



AZA Elephant TAG/SSP Regional Collection Plan
Final Draft December 2003

EDITED BY MARTHA FISCHER
SAINT LOUIS ZOO



Elephant Advisory Group Leadership

Officers

Chairman	Mike Keele, Oregon Zoo
Vice-Chairman	John Lehnhardt, Disney's Animal Kingdom
Secretary	Martha Fischer, Saint Louis Zoo

Steering Committee

Dave Blasko, Six Flags Marineworld
Bruce Bohmke, Woodland Park Zoo
Chuck Doyle, Rosamond Gifford Zoo at Burnet Park
Charlie Gray, African Lion Safari
Dale Leeds, Denver Zoo
Guy Lichty, North Carolina Zoo
Steve McCusker, San Antonio Zoo
Debbie Olson, Indianapolis Zoo
Harry Peachy, Columbus Zoo
Mike Quick, Sedgwick County Zoo
Randy Rieches, Zoological Society of San Diego
Conrad Schmitt, Kansas City Zoo

Advisors

(See Appendix V for complete listing of Advisors and Advisory Subcommittees)

Behavior and Enrichment	Jill Mellen, Disney's Animal Kingdom
Education	Kathy Lehnhardt, Disney's Animal Kingdom
Field Conservation	Chris Wemmer, National Zoological Park
Nutrition	Ellen Dierenfeld, Bronx Zoo
Pathology	Richard Montali, National Zoological Park
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Small Population Management	
African Elephant	Bob Wiese, Fort Worth Zoo
Asian Elephant	Laurie Bingaman-Lackey, ISIS
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Table of Contents

Mission Statement & Goals of the Elephant TAG/SSP	4	
TAG Definition	5	
Table 1. Elephant TAG/SSP Species	5	
Conservation Status of Taxa	5	
Table 2. Conservation Status of Wild Elephants	6	
Table 3. Status of Elephants in Captivity	6	
Space Analysis		
Elephant TAG/SSP Resource Survey, 2002	6	
Table 4. Summary of Elephant TAG/SSP Resource Survey, 2002	7	
Program Recommendations		
Species Selection Process	7	
Target Populations	8	
Management Categories	9	
Conservation Function	9	
Table 5. Elephant TAG/SSP Program Summary Table	9	
Three Year Action Plan	10	
Elephant TAG/SSP Operational Structure		
Steering Committee	18	
Officers	18	
Steering Committee Responsibilities	19	
Institutional Liaisons	19	
Advisory Groups	20	
Institutional Representatives	20	
Elephant TAG/SSP Listservs	21	
Elephant TAG/SSP Policies and Procedures		
List of AZA and/or Elephant TAG/SSP Policies	21	
Elephant TAG/SSP Voting Procedure	22	
Elephant TAG/SSP Breeding/Transfer Recommendations Procedure	23	
Appendixes		
Appendix I	Wild Population Estimates, Asian Elephant	25
Appendix II	Wild Population Estimates, African Elephant	26
Appendix III	Resource Survey Results by Facility and by Species, 2002	28
Appendix IV	Institutional Liaison Assignments, 2003	31
Appendix V	Advisory Groups - Advisors, Subcommittees and Steering Committee Liaisons, 2003	32
Appendix VI	Elephant TAG/SSP Advisor Job Descriptions	34
Appendix VII	Institutional Representatives	38
References	41	

AZA Elephant TAG/SSP Mission Statement Adopted April 2002

To lead North American efforts in management, scientific investigation and conservation of elephants.

Goals of the Elephant TAG/SSP

The following goals were developed for the Elephant TAG/SSP and published as a part of the AZA Elephant SSP Masterplan 1997-2002.

- I. Develop viable, self-sustaining ex situ populations of both Asian and African elephants:
 - to identify and facilitate scientific investigation to improve conservation management in situ as well as ex situ.
 - to serve as flagship species for conservation, and as ambassadors to educate and stimulate public awareness and support, especially financial, for in situ elephant conservation.

- II. Advance the management and husbandry of captive elephant populations through:
 - scientific investigation into medical issues, nutrition, physiology, reproductive biology, pathology and behavior
 - education programs, conferences and workshops for elephant managers and medical professionals to facilitate the development of a long-term, self-sustaining captive population.
 - transfer of research results, where appropriate, to in situ conservation efforts.

- III. Coordinate resources to help identify the pool of individual elephants with the highest reproductive potential for captive population management that live in facilities which are formally committed to the goals of the Elephant TAG/SSP.

TAG Definition

The Elephant TAG/SSP includes two species in the family Elephantidae (Table 1).

The Asian elephant is considered to be a single species, *Elephas maximus* (Linnaeus, 1758), with four extant subspecies, *E. m. hirsutus* (Malayan elephant), *E. m. indicus* (Indian elephant), *E. m. maximus* (Sri Lankan elephant) and *E. m. sumatranus* (Sumatran elephant).

The African elephant is considered to be a single species, *Loxodonta africana* (Cuvier, 1825), with two extant sub-species, *L. a. cyclotis* (forest elephant) and *L. a. africana* (savanna elephant). Some preliminary genetic research has suggested that the forest elephants of West Africa, *L. a. cyclotis*, are genetically different from the savanna elephant, *L. a. africana*, and represent a separate species of elephant. In the Statement on the Taxonomy of Extant *Loxodonta* published in February 2002, the IUCN/SSC African Elephant Specialist Group recommends that further genetic and morphological research be conducted before dividing elephants from Africa into two separate species.

The Elephant TAG/SSP manages both Asian and African elephants at the species level.

Table 1: Elephant Advisory Group Species (IUCN 1990 & 1998)

Common name	Scientific name
Asian elephant	<i>Elephas maximus</i>
Malayan elephant	<i>E. m. hirsutus</i>
Indian elephant	<i>E. m. indicus</i>
Sri Lankan elephant	<i>E. m. maximus</i>
Sumatran elephant	<i>E. m. sumatranus</i>
African Elephant	<i>Loxodonta africana</i>
Savanna/Bush elephant	<i>L. a. africana</i>
Forest elephant	<i>L. a. cyclotis</i>

Conservation Status

The conservation status of each elephant species was determined by consulting the 2000 IUCN Red Data List, current USFWS listings and CITES Appendices. Wild population status was gathered from the most recent IUCN African Elephant Specialist Group and Asian Elephant Specialist Group information. Captive population status for each species was determined by reviewing the most current Regional Studbook data and/or by consulting current ISIS data.

The wild and captive status of each Elephant TAG/SSP species are summarized in Tables 2 and 3. Wild elephant population estimates for Asian and Africa are listed by country in Appendix I and II.

Table 2. Conservation Status of Wild Elephants

Species	IUCN Red Data List	USFWS	CITES	Wild Population Estimates
Asian elephant Elephas maximus All subspecies	Endangered	Endangered	Appendix I	Between 34,594 - 50,998
African Elephant Loxodonta africana All subspecies	Endangered	Threatened	Appendix I (except in Botswana, Namibia, South Africa and Zimbabwe which are Appendix II)	Between 301,773 - 487,345

Table 3: Status of Elephants in Captivity

Species	NA Population (SSP and non-SSP facilities)	International Population	
Asian elephant Elephas maximus All subspecies	47.237 @ 74 facilities*	Europe	71.254 @ 103 facilities**
		Other	32.54 @ 19 facilities***
African Elephant Loxodonta africana All subspecies	24.193.1 @ 49 facilities*	Europe	43.153 @ 46 facilities**
		Other	10.22 @ 13 facilities***

*Regional Studbook Information, 2003

**Regional Studbook Information from ISIS Studbook Library, 2002.

*** ISIS Abstracts, 2003.

Elephant TAG/SSP Resource Survey

A Resource Survey was distributed in 2002 to the 80 AZA and non-AZA facilities which currently participate in the Elephant TAG/SSP or have expressed an interest in participating in the TAG/SSP. Non-SSP elephant facilities were not surveyed. The responses from this survey were analyzed to determine the captive space that is currently available and that will be available in the future to manage elephants within SSP facilities (Table 4). A complete listing of the facility responses to the Resource Survey is provided in Appendix III.

Seventy-six facilities responded to the Resource Survey (95% response rate). Results of the Resource Survey indicated that currently there are 281 (148 Asian, 133 African) spaces being occupied by elephants in AZA and non-AZA Elephant SSP/TAG

f facilities with a current maximum capacity of between 360 and 369 (between 178-183 Asian, between 182-186 African) spaces available. Within the next 5 years, the Resource Survey results indicate that the maximum capacity will increase within SSP/TAG participating facilities to between 386 and 406 (between 192-205 Asian, between 194-201 African) spaces.

Additional space for captive management and conservation of elephants is potentially available at several privately-owned, non-AZA facilities, but those spaces were not considered by the Elephant TAG/ SSP when making population recommendations and figuring target populations. As possible, the Elephant TAG/ SSP hopes to collaborate with non-AZA facilities and other elephant conservation organizations committed to the conservation of elephants in a combined effort to build and maintain sustainable captive elephant populations in NA.

Table 4: Summary of Resource Survey, 2002

Species	Current holding 2002	Maximum holding 2002	Maximum holding in 5 years
Asian elephant Elephas maximus All subspecies	26.122 (148)	26-28.152-155 (betw 178 - 183)	37-43.155-162 (betw 192 - 205)
African Elephant Loxodonta africana All subspecies	14.119 (133)	26-27.156-159 (betw 182 - 186)	36-38.152-163 (betw 194 - 201)
Total Elephant Spaces	281	Betw 360 - 369	Betw 386 - 406

Species Selection Process

The AZA Protocol for Regional Collection Plans requires a TAG to systematically evaluate and rank each species within a TAG’s purview. The resulting species evaluations and rankings are typically used for prioritizing a TAG’s captive and field conservation efforts and for designating an appropriate Management Category for each species.

The Elephant TAG/ SSP Steering Committee opted to forego the Species Selection and Ranking Process typically performed by other TAGs. With only two species within the purview of this TAG and with the availability of adequate space, it seemed unnecessary for the purposes of this TAG’s Regional Collection Plan to evaluate and rank one species against the other.

There are only two species under the Elephant TAG/SSP umbrella and both species are deserving of conservation support in situ and ex situ. Both species will be given

priority for captive and field conservation efforts in this Regional Collection Plan. Both the Asian Elephant SSP and the African Elephant SSP have been established for many years and the TAG/SSP Steering Committee does not recommend a change to the Management Category for either species.

To justify the decision to continue to give priority to both elephant species, the Elephant TAG/SSP Steering Committee considered all of the criteria typically used by TAGs for species selection. Comments to each criterion are as follows:

- Conservation Status: The Asian elephant is endangered and the African elephant is threatened in the wild due to habitat degradation/encroachment and to competition with humans and domestic livestock.
- Existence of a viable NA captive population: Both species currently exist in NA. The NA captive populations of both elephant species are currently not viable without importation.
- Availability of potential founders: Founders of both species are potentially available from other captive populations and/or from range countries.
- Potential to affect in situ conservation of species or ecosystem: There is potential for having a positive effect on the conservation of elephants and elephant habitats in both Asia and Africa.
- Reintroduction potential: Currently, there are no plans for reintroduction.
- Scientific/research potential: Specific in situ and ex situ research questions have been identified by IUCN SSC Asian and African Elephant Specialist Groups and by the AZA Elephant TAG/SSP and a research plan is in place for elephants.
- Husbandry expertise: Captive husbandry expertise exists for both African and Asian elephants and elephant husbandry continues to evolve and improve through experience and research.
- Exhibit value: Both African and Asian elephants have high public appeal and marketability.
- Education value: Both African and Asian elephants have high education value and can serve as flagship species for conservation of lesser-known African and Asian species and for conservation of a variety of critical habitats.
- Taxonomic uniqueness: Elephants are taxonomically unique at the family level.

Target Populations

Resource Survey results, captive population status and population viability information provided by studbook keepers/SSP coordinators and their Small Population Management Advisory Group (SPMAG) advisors were considered prior to setting target populations for each species.

The three-year target populations were figured by the SPMAG Advisors and program managers (using PM2000 when possible). These target populations can be found within the Elephant TAG/SSP Program Summary Table (Table 5).

Management Categories

The level at which each elephant species is to be managed was determined by the Steering Committee from the commonly-used management categories identified by WCMC and can be found within the Program Summary Table (Table 5).

- SSP (Species Survival Plan)
- PMP (Population Management Plan)
- Display/Education/Research Population (DERP)
- Phase Out Population
- Phase-In Population
- No Program Recommended (NPR)

Conservation Function

The following commonly-used conservation functions identified by WCMC have been assigned and can be found within the Program Summary Table (Table 5):

- A. Provision of genetic and demographic reservoirs for potential reinforcement of populations in the wild as the need and the opportunity occur;
- B. Research to improve conservation management in situ as well as ex situ
- C. Stimulation of public awareness and support, especially financial, for elephant conservation.

Table 5: Elephant TAG/SSP Program Summary Table

Species	Program Recommended	3-Year Target Population in AZA facilities	Conservation Function	Program Contacts
Asian elephant Elephas maximus All subspecies	SSP	150	A, B, C	Mike Keele Oregon Zoo (SSP & Studbook)
African Elephant Loxodonta africana All subspecies	SSP	145	A, B, C	Mike Keele Oregon Zoo (SSP) Debbie Olson Indianapolis Zoo (Studbook)

Elephant TAG/SSP Three- Year Action Plan

The Elephant TAG/SSP Steering Committee and Advisors have developed a Three-Year Action Plan with detailed actions in 11 different disciplines. Each action item listed is designed to make progress toward achieving one or more of the Goals of the Elephant TAG/SSP as listed on Page 6 of this RCP.

The Elephant TAG/SSP Steering Committee and Advisors recognize that the following Three-Year Action Plan is ambitious. The Steering Committee and Advisors felt comfortable with such an ambitious plan in this first edition of the RCP. The Three-Year Action Plan was discussed at length and the group felt that the plan should stand as written and non-prioritized to allow for the diverse interests and expertise of facilities and individuals as well as for the varying levels of commitment (financial and otherwise) available from participating facilities. The following should be noted:

- The Elephant SSP has been active for many years and many of the below-listed actions are already initiated and well underway at this time.
- While some of the following action items can be easily achieved in three years, other action items may be on-going for several years due to the nature of these long-lived species and the complexity of the challenges of managing, studying and conserving elephants.
- The Elephant TAG/SSP is fortunate to have a large and strong corps of Advisors to assist in addressing the listed actions.
- Elephants have an extraordinary amount of resources devoted to them as compared to other species, so it is possible to tackle a larger menu of projects.
- Elephants are high-profile and are subject to increased focus from outside groups and therefore warrant an expanded and ambitious action plan.
- The Elephant TAG/SSP Three-Year Action Plan has considerable overlap with the goals and objectives of the developing AZA Action Plan for Elephants. The Steering Committee recognizes that some of the action items listed within the RCP may receive support through these efforts.

At this time, the Elephant TAG/SSP Steering Committee and Advisors do not feel it is appropriate to eliminate or prioritize action items within the proposed Three-Year Action Plan. This is the first edition of the Elephant TAG/SSP RCP. When this document is reviewed and revised in three years, the Steering Committee and Advisors will have a clearer view of the future for elephants in AZA facilities and a better understanding of the support, funding and commitment available from participating facilities. If this Three-Year Action Plan proves to be too ambitious, the list of action items can be narrowed and/or prioritized during the review process in three years.

Elephant TAG/SSP Three- Year Action Plan

Behavior and Enrichment:

- Develop a standardized and comprehensive ethogram for assessing elephant behavior to study issues related to health and reproduction, including group dynamics, social interactions, stress (including assessment of adrenal corticoid production), estrous detection, sexual interest and mate choice, learning and experience, cognition, maternal behavior, calf development.
- Develop effective behavioral, environmental, psychological, physical and social enrichment activities or strategies, and a standardized evaluation of responses to measure effectiveness in improving well-being and reducing stress and stereotypic behaviors.
- Develop centralized databases for physiological and behavioral information.
- Investigate the role of chemical communication and infrasonic communication on behavior and reproduction.

Education:

- Develop an Elephant TAG/SSP website.
- Develop samples of signs, manuals and curricula, where appropriate, translating these products into the language(s) and learning styles of range countries and making them available in the form of their traditional learning materials.
- Develop educational materials that might include a detailed range map of the distribution of all wild populations, a package of basic natural history information, accounts of status in the wild and in captivity, and other pertinent information that could easily be incorporated into signage, teacher manuals, "partners in conservation" programs, curricula for local schools and reading lists.

Field Conservation:

- Range Country Surveys and Population Monitoring - support census surveys in range countries, including surveys of human threats to wild populations, socio-economic surveys, and attitude surveys.

Elephant TAG/SSP Three- Year Action Plan

- Elephant/People Conflict Resolution - provide aid and support for projects that attempt to resolve conflicts, including elephant deterrents (e.g., "chili bombs", electric fences, trenches, etc.), capture and translocation, contraception, programs that create economic incentives to save elephant populations, etc.
- Education - provide funding to build the professional capacity of elephant managers and protected area managers through workshops, training courses, and study projects. Support educational activities that increase ecological literacy and sustