue to communicate with the SSP regarding the timing of the new exhibit. At this time, no firm transfer plans are made.
- Continue to work with the SSP in identifying appropriate cases in which chimpanzees could enter from outside the current population. The total group aims to be a multimale group of 6-8 individuals depending on availability both within and outside of the SSP.

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

JACKSON

Jackson Zoological Park

Jackson, MS

Institutional contact/representative: Willie Bennett (601-352-2589)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
332	001767	M	44	Jo Jo	HOLD	JACKSON	BREED WITH	715	
433	000193	F	40	Judy	HOLD	JACKSON	DO NOT BREED		
450	000266	s	39	Jeanette	HOLD	JACKSON	DO NOT BREED		
636	001768	F	33	Belle	HOLD	JACKSON	DO NOT BREED		
659	000630	s	30	Jackson	HOLD	JACKSON	DO NOT BREED		
715	000815	F	28	Missy	HOLD	JACKSON	BREED WITH	332	
951	002017	F	19	Maybelle	HOLD	JACKSON	DO NOT BREED		
1071	991001	F	9	Binti	HOLD	JACKSON	DO NOT BREED		

Summary:

Pre-plan: 2 males, 5 females (2 groups)

Post-plan: 2 males, 5 females (2 groups)

Notes:

- Breeding recommendation for 715 Missy with 332 Jojo per 2007 plan

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

JOHN BALL

John Ball Zoological Garden

Grand Rapids, MI

Institutional contact/representative: Norah Fletchall (616-336-4301)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
462	302525	F	39	Peggy	HOLD	JOHN BALL	BREED WITH	661	
502	302522	s	29	Donnie	HOLD	JOHN BALL	DO NOT BREED		
819	302526	f	24	Sanga	HOLD	JOHN BALL	BREED WITH	661	
892	302524	f	21	Susan	HOLD	JOHN BALL	BREED WITH	661	
1068	302527	F	10	Kiambi	HOLD	JOHN BALL	DO NOT BREED		
661	92020	M	30	Sammy	RECEIVE FROM	SOUTHBEND	BREED WITH	462, 819, 892	
885	87003	F	21	Jody	RECEIVE FROM	SOUTHBEND	DO NOT BREED		excluded

Summary:

Pre-plan: 1 males, 4 females

Post-plan 2 males, 5 females

Notes:

- Receive 661 Sammy and 885 Jody from South Bend in Autumn 2008
- Breeding recommendations for 661 Sammy with 462 Peggy, 819 Sanga and 892 Susan
- The SSP is available for guidance on introduction planning.

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

KANSASCTY

Kansas City Zoological Gardens

Kansas City, MO

Institutional contact/representative: Liz Harmon (816-513-4605)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
272	299	F	45	Patty	HOLD	KANSASCTY	DO NOT BREED		
273	298	F	45	Blackie	HOLD	KANSASCTY	DO NOT BREED		
609	M03049	F	34	Rachel	HOLD	KANSASCTY	DO NOT BREED		
883	102154	f	21	Lucy	HOLD	KANSASCTY	BREED WITH	957, 1060	
957	102704	M	19	Joshua	HOLD	KANSASCTY	BREED WITH	883, 1015	
961	102363	M	18	Bondo	HOLD	KANSASCTY	DO NOT BREED		
1015	102486	f	15	Amber	HOLD	KANSASCTY	BREED WITH	1060, 957	
1044	102532	F	14	Kioja	HOLD	KANSASCTY	DO NOT BREED		
1048	M03050	F	12	Teeoni	HOLD	KANSASCTY	DO NOT BREED		
1049	M03051	F	12	Teetoo	HOLD	KANSASCTY	DO NOT BREED		
1056	99M010	F	9	Molly	HOLD	KANSASCTY	DO NOT BREED		
1060	M03043	M	11	Dekese	HOLD	KANSASCTY	BREED WITH	1015, 883	
1061	M03042	M	10	Nusu	HOLD	KANSASCTY	DO NOT BREED		
1102	M00030	F	8	Halla	HOLD	KANSASCTY	DO NOT BREED		
1170		F	1	Lela	HOLD	KANSASCTY	DO NOT BREED		

Summary:

Pre-plan: 4 males, 11 females

Post-plan: 4 males, 11 females

Notes:

- 1015 Amber and 883 Lucy have breeding recommendations and should discontinue contraception. The recommended males are 1060 Dekese and 957 Joshua. Because of past instances of aggression during post-consortship reintroductions, males 1061 Nusu and 961 Bondo will have access to the uncontracepted females in a undivided group setting. Past behavioral interactions have suggested that both these males are unlikely to engage in breeding with 957 Joshua present.

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

KNOXVILLE

Knoxville Zoological Gardens

Knoxville, TN

Institutional contact/representative: Lisa New (865-637-5331 x329)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
532	93	F	37	Debbie	HOLD	KNOXVILLE	DO NOT BREED		
601	3693	F	34	Jackie	HOLD	KNOXVILLE	DO NOT BREED		
639	3190	F	33	Daisy	HOLD	KNOXVILLE	DO NOT BREED		postpartum
670	3284	M	29	Jimbo	HOLD	KNOXVILLE	DO NOT BREED		
811	3694	F	24	Bo	HOLD	KNOXVILLE	DO NOT BREED		
821	3695	F	24	Binti	HOLD	KNOXVILLE	DO NOT BREED		
847	1050	F	22	Julie	HOLD	KNOXVILLE	DO NOT BREED		
967	1448	M	18	Mwelu	HOLD	KNOXVILLE	DO NOT BREED		
1171	3754	M	0	George	HOLD	KNOXVILLE	DO NOT BREED		

Summary:

Pre-plan: 4 males, 6 females (transition groupings)

Post-plan: 4 males, 6 females (single group)

Notes:

- Monitor development of 1171 George
- When appropriate, continue social integration process with goal of a single, integrated group

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

LITTLEROC

Little Rock Zoological Gardens

Little Rock, AR

Institutional contact/representative: Syd Tanner (501-666-2406 x105)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
134	76	s	51	Jodie	HOLD	LITTLEROC	DO NOT BREED		excluded
494	3311	F	38	Judy	HOLD	LITTLEROC	BREED WITH	1080, 853, 1004	
853	6707	M	22	Bahati	HOLD	LITTLEROC	BREED WITH	1072, 494	
1004	6708	M	16	Kijana	HOLD	LITTLEROC	BREED WITH	1072, 494	
1072	4570	F	14	Mahale	HOLD	LITTLEROC	BREED WITH	1080, 853, 1004	
1080	6709	M	6	Chance	HOLD	LITTLEROC	BREED WITH	1072, 494	
1042	1032	F	13	Amira	RECEIVE FROM	OAKLAND	DO NOT BREED		

Summary:

Pre-plan: 3 males, 4 females

Post-plan: 3 males, 5 females

Notes:

- Receive 1042 Amira from Oakland for possible future breeding and to gain infant rearing experience
- Multiple breeding recommendations
- The SSP is available to provide consultation for the introduction process.

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

LOSANGELE

Los Angeles Zoo

Los Angeles, CA

Institutional contact/representative: Jennie McNary (323-644-4207)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
420	03180	F	41	Pandora	HOLD	LOSANGELE	DO NOT BREED		
702	09920	F	29	Nan	HOLD	LOSANGELE		1012, 1036	
780	001440	F	25	Regina	HOLD	LOSANGELE	DO NOT BREED		
834	002202	s	23	Joanna	HOLD	LOSANGELE	DO NOT BREED		excluded
906	002546	F	21	Gracie	HOLD	LOSANGELE	DO NOT BREED		
909	003080	M	20	Shaun	HOLD	LOSANGELE	DO NOT BREED		
963	003592	s	18	Gerrard	HOLD	LOSANGELE	DO NOT BREED		excluded
964	003668	F	18	Yoshiko	HOLD	LOSANGELE	DO NOT BREED		
1054	004621	M	14	Glenn	HOLD	LOSANGELE	DO NOT BREED		
1055	004987	M	12	Ripley	HOLD	LOSANGELE	DO NOT BREED		
1067	990029	F	9	Jean	HOLD	LOSANGELE	DO NOT BREED		
1099	990046	M	9	Jake	HOLD	LOSANGELE	DO NOT BREED		
1100	990112	F	9	Zoe	HOLD	LOSANGELE		1012,1036	
1012	940029	M	15	Konakona	RECEIVE	HONOLULU	BREED WITH	1100	
1036	950217	M	13	Nalu	RECEIVE	HONOLULU	BREED WITH	1100	

Summary:

Pre-plan: 5 males, 8 females

Post-plan: 7 males, 8 females

Notes:

- Receive 1012 Konakona and 1036 Nalu from Honolulu
- Breeding recommendations with these new males with 702 Nan and 1100 Zoe
- The SSP is available for guidance on introduction planning.

Draft for 30-day review period by institutional representatives – please respond by Oct 24

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LOWRY

Lowry Park Zoological Garden

Tampa, FL

Institutional contact/representative: LeeAnn Rottman (813-935-8552 x221)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
257	101477	s	46	Bamboo	HOLD	LOWRY	DO NOT BREED		excluded
657	100082	F	31	Jamie	HOLD	LOWRY	DO NOT BREED		
720	100101	F	28	Rukiya	HOLD	LOWRY	DO NOT BREED		
874	100197	F	23	Twiggy	HOLD	LOWRY	DO NOT BREED		
1074	100968	s	11	Alex	HOLD	LOWRY	DO NOT BREED		excluded

Summary:

Pre-plan: 2 males, 3 females

Post-plan: 2 males, 3 females

Notes:

- Maintain a non-breeding group of 2.3
- Potential surrogates available

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

MADISON

Henry Vilas Zoo

Madison, WI

Institutional contact/representative: Jeff Stafford (608-266-4733)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
998	1790	F	17	Magadi	HOLD	MADISON	DO NOT BREED		
1108	1784	m	26	Casey	HOLD	MADISON	DO NOT BREED		
1109	1785	F	25	Cooky	HOLD	MADISON	DO NOT BREED		

Summary:

Pre-plan: 1 male, 2 females

Post-plan: 1 male, 2 females

Notes:

- Maintain non-breeding group of 1.2

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

MANHATTAN

Sunset Zoo

Manhattan, KS

Institutional contact/representative: Regan Slonecker (785-587-2737)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
142	002474	F	54	Susie	HOLD	MANHATTAN	DO NOT BREED		excluded
665	90001	M	30	Julian	HOLD	MANHATTAN	BREED WITH	995	
882	980002	F	21	Hazina	HOLD	MANHATTAN	DO NOT BREED		postpartum
995	200405	F	16	Hususa	HOLD	MANHATTAN	BREED WITH	665	
1074		F	0		HOLD	MANHATTAN	DO NOT BREED		

Summary:

Pre-plan: 1 male, 4 females

Post-plan: 1 male, 4 females

Notes:

- Breeding recommendation for 665 Julian and 995 Hususa – timing dependent on progress of rearing of Hazina’s new baby

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

METROZOO

Miami Metrozoo

Miami, FL

Institutional contact/representative: Conrad Schmidt (305-251-0400 x243)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
748	M00032	F	26	Binti	HOLD	METROZOO	DO NOT BREED		excluded
972	M01240	s	18	Bocco	HOLD	METROZOO	DO NOT BREED		excluded
973	M01345	s	18	Niger	HOLD	METROZOO	DO NOT BREED		excluded
1046	M01740	s	14	Hondo	HOLD	METROZOO	DO NOT BREED		excluded
250	M00018	F	41	Bubbles	HOLD	METROZOO	DO NOT BREED		
448	931	F	39	Samantha	HOLD	METROZOO	DO NOT BREED		
1086	Y2M034	M	6	Ben	HOLD	METROZOO	DO NOT BREED		

Summary:

Pre-plan: 4 males, 3 females

Post-plan: 4 males, 3 females

Notes:

- Maintain non-breeding group of 4.3

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

MONTGOMRY

Montgomery Zoo

Montgomery, AL

Institutional contact/representative: Ken Naugher (334-354-6361)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
752	1418	s	26	Chester	HOLD	MONTGOMRY	DO NOT BREED		excluded
792	1390	F	24	Lihso	HOLD	MONTGOMRY	DO NOT BREED		
878	1999	F	20	Sesa	HOLD	MONTGOMRY	DO NOT BREED		excluded
1087	2290	s	11	John Paul	HOLD	MONTGOMRY	DO NOT BREED		excluded
1088	2648	F	9	Betty Lou	HOLD	MONTGOMRY	DO NOT BREED		excluded
1145	1723	s	51	Snika	HOLD	MONTGOMRY	DO NOT BREED		excluded

Summary:

Pre-plan: 2 males, 4 females

Post-plan: 2 males, 4 females

Notes:

- Maintain a non-breeding group of 2.4

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

OAKLAND

Oakland Zoo

Oakland, CA

Institutional contact/representative: Danielle Stith (510-632-9525)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
771	578	s	25	Abigail	HOLD	OAKLAND	DO NOT BREED		excluded
1042	1032	F	13	Amira	SEND TO	LITTLEROC	DO NOT BREED		
1043	1036	F	13	Caramia	HOLD	OAKLAND	DO NOT BREED		excluded
1090	1090	M	15	Moses	HOLD	OAKLAND	DO NOT BREED		excluded
1091	1089	F	16	Andi	HOLD	OAKLAND	DO NOT BREED		excluded

Summary:

Pre-plan: 1 male, 4 females

Post-plan: 1 male, 3 females

Notes:

- Transfer 1042 Amira to Little Rock for future breeding and to gain infant rearing experience
- Maintain non-breeding group of 1.3

Draft for 30-day review period by institutional representatives – please respond by Oct 24

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OKLAHOMA

Oklahoma City Zoological Park

Oklahoma City, OK

Institutional contact/representative: Jennifer Davis (405-607-2320)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
427	773709	s	40	Cindy	HOLD	OKLAHOMA	DO NOT BREED		excluded
543	773810	M	37	Jackson	HOLD	OKLAHOMA	DO NOT BREED		excluded
566	773911	f	36	Baby Face	HOLD	OKLAHOMA	DO NOT BREED		excluded
760	612003	F	26	Abby	SEND TO	BUSCH TAM	DO NOT BREED		excluded
781	613005	M	25	Mr. C	SEND TO	BUSCH TAM	DO NOT BREED		
827	613106	M	23	Qadeer	HOLD	OKLAHOMA	DO NOT BREED		
879	612104	F	22	Kito	HOLD	OKLAHOMA	BREED WITH	917	
917	770007	M	20	Mwami	HOLD	OKLAHOMA	BREED WITH	879	
1003	772008	F	16	Chloe	HOLD	OKLAHOMA	SEE NOTES		pregnant

Summary:

Pre-plan: 4 males, 5 females

Post-plan: 3 males, 4 females + baby

Notes:

- Move 781 Mr.C and 760 Abby to Busch Gardens for breeding possibilities and social stability
- Monitor 1003 Chloe's pregnancy and further female additions may be possible in the near future

Draft for 30-day review period by institutional representatives – please respond by Oct 24

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PORTLAND

Oregon Zoo

Portland, OR

Institutional contact/representative: Dave Thomas (503-226-1561 x283)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
128	0835	F	56	Coco	HOLD	PORTLAND	DO NOT BREED		excluded
456	1221	s	39	Chloe	HOLD	PORTLAND	DO NOT BREED		excluded
485	1021	M	38	Charlie	HOLD	PORTLAND	DO NOT BREED		
583	1143	F	35	Delilah	HOLD	PORTLAND	DO NOT BREED		
610	1219	F	34	Leah	HOLD	PORTLAND	DO NOT BREED		

Summary:

Pre-plan: 1 male, 4 females

Post-plan: 1 male, 4 females

Notes:

- The SSP will coordinate with Oregon to form a long-term plan for this institution and determine the restrictions and capabilities of the facility for future introductions.
- 485 Charlie is very genetically valuable and will be considered for a breeding situation in the future

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

RIO GRAND

Albuquerque Biological Park

Albuquerque, NM

Institutional contact/representative: Lynn Tupa (505-764-6216)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
1135	M02024	F	36	Bernice	HOLD	RIO GRAND	DO NOT BREED		
1136	M02025	F	32	Elaine	HOLD	RIO GRAND	DO NOT BREED		
1137	M02026	F	31	Gari	HOLD	RIO GRAND	DO NOT BREED		
1138	M02027	M	21	Alf	HOLD	RIO GRAND	DO NOT BREED		
1139	M02028	F	27	Tracey	HOLD	RIO GRAND	DO NOT BREED		
1140	M02029	F	10	Leia	HOLD	RIO GRAND	DO NOT BREED		
1141	M02030	F	9	Gerri	HOLD	RIO GRAND	DO NOT BREED		
1142	M02031	M	8	Thunder	HOLD	RIO GRAND	DO NOT BREED		
1143	M02032	F	8	Rainey	HOLD	RIO GRAND	DO NOT BREED		
1144	M02033	F	8	Babbett	HOLD	RIO GRAND	DO NOT BREED		
1163	M07003	F	1	Kianga	HOLD	RIO GRAND	DO NOT BREED		

Summary:

Pre-plan: 2 males, 9 females

Post-plan: 2 males, 9 females

Notes:

- Females 1137 Gari and 1139 Tracey are genetically valuable and will be considered for breeding situation in the future.
- Many of the individuals in this group are excluded from the breeding population due to unknownness. If animal record research provides sufficient information, some of the individuals could be added back into the breeding population and possibly receive breeding recommendations in the future.
- Maintain a non-breeding group of 2.9

Draft for 30-day review period by institutional representatives – please respond by Oct 24

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ROLLING H

Rolling Hills Refuge Wildl.Cons.Center

Salina, KS

Institutional contact/representative: Sandy Walker (785-827-9488)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
1094	08B97	M	27	Tohlo	HOLD	ROLLING H	DO NOT BREED		
1095	08C97	M	30	Shudak	HOLD	ROLLING H	DO NOT BREED		
1096	08D97	s	27	Auli	HOLD	ROLLING H	DO NOT BREED		excluded

Summary:

Pre-plan: 3 males, 0 females

Post-plan: 3 males, 0 females

Notes:

- Maintain non-breeding group of 3.0
- Continue to communicate with the SSP in terms of the timing of new exhibit plans. Advance notice of the timing of the new exhibit will be essential in planning for necessary transfers.

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

SACRAMNTO

Sacramento Zoo

Sacramento, CA

Institutional contact/representative: Leslie Field (916-808-5013)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
1089	_____	M	7	Dougie	HOLD	SACRAMNTO	DO NOT BREED		
276	100082	M	45	Joey	HOLD	SACRAMNTO	DO NOT BREED		excluded
295	100737	F	44	Josie	HOLD	SACRAMNTO	DO NOT BREED		excluded
969	101004	M	19	Pablo	HOLD	SACRAMNTO	DO NOT BREED		
991	100997	F	17	Amelia	HOLD	SACRAMNTO	DO NOT BREED		
1097	101028	F	8	Maria	HOLD	SACRAMNTO	DO NOT BREED		

Summary:

Pre-plan: 3 males, 3 females

Post-plan: 3 males, 3 females

Notes:

- For now, maintain non-breeding group of 3.3

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

SAN FRAN

San Francisco Zoological Gardens

San Francisco, CA

Institutional contact/representative: David Bochian

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
186	16816	M	50	Cobby	HOLD	SAN FRAN			
214	1679	s	49	Tallulah	HOLD	SAN FRAN			excluded
446	1708	F	39	Maggie	HOLD	SAN FRAN			excluded
447	1707	F	39	Minnie	HOLD	SAN FRAN			excluded

Summary:

Pre-plan: 1 male, 3 females

Post-plan: 1 male, 3 females

Notes:

- Three individuals are highly genetically valuable but given facility issues and reproductive histories, no transfers are recommended at this time.

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

SCOTTSBLU

Riverside Zoo

Scottsbluff, NE

Institutional contact/representative: Joe Clawson (308-630-6236)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
341	485	M	43	Jack	HOLD	SCOTTSBLU	DO NOT BREED		excluded
459	738	F	39	Sarah	HOLD	SCOTTSBLU	DO NOT BREED		excluded
823	725	F	24	Baby Jane	HOLD	SCOTTSBLU	DO NOT BREED		
1016	677	M	16	Scooter	HOLD	SCOTTSBLU	DO NOT BREED		excluded
1092	1208	F	8	Millie	HOLD	SCOTTSBLU	DO NOT BREED		

Summary:

Pre-plan: 2 males, 4 females

Post-plan: 2 males, 4 females

Notes:

- 823 Baby Jane and 1092 Millie are genetically valuable and will be considered for breeding situations in the future.
- Contracept all females to maintain non-breeding status.

Draft for 30-day review period by institutional representatives – please respond by Oct 24

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SEDGWICK

Sedgwick County Zoo

Wichita, KS

Institutional contact/representative: Mike Quick (316 266 8237)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
474	SM63	M	39	Marbles	HOLD	SEDGWICK	BREED WITH	475	
475	SM57	F	38	Audra	HOLD	SEDGWICK	BREED WITH	474	
511	8774	F	37	Tammy	HOLD	SEDGWICK	DO NOT BREED		excluded
653	916	M	31	Gomez	HOLD	SEDGWICK	DO NOT BREED		
820	1828	s	24	Mwana	HOLD	SEDGWICK	DO NOT BREED		excluded
876	899	F	21	Bea	HOLD	SEDGWICK	DO NOT BREED		excluded
1051	7237	M	13	Moshi	HOLD	SEDGWICK	DO NOT BREED		
1057	7824	F	11	Sukari	HOLD	SEDGWICK	DO NOT BREED		

Summary:

Pre-plan: 4 males, 3 females

Post-plan: 4 males, 3 females

Notes:

- Standing breeding recommendation for 474 Marbles and 475 Audra
- Work with Maryland Zoo to determine parentage for 1154 Asali

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

SOUTHBEND

Potawatomi Zoo

South Bend, IN

Institutional contact/representative: Dan Powell (219-235-9800)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
661	92020	M	30	Sammy	SEND TO	JOHN BALL	BREED WITH	462, 819, 892	
885	87003	F	21	Jody	SEND TO	JOHN BALL	DO NOT BREED		excluded

Summary:

Pre-plan: 1 male, 1 female

Post-plan: 0 males, 0 females

Notes:

- Per 2007 recommendations, transfer 661 Sammy and 885 Jody to John Ball in Fall 2008 where both will have breeding recommendations
- Following the transfers, Potawatomi should notify the SSP regarding the future intentions for this species and if they want to remain part of the SSP as non-holding members.

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

ST LOUIS

St. Louis Zoological Park

St. Louis, MO

Institutional contact/representative: Ingrid Porton (314-781-0900 x358)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
375	940105	M	41	Smoke	HOLD	ST LOUIS	BREED WITH	515, 1065	
515	62937	F	38	Rosebud	HOLD	ST LOUIS	BREED WITH	375, 1001, 1010	
574	874915	F	35	Beauty	HOLD	ST LOUIS	DO NOT BREED		excluded
1001	940302	M	16	Jimiyu	HOLD	ST LOUIS	BREED WITH	515, 1065	
1008	941706	F	16	Mlinzi	HOLD	ST LOUIS	DO NOT BREED		
1010	930544	M	15	Hugo	HOLD	ST LOUIS	BREED WITH	515, 1065	
1020	940809	F	14	Cinders	HOLD	ST LOUIS	DO NOT BREED		
1064	980753	F	10	Holly	HOLD	ST LOUIS	DO NOT BREED		excluded
1065	980754	F	10	Bakhari	HOLD	ST LOUIS	BREED WITH	375, 1001, 1010	
1085	62938	F	7	Utamu	HOLD	ST LOUIS	DO NOT BREED		
1148		F	6	Tammy	HOLD	ST LOUIS	DO NOT BREED		excluded

Summary:

Pre-plan: 3 males, 8 females

Post-plan: 3 males, 8 females

Notes:

- Breeding recommendations for all three males (375, 1001, 1010) with selected females (1065 and 515). All other females should be contracepted.

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

TOLEDO

Toledo Zoological Gardens

Toledo, OH

Institutional contact/representative: Glenous Favata

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
224	63	M	49	Harvey	HOLD	TOLEDO	DO NOT BREED		excluded
228	64	F	48	Fifi	HOLD	TOLEDO	DO NOT BREED		excluded

Summary:

Pre-plan: 1 male, 1 female

Post-plan: 1 male, 1 female

Notes:

- Maintain non-breeding group of 1.1
- Work with the SSP to develop an exit strategy in the case of a death leaving the institution with a single chimpanzee

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

TULSA

Tulsa Zoo and Living Museum

Tulsa, OK

Institutional contact/representative: Pat Murphy (918-669-6230)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
472	1839	F	37	Suzy	HOLD	TULSA	DO NOT BREED		
568	2461	F	34	Jodi	HOLD	TULSA	DO NOT BREED		
859	8074	s	22	Morris	HOLD	TULSA	DO NOT BREED		excluded
982	10066	F	18	Hope	HOLD	TULSA	DO NOT BREED		
990	10257	M	17	Alvin	HOLD	TULSA	DO NOT BREED		
1164	15327	F	1	Vindi	HOLD	TULSA	DO NOT BREED		
1169	15407	M	1	Bernsen	HOLD	TULSA	DO NOT BREED		

Summary:

Pre-plan: 3 males, 5 females

Post-plan: 3 males, 5 females

Notes:

- Continue to monitor development of youngsters Vindi (1164) and Bernsen (1169) and maintain contraception on all females.

Draft for 30-day review period by institutional representatives – please respond by Oct 24

PLEASE NOTE: INSTITUTIONS HOLDING ANIMALS WITHOUT BREEDING RECOMMENDATIONS ARE RESPONSIBLE FOR ENSURING THAT PROPER CONTRACEPTIVE STRATEGIES ARE IN PLACE.

W PALM BE

Lion Country Safari Inc - Florida

Loxahatchee, FL

Institutional contact/representative: Terry Wolf (561-793-1084 x350)

ID	Local ID	Sex	Age	Name	Disposition	Location	Breeding	With	Notes
110	350	F	70	Little Mama	HOLD	W PALM BE	DO NOT BREED		
277	351	s	45	Whitey	HOLD	W PALM BE	DO NOT BREED		
343	357	s	38	Bashful	HOLD	W PALM BE	DO NOT BREED		
424	50	s	40	Doll	HOLD	W PALM BE	DO NOT BREED		
425	60	s	41	Swing	HOLD	W PALM BE	DO NOT BREED		
439	354	F	40	Melody	HOLD	W PALM BE	DO NOT BREED		
471	364	F	39	Cindy	HOLD	W PALM BE	DO NOT BREED		
480	49	s	38	Cooper	HOLD	W PALM BE	DO NOT BREED		
554	375	F	37	Gin	HOLD	W PALM BE	DO NOT BREED		
582	360	s	35	Higgy	HOLD	W PALM BE	DO NOT BREED		
603	361	s	35	Peter	HOLD	W PALM BE	DO NOT BREED		
710	376	s	28	Elgin	HOLD	W PALM BE	DO NOT BREED		
737	371	F	27	Luna	HOLD	W PALM BE	DO NOT BREED		
759	382	F	26	Sabrina	HOLD	W PALM BE	DO NOT BREED		
762	377	s	26	Ian	HOLD	W PALM BE	DO NOT BREED		
830	390	F	23	Tonic	HOLD	W PALM BE	DO NOT BREED		
974	2000	s	18	Figment	HOLD	W PALM BE	DO NOT BREED		
975	1098	s	18	Dandy	HOLD	W PALM BE	DO NOT BREED		
1033	950252	F	13	Orbit	HOLD	W PALM BE	DO NOT BREED		
1034	950254	F	13	Janice	HOLD	W PALM BE	DO NOT BREED		
1075	970063	F	11	Juniper	HOLD	W PALM BE	DO NOT BREED		
1128	990139	F	9	Irene	HOLD	W PALM BE	DO NOT BREED		
1146	D003	M	6	Bamboo	HOLD	W PALM BE	DO NOT BREED		
1156	F069	F	3	Olive	HOLD	W PALM BE	DO NOT BREED		
1157	F077	F	3	Noel	HOLD	W PALM BE	DO NOT BREED		

Summary:

Pre-plan: 9 males, 17 females (4 groups)

Post-plan: 9 males, 17 females (3 groups)

Notes

- Continue integration of groups 2 and 3. The SSP is available to provide consultation for the introduction process.

Appendix A

Summary of Data Exports

Project: chimp08
Report compiled under Population Management 2000, version 1.212
10:24:53 AM, 7/14/2008
Comments: created for LPZ SSP meeting

Date to be used for calculations: 7/14/2008
Studbook information:
Data exported on: 7/14/2008
Data compiled by: Steve Ross
Contact info: Lincoln Park Zoo ross@lpzoo.org
Data current thru: 7/8/2008
Scope of data: NORTH AMERICAN REGIONAL

Demographic data from: C:\Program Files\PopLink 1.3\PopLink Databases\Chimp08\mChimp08.prn and
C:\Program Files\PopLink 1.3\PopLink Databases\Chimp08\fChimp08.prn
Demographic filter conditions: Association = AZA.FED During 1/1/1975 - 7/14/2008 Status = Living

Genetic data from: C:\Program Files\PopLink 1.3\PopLink Databases\Chimp08\Chimp08.ped
Genetic filter conditions: Association = AZA.FED As of 7/14/2008 Status = Living

Appendix B

Individuals Excluded from the Analytical Population

Some animals excluded in previous years have been included in the analyses as a result of new pedigree information. The SSP encourages institutions housing individuals with unknownness in their pedigree to research the animals' pedigrees in order to clarify their origins and enable their inclusion in the genetic analyses and the breeding population.

ID	Institution	Reason
1084	ASHEBORO	75% known pedigree
1166	ASHEBORO	0% known pedigree
571	ASHEBORO	0% known pedigree
876	SEDGWICK	50% known pedigree
1077	ASHEBORO	50%known pedigree
622	ASHEBORO	behavioral
516	ASHEBORO	sterile
449	ASHEBORO	sterile; 0% known pedigree
1027	BALTIMORE	50% known pedigree
1154	BALTIMORE	50% known pedigree
1025	BALTIMORE	75% known pedigree
721	BALTIMORE	sterile; 50% known pedigree
638	BROWNSVIL	0% known pedigree; behavioral exclusion
506	BROWNSVIL	sterile
617	BROWNSVIL	sterile; 0% known pedigree, behavioral nonbreeder
258	BUSCH TAM	Sterile
259	BUSCH TAM	Sterile
993	BUSCH TAM	Sterile
857	Chattanooga	50% known pedigree
1107	Chattanooga	Sterile
649	Chattanooga	50%known pedigree
1029	CHICAGOLP	0%known pedigree
1076	CHICAGOLP	0%known pedigree; sterile
1119	CHICAGOLP	25%known pedigree
1129	CHICAGOLP	25%known pedigree
813	CHICAGOLP	50%known pedigree
976	CHICAGOLP	50%known pedigree
371	CHICAGOLP	50%known pedigree; health
304	CHICAGOLP	Reproductive History
185	CHICAGOLP	Sterile
979	CHICAGOLP	Sterile; 0%known pedigree
212	DALLAS	0%known pedigree
828	DALLAS	50%known pedigree
962	DALLAS	50%known pedigree; vasectomized
923	DETROIT	sterile
774	DETROIT	50%known pedigree
1047	DETROIT	75%known pedigree
630	FORTWORTH	Sterile
922	FORTWORTH	Sterile; 75%known pedigree
986	FORTWORTH	Sterile;

ID	Institution	Reason
450	JACKSON	Sterile
659	JACKSON	Sterile
1068	JOHN BALL	50% known pedigree
502	JOHN BALL	Sterile; 0% known pedigree
1061	KANSASCTY	75%known pedigree
1170	KANSASCTY	75%known pedigree
273	KANSASCTY	health
967	KNOXVILLE	behavioral exclusion
532	KNOXVILLE	0% known pedigree
847	KNOXVILLE	50% known pedigree
601	KNOXVILLE	0% known pedigree
134	LITTLEROC	Sterile
963	LOSANGELE	Sterile
834	LOSANGELE	sterile
1074	LOWRY	0%known pedigree
257	LOWRY	Sterile
998	Madison	behavioral exclusion
1109	MADISON	0%known pedigree
1108	MADISON	50%known pedigree
142	MANHATTAN	0%known pedigree
748	METROZOO	50%known pedigree
972	METROZOO	Sterile
973	METROZOO	Sterile
1046	METROZOO	Sterile; 75%known pedigree
878	MONTGOMRY	50%known pedigree
1088	MONTGOMRY	75%known pedigree
752	MONTGOMRY	Sterile
1087	MONTGOMRY	Sterile
1145	MONTGOMRY	Sterile; 0%known pedigree
1090	OAKLAND	0%known pedigree
1091	OAKLAND	0%known pedigree
771	OAKLAND	sterile
1043	OAKLAND	blind
543	OKLAHOMA	behavioral exclusion
566	JACKSONVL	0%known pedigree; sterile
427	JACKSONVL	sterile
760	OKLAHOMA	50%known pedigree
128	PORTLAND	Reproductive History; age
456	PORTLAND	Sterile; 0%known pedigree
1135	RIO GRAND	0%known pedigree
1138	RIO GRAND	0%known pedigree
1140	RIO GRAND	0%known pedigree

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ID	Institution	Reason
1142	RIO GRAND	0%known pedigree
1143	RIO GRAND	0%known pedigree
1144	RIO GRAND	0%known pedigree
1163	RIO GRAND	0%known pedigree
1136	RIO GRAND	50%known pedigree
1141	RIO GRAND	50%known pedigree
1096	ROLLING H	Sterile
276	SACRAMNTO	behavioral exclusion
295	SACRAMNTO	behavioral exclusion; 0% known pedigree
446	SAN FRAN	behavioral exclusion; Reproductive History
447	SAN FRAN	behavioral exclusion; Reproductive History
214	SAN FRAN	Sterile
1016	SCOTTSSBLU	50%known pedigree
459	SCOTTSSBLU	behavioral exclusion
341	SCOTTSSBLU	behavioral exclusion; Reproductive History
511	SEDGWICK	0 %known pedigree
820	SEDGWICK	sterile
885	SOUTHBEND	Health
1148	ST LOUIS	0%known pedigree
1064	ST LOUIS	50%known pedigree
574	ST LOUIS	behavioral exclusion; Reproductive History
224	TOLEDO	behavioral exclusion; Reproductive History
228	TOLEDO	behavioral exclusion; Reproductive History
859	TULSA	Reproductive History

ID	Institution	Reason
1146	W PALM BE	%known pedigree
471	W PALM BE	0%known pedigree
554	W PALM BE	0%known pedigree
830	W PALM BE	0%known pedigree
1034	W PALM BE	0%known pedigree
1075	W PALM BE	0%known pedigree
1128	W PALM BE	0%known pedigree
1156	W PALM BE	0%known pedigree
1157	W PALM BE	0%known pedigree
439	W PALM BE	50%known pedigree
1033	W PALM BE	50%known pedigree
759	W PALM BE	75%known pedigree
110	W PALM BE	Reproductive History/Age
277	W PALM BE	Sterile
343	W PALM BE	Sterile
424	W PALM BE	Sterile
425	W PALM BE	Sterile
480	W PALM BE	Sterile
710	W PALM BE	Sterile
762	W PALM BE	Sterile
974	W PALM BE	Sterile
975	W PALM BE	Sterile
582	W PALM BE	Sterile; 0%known pedigree
603	W PALM BE	Sterile; 0%known pedigree
960	Honolulu	
569	Honolulu	

Appendix C Life Tables

Males

Age (x)	Qx	Px	lx	Mx	Vx	Ex	Risk (Qx)	Risk (Mx)
0	0.300	0.700	1.000	0.000	1.176	26.179	198.600	143.3
1	0.020	0.980	0.700	0.000	1.458	30.884	137.000	134.3
2	0.020	0.980	0.686	0.000	1.504	30.494	132.200	131.7
3	0.010	0.990	0.672	0.000	1.543	29.944	138.800	137.4
4	0.010	0.990	0.666	0.000	1.575	29.237	137.300	137
5	0.010	0.990	0.659	0.000	1.608	28.522	143.900	143.5
6	0.010	0.990	0.652	0.010	1.641	27.800	139.200	138.4
7	0.040	0.960	0.646	0.070	1.691	27.485	135.500	131.2
8	0.040	0.960	0.620	0.070	1.706	27.588	131.500	127.8
9	0.010	0.990	0.595	0.100	1.696	27.279	122.500	121.7
10	0.020	0.980	0.589	0.110	1.638	26.678	120.900	120.4
11	0.010	0.990	0.577	0.100	1.567	26.071	113.200	112.5
12	0.030	0.970	0.572	0.120	1.513	25.581	115.300	114.7
13	0.010	0.990	0.555	0.100	1.437	25.087	112.000	111
14	0.000	1.000	0.549	0.100	1.358	24.208	106.900	106.9
15	0.060	0.940	0.549	0.130	1.310	23.926	104.700	100.4
16	0.000	1.000	0.516	0.080	1.231	23.658	99.800	99.8
17	0.040	0.960	0.516	0.130	1.187	23.120	99.800	98.6
18	0.010	0.990	0.495	0.130	1.096	22.694	87.900	87.7
19	0.000	1.000	0.490	0.110	0.981	21.804	82.100	82.1
20	0.040	0.960	0.490	0.110	0.898	21.228	83.200	81.3
21	0.030	0.970	0.471	0.090	0.825	20.964	79.400	78.2
22	0.010	0.990	0.457	0.060	0.758	20.375	75.500	75
23	0.030	0.970	0.452	0.150	0.720	19.769	74.100	73.4
24	0.040	0.960	0.439	0.050	0.597	19.449	69.100	67.7
25	0.020	0.980	0.421	0.070	0.570	19.023	65.100	64.6
26	0.030	0.970	0.413	0.070	0.518	18.484	63.800	62.5
27	0.020	0.980	0.400	0.040	0.465	17.934	60.000	59.3
28	0.050	0.950	0.392	0.030	0.445	17.545	57.200	55.3
29	0.020	0.980	0.373	0.030	0.434	17.152	52.500	51.9
30	0.000	1.000	0.365	0.030	0.413	16.317	46.500	46.5
31	0.040	0.960	0.365	0.040	0.395	15.630	45.400	44.9
32	0.070	0.930	0.351	0.100	0.379	15.476	42.500	40.5
33	0.030	0.970	0.326	0.030	0.297	15.250	37.200	36.8
34	0.030	0.970	0.316	0.030	0.278	14.691	35.500	35.3
35	0.060	0.940	0.307	0.000	0.263	14.332	33.400	32
36	0.000	1.000	0.288	0.030	0.274	13.758	30.700	30.7
37	0.070	0.930	0.288	0.020	0.256	13.220	29.000	28.1
38	0.000	1.000	0.268	0.020	0.247	12.680	22.900	22.9
39	0.050	0.950	0.268	0.020	0.235	11.980	22.000	21.1
40	0.000	1.000	0.255	0.000	0.223	11.269	19.700	19.7
41	0.110	0.890	0.255	0.030	0.239	10.866	19.000	17.9
42	0.000	1.000	0.227	0.000	0.224	10.476	16.000	16
43	0.070	0.930	0.227	0.080	0.235	9.820	14.900	14
44	0.080	0.920	0.211	0.000	0.169	9.533	13.000	13
45	0.090	0.910	0.194	0.050	0.186	9.324	11.100	10.6
46	0.000	1.000	0.177	0.000	0.145	8.735	9.000	9
47	0.000	1.000	0.177	0.060	0.146	7.735	9.000	9
48	0.110	0.890	0.177	0.000	0.092	7.127	9.000	8.7
49	0.000	1.000	0.157	0.000	0.099	6.506	7.000	7
50	0.000	1.000	0.157	0.100	0.100	5.506	5.100	5.1
51	0.200	0.800	0.157	0.000	0.000	5.007	5.000	4
52	0.000	1.000	0.126	0.000	0.000	4.508	4.000	4
53	0.250	0.750	0.126	0.000	0.000	4.009	4.000	3.2
54	0.000	1.000	0.094	0.000	0.000	3.510	3.000	3
55	0.330	0.670	0.094	0.000	0.000	3.006	3.000	2.7
56	0.500	0.500	0.063	0.000	0.000	3.333	2.000	1.9
57	0.000	1.000	0.032	0.000	0.000	3.500	1.000	1
58	0.000	1.000	0.032	0.000	0.000	2.500	1.000	1
59	0.000	1.000	0.032	0.000	0.000	1.500	1.000	1
60	1.000	0.000	0.032	0.000	0.000	1.000	1.000	1

r = 0.0105
lambda = 1.0106
T = 18.51
N = 94.50
N(at 20 yrs) = 116.64

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Females

Age (x)	Qx	Px	lx	Mx	Vx	Ex	Risk (Qx)	Risk (Mx)
0	0.250	0.750	1.000	0.000	1.143	32.423	224.800	176.6
1	0.060	0.940	0.750	0.000	1.374	37.794	175.500	168.3
2	0.010	0.990	0.705	0.000	1.425	38.159	168.300	167.1
3	0.010	0.990	0.698	0.000	1.439	37.535	168.900	167.7
4	0.000	1.000	0.691	0.000	1.447	36.719	169.000	169
5	0.020	0.980	0.691	0.010	1.461	36.080	176.900	174.2
6	0.010	0.990	0.677	0.010	1.473	35.616	180.300	179.1
7	0.010	0.990	0.670	0.020	1.478	34.966	183.300	182.5
8	0.020	0.980	0.664	0.060	1.480	34.482	186.300	184.4
9	0.010	0.990	0.650	0.050	1.441	33.994	177.300	176.4
10	0.020	0.980	0.644	0.090	1.412	33.495	182.600	181.1
11	0.020	0.980	0.631	0.070	1.349	33.159	186.100	184.2
12	0.010	0.990	0.618	0.070	1.298	32.650	186.600	186.2
13	0.010	0.990	0.612	0.060	1.241	31.970	183.000	182
14	0.010	0.990	0.606	0.060	1.192	31.282	171.800	170.4
15	0.020	0.980	0.600	0.070	1.149	30.743	167.200	166.4
16	0.020	0.980	0.588	0.060	1.101	30.350	161.100	160
17	0.010	0.990	0.576	0.050	1.057	29.798	154.200	153.1
18	0.010	0.990	0.571	0.050	1.017	29.089	150.700	150.4
19	0.010	0.990	0.565	0.040	0.977	28.373	149.100	148.5
20	0.000	1.000	0.559	0.040	0.941	27.511	146.900	146.9
21	0.010	0.990	0.559	0.030	0.906	26.644	141.500	140.4
22	0.020	0.980	0.554	0.070	0.889	26.034	134.100	132.7
23	0.020	0.980	0.542	0.060	0.836	25.545	125.500	123.8
24	0.020	0.980	0.532	0.040	0.791	25.046	116.400	115.4
25	0.020	0.980	0.521	0.060	0.767	24.537	111.200	110.3
26	0.010	0.990	0.511	0.050	0.717	23.896	107.600	107.5
27	0.030	0.970	0.505	0.020	0.681	23.363	104.400	102.3
28	0.010	0.990	0.490	0.040	0.674	22.822	97.200	96.3
29	0.010	0.990	0.485	0.020	0.641	22.043	95.100	94.3
30	0.000	1.000	0.481	0.040	0.624	21.149	94.300	94.3
31	0.020	0.980	0.481	0.030	0.590	20.353	92.900	92
32	0.050	0.950	0.471	0.040	0.580	20.051	87.600	85.7
33	0.030	0.970	0.447	0.020	0.562	19.851	79.900	78.6
34	0.010	0.990	0.434	0.050	0.553	19.238	71.800	71.1
35	0.010	0.990	0.430	0.030	0.508	18.422	67.200	67
36	0.020	0.980	0.425	0.020	0.486	17.687	62.900	62.6
37	0.070	0.930	0.417	0.020	0.487	17.469	56.300	53.4
38	0.020	0.980	0.388	0.030	0.490	17.261	46.800	46.6
39	0.000	1.000	0.380	0.000	0.464	16.427	37.500	37.5
40	0.060	0.940	0.380	0.020	0.479	15.905	32.800	31.4
41	0.040	0.960	0.357	0.040	0.483	15.694	27.400	26.8
42	0.080	0.920	0.343	0.000	0.471	15.625	25.700	25.2
43	0.000	1.000	0.315	0.020	0.491	15.261	22.000	22
44	0.000	1.000	0.315	0.000	0.471	14.261	19.100	19.1
45	0.060	0.940	0.315	0.000	0.486	13.671	17.100	16.9
46	0.070	0.930	0.296	0.000	0.520	13.550	14.700	14.5
47	0.140	0.860	0.276	0.040	0.580	14.002	14.000	12.6
48	0.090	0.910	0.237	0.000	0.611	14.723	11.000	10.6
49	0.110	0.890	0.216	0.000	0.678	15.240	8.800	8.3
50	0.140	0.860	0.192	0.080	0.774	16.258	7.000	6.5
51	0.000	1.000	0.165	0.000	0.751	16.500	4.100	4.1
52	0.000	1.000	0.165	0.000	0.751	15.500	4.000	4
53	0.000	1.000	0.165	0.000	0.751	14.500	4.000	4
54	0.000	1.000	0.165	0.000	0.751	13.500	3.000	3
55	0.000	1.000	0.165	0.000	0.751	12.500	3.000	3
56	0.000	1.000	0.165	0.000	0.750	11.500	2.000	2
57	0.000	1.000	0.165	0.000	0.750	10.500	2.000	2
58	0.000	1.000	0.165	0.000	0.750	9.500	2.000	2
59	0.000	1.000	0.165	0.250	0.750	8.500	2.000	2
60	0.000	1.000	0.165	0.000	0.500	7.500	2.000	2
61	0.000	1.000	0.165	0.250	0.500	6.500	2.000	2
62	0.000	1.000	0.165	0.250	0.250	5.500	2.000	2
63	0.000	1.000	0.165	0.000	0.000	4.500	2.000	2
64	0.500	0.500	0.165	0.000	0.000	4.667	2.000	1.5
65	0.000	1.000	0.083	0.000	0.000	5.500	1.000	1
66	0.000	1.000	0.083	0.000	0.000	4.500	1.000	1
67	0.000	1.000	0.083	0.000	0.000	3.500	1.000	1
68	0.000	1.000	0.083	0.000	0.000	2.500	1.000	1
69	0.000	1.000	0.083	0.000	0.000	1.500	1.000	1

Appendix D Ordered Mean Kinship

Note: This list is current to July 2008 and values are subject to change with any birth, death, import, export, inclusion, or exclusion.
Population MK as of July 2008 = 0.0119

Males				Females			
ID	MK	Age	Location	ID	MK	Age	Location
186	0	50	SAN FRAN	272	0	45	KANSASCTY
485	0.004	38	PORTLAND	462	0	39	JOHN BALL
670	0.004	29	KNOXVILLE	521	0	37	DETROIT
1095	0.004	30	ROLLING H	433	0.002	40	JACKSON
1093	0.005	37	ROLLING H	588	0.002	34	ASHEBORO
375	0.007	41	ST LOUIS	639	0.002	33	KNOXVILLE
917	0.007	20	OKLAHOMA	507	0.003	37	ASHEBORO
804	0.008	24	DETROIT	492	0.004	38	DETROIT
1063	0.008	12	DALLAS	494	0.004	38	LITTLEROC
1073	0.008	10	BALTIMORE	515	0.004	38	ST LOUIS
1094	0.008	27	ROLLING H	568	0.004	34	TULSA
474	0.009	39	SEDGWICK	737	0.004	27	W PALM BE
1052	0.01	13	DETROIT	1100	0.004	9	LOSANGELE
1080	0.01	6	LITTLEROC	1137	0.004	31	RIO GRAND
1001	0.011	16	ST LOUIS	1139	0.004	27	RIO GRAND
1060	0.011	11	KANSASCTY	472	0.005	37	TULSA
1083	0.011	7	ASHEBORO	1024	0.006	20	BALTIMORE
1086	0.011	6	METROZOO	368	0.007	43	DALLAS
1089	0.011	7	MONTGOMRY	448	0.007	39	METROZOO
1169	0.011	1	TULSA	475	0.007	38	SEDGWICK
990	0.012	17	TULSA	509	0.007	38	HONOLULU
1079	0.012	8	BUSCH TAM	1042	0.007	13	OAKLAND
332	0.013	44	JACKSON	250	0.008	41	METROZOO
473	0.013	38	BROWNSVIL	785	0.008	25	ASHEBORO
665	0.013	30	MANHATTAN	831	0.008	23	CHATTANO
781	0.013	25	OKLAHOMA	1019	0.008	14	ASHEBORO
827	0.013	23	OKLAHOMA	1072	0.008	14	LITTLEROC
853	0.013	22	LITTLEROC	636	0.009	33	JACKSON
957	0.013	19	KANSASCTY	715	0.009	28	JACKSON
1004	0.013	16	LITTLEROC	720	0.009	28	LOWRY
1010	0.013	15	ST LOUIS	792	0.009	24	MONTGOMRY
1036	0.013	13	HONOLULU	819	0.009	24	JOHN BALL
1051	0.013	13	SEDGWICK	823	0.009	24	SCOTTSBLU
374	0.014	42	KANSASCTY	983	0.009	17	DETROIT
653	0.015	31	SEDGWICK	984	0.009	17	DETROIT
661	0.015	30	SOUTHBEND	1020	0.009	14	ST LOUIS
961	0.015	18	KANSASCTY	1022	0.009	36	BALTIMORE
969	0.015	19	SACRAMNTO	1026	0.009	16	BALTIMORE
1012	0.015	15	HONOLULU	1050	0.009	12	ASHEBORO
1035	0.015	14	HONOLULU	1065	0.009	10	ST LOUIS
1081	0.017	9	HONOLULU	1155	0.009	3	BALTIMORE
1054	0.019	14	LOSANGELE	545	0.01	37	BUSCH TAM
1055	0.02	12	LOSANGELE	635	0.01	33	FORTWORTH
909	0.021	20	LOSANGELE	687	0.01	29	HONOLULU
1099	0.021	9	LOSANGELE	879	0.01	22	OKLAHOMA
				892	0.01	21	JOHN BALL
				982	0.01	18	TULSA
				995	0.01	16	MANHATTAN
				1008	0.01	16	ST LOUIS
				1044	0.01	14	KANSASCTY
				1057	0.01	11	SEDGWICK
				1085	0.01	7	ST LOUIS

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Males				Females			
ID	MK	Age	Location	ID	MK	Age	Location
				1164	0.01	1	TULSA
				914	0.011	21	DALLAS
				1003	0.011	16	OKLAHOMA
				1071	0.011	9	JACKSON
				1158	0.011	2	BALTIMORE
				808	0.011	24	BROWNSVIL
				970	0.011	19	BROWNSVIL
				629	0.012	33	BUSCH TAM
				657	0.012	31	LOWRY
				891	0.012	21	DETROIT
				991	0.012	17	SACRAMNTO
				613	0.013	34	BUSCH TAM
				702	0.013	29	LOSANGELE
				716	0.013	28	CHICAGOLP
				811	0.013	24	KNOXVILLE
				821	0.013	24	KNOXVILLE
				882	0.013	21	MANHATTAN
				951	0.013	19	JACKSON
				1048	0.013	12	KANSASCTY
				1049	0.013	12	KANSASCTY
				1092	0.013	8	SCOTTSBLU
				784	0.013	25	BROWNSVIL
				890	0.013	21	BROWNSVIL
				1009	0.013	17	BROWNSVIL
				1015	0.015	15	KANSASCTY
				1102	0.015	8	KANSASCTY
				420	0.016	41	LOSANGELE
				583	0.016	35	PORTLAND
				610	0.016	34	PORTLAND
				634	0.016	33	CHATTANOG
				841	0.016	22	HONOLULU
				874	0.016	23	LOWRY
				883	0.016	21	KANSASCTY
				1097	0.016	8	SACRAMNTO
				780	0.017	25	LOSANGELE
				1056	0.017	9	KANSASCTY
				609	0.018	34	KANSASCTY
				954	0.018	19	DALLAS
				906	0.021	21	LOSANGELE
				964	0.021	18	LOSANGELE
				1067	0.023	9	LOSANGELE

Appendix E Definitions

Management Terms

SSP Master Plan – A document that provides complete breeding and transfer recommendations for a Species Survival Plan (SSP®) population. The document is based on genetic and demographic analyses with consideration of behavioral, social, and institutional wants and needs. A draft of the Master Plan must be published in the Members Only section of the AZA Web site for a 30-day comment period. After the Coordinator incorporates/responds to institutional comments, a final version of the Master Plan must be published in the Members Only section of the AZA Web site. SSP Participation by AZA institutions is required.

Full Participation – AZA policy stating that all AZA accredited institutions and certified related facilities having an SSP animal in their collection are required to participate in the SSP partnership process and abide by the recommendations of the SSP.

Population Management Plan (PMP)– A document that provides complete breeding and transfer recommendations for a PMP population. The document is based on genetic and demographic analyses with consideration of behavioral, social, and institutional wants and needs. A draft of the PMP must be published in the Members Only section of the AZA Web site for a 30-day comment period. After the PMP Manager incorporates/responds to institutional comments, a final version of the PMP must be published in the Members Only section of the AZA Web site. PMP Participation by AZA institutions is voluntary.

Demographic Terms

Age Distribution – A two-way classification showing the numbers or percentages of individuals in various age and sex classes.

Ex, Life Expectancy – Average years of further life for an animal in age class x.

Lambda (λ) or Population Growth Rate – The proportional change in population size from one year to the next. Lambda can be based on life-table calculations (the expected lambda) or from observed changes in population size from year to year. A lambda of 1.11 means a 11% per year increase; lambda of .97 means a 3% decline in size per year.

lx, Age-Specific Survivorship – The probability that a new individual (e.g., age 0) is alive at the *beginning* of age x. Alternatively, the proportion of individuals which survive from birth to the beginning of a specific age class.

Mx, Fecundity – The average number of same-sexed young born to animals in that age class. Because SPARKS is typically using relatively small sample sizes, SPARKS calculates Mx as 1/2 the average number of young born to animals in that age class. This provides a somewhat less "noisy" estimate of Mx, though it does not allow for unusual sex ratios. The fecundity rates provide information on the age of first, last, and maximum reproduction.

Px, Age-Specific Survival – The probability that an individual of age x survives one time period; is conditional on an individual being alive at the beginning of the time period. Alternatively, the proportion of individuals which survive from the beginning of one age class to the next.

Qx, Mortality – Probability that an individual of age x dies during time period. $Qx = 1 - Px$

Risk (Qx or Mx) – The number of individuals that have lived during an age class. The number at risk is used to calculate Mx and Qx by dividing the number of births and deaths that occurred during an age class by the number of animals at risk of dying and reproducing during that age class.

The proportion of individuals that die during an age class. It is calculated from the number of animals that die during an age class divided by the number of animals that were alive at the beginning of the age class (i.e. "at risk").

Vx, Reproductive Value – The expected number of offspring produced this year and in future years by an animal of age x.

Genetic Terms

Allele Retention – The probability that a gene present in a founder individual exists in the living, descendant population.

Current Gene Diversity (GD) -- The proportional gene diversity (as a proportion of the source population) is the probability that two alleles from the same locus sampled at random from the population will not be identical by descent. Gene diversity is calculated from allele frequencies, and is the heterozygosity expected in progeny produced by random mating, and if the population were in Hardy-Weinberg equilibrium.

Effective Population Size (Inbreeding N_e) -- The size of a randomly mating population of constant size with equal sex ratio and a Poisson distribution of family sizes that would (a) result in the same mean rate of inbreeding as that observed in the population, or (b) would result in the same rate of random change in gene frequencies (genetic drift) as observed in the population. These two definitions are identical only if the population is demographically stable (because the rate of inbreeding depends on the distribution of alleles in the parental generation, whereas the rate of gene frequency drift is measured in the current generation).

FOKE, First Order Kin Equivalents – The number of first-order kin (siblings or offspring) that would contain the number of copies of an individual's alleles (identical by descent) as are present in the captive-born population. Thus an offspring or sib contributes 1 to FOKE; each grand-offspring contributes 1/2 to FOKE; each cousin contributes 1/4 to FOKE. $FOKE = 4 * N * MK$, in which N is the number of living animals in the captive population.

Founder – An individual obtained from a source population (often the wild) that has no known relationship to any individuals in the derived population (except for its own descendants).

Founder Contribution -- Number of copies of a founder's genome that are present in the living descendants. Each offspring contributes 0.5, each grand-offspring contributes 0.25, etc.

Founder Genome Equivalents (FGE) – The number wild-caught individuals (founders) that would produce the same amount of gene diversity as does the population under study. The gene diversity of a population is $1 - 1 / (2 * FGE)$.

Founder Genome Surviving – The sum of allelic retentions of the individual founders (i.e., the product of the mean allelic retention and the number of founders).

Founder Representation -- Proportion of the genes in the living, descendant population that are derived from that founder. I.e., proportional Founder Contribution.

GU, Genome Uniqueness – Probability that an allele sampled at random from an individual is not present, identical by descent, in any other living individual in the population. GU-all is the genome uniqueness relative to the entire population. GU-Desc is the genome uniqueness relative to the living non-founder, descendants.

Inbreeding Coefficient (F) -- Probability that the two alleles at a genetic locus are identical by descent from an ancestor common to both parents. The mean inbreeding coefficient of a population will be the proportional decrease in observed heterozygosity relative to the expected heterozygosity of the founder population.

Kinship Value (KV) – The weighted mean kinship of an animal, with the weights being the reproductive values of each of the kin. The mean kinship value of a population predicts the loss of gene diversity expected in the subsequent generation if all animals were to mate randomly and all were to produce the numbers of offspring expected for animals of their age.

Mean Generation Time (T) – The average time elapsing from reproduction in one generation to the time the next generation reproduces. Also, the average age at which a female (or male) produces offspring. It is not the age of first reproduction. Males and females often have different generation times.

Mean Kinship (MK) – The mean kinship coefficient between an animal and all animals (including itself) in the living, captive-born population. The mean kinship of a population is equal to the proportional loss of gene diversity of the descendant (captive-born) population relative to the founders and is also the mean inbreeding coefficient of progeny produced by random mating. Mean kinship is also the reciprocal of two times the founder genome equivalents: $MK = 1 / (2 * FGE)$. $MK = 1 - GD$.

Percent Known – Percent of an animal's genome that is traceable to known Founders. Thus, if an animal has an UNK sire, the % Known = 50. If it has an UNK grandparent, % Known = 75.

Prob Lost – Probability that a random allele from the individual will be lost from the population in the next generation, because neither this individual nor any of its relatives pass on the allele to an offspring. Assumes that each individual will produce a number of future offspring equal to its reproductive value, V_x .

Appendix F Directory of Institutional Representatives

Institution	IR Name	phone	email
Albuquerque Zoo	Lynn Tupa	505-764-6216	ltupa@cabq.gov
Busch Gardens, Tampa	Lisa Harris	813-987-5250	Lisa.Harris@anheuser-busch.com
Chattanooga Zoo	Dardenelle Long	423-697-1319	dlongwpz@aol.com
Dallas Zoo	Todd Bowsher	214-670-6833 or 214-671-0778	tbowsher@msn.com
Detroit Zoological Institute	Scott Carter	248-541-5717 x3160	scarter@dzs.org
Fort Worth Zoo	Kurt Geisler	817-759-7500	KGiesler@fortworthzoo.org
Gladys Porter Zoo	Jerry Stones	956-546-7187	jstones@gpz.org
Henry Vilas Zoo	Jeff Stafford	608-266-4733	stafford@co.dane.wi.us
Honolulu Zoo	Richard Ball	808-971-7193	rball@honolulu.gov
Houston Zoo	Hollie Colahan	713-533-6528	hcolahan@houstonzoo.org
Jackson Zoological Park	Willie Bennett	601-352-2589	WBEN639596@aol.com
John Ball Zoo	Norah Fletchall	616-336-4301	norah@zoo.co.kent.mi.us
Kansas City Zoo	Liz Harmon	816-513-4605	lizharmon@fotzkc.org
Knoxville Zoo	Lisa New	865-637-5331 x 329	lnew@knoxville-zoo.org
Lincoln Park Zoo	Sue Margulis	312-742-2345	smargulis@Lpzoo.org
Lion Country Safari	Terry Wolf	561-793-1084 x350	wolf@lioncountryzoo.com
Little Rock Zoo	Sydney Tanner	501-666-2406 x105	stanner@littlerock.state.ar.us
Los Angeles Zoo	Jennie McNary	323-644-4207	jmcnary@lacity.org
Lowry Park Zoo	Lee Ann Rottman	813-935-8552 x 221	Curator@LowryParkZoo.com
Maryland Zoo	Rebecca Gullott	410-396-7102	rgullott@marylandzoo.org
Miami Metrozoo	Conrad Schmidt	305 251-0400	cschmit@miamidade.gov
Montgomery Zoo	Ken Naugher	334-354-6361	knaugher@ci.montgomery.al.us
North Carolina Zoo	Jennifer Ireland	336-879-7670	Jennifer.ireland@nczoo.org
Oakland Zoo	Danielle Stith	510-632-9525 x 161	kayodae@yahoo.com
Oklahoma City Zoo	Jennifer Davis	405-607-2320	jdavis@okczoo.com
Oregon Zoo	Dave Thomas	503-226-1561x 283	thomasd@metro.dst.or.us
Potawatomi Zoo	Dan Powell	219-235-9800	monkey11@prodigy.net
Riverside Zoo	Joe Clawson	308-630-6236	jclawson@scottsbuff.org
Rolling Hills Refuge	Sandy Walker	785-827-9488	sandy@rhrwildlife.com
Sacramento Zoo	Leslie Field	916-264-5013	lfield@cityofsacramento.org
Saint Louis Zoo	Ingrid Porton	314-781-0900 x 358	rufflemur@aol.com
San Francisco Zoo	David Bochian	415 753 8194	DavidBocian@sfzoo.org
Sedgwick County Zoo	Mike Quick	316 266 8237	mquick@scz.org
Sunset Zoological Park	Regan Slonecker	785-587-2737	slonecker@ci.manhattan.ks.us
Toledo Zoo	Glenous Favata	419-385-5721	gfavata@aol.com
Tulsa Zoo	Pat Murphy	918-669-6230	patmurphy@ci.tulsa.ok.us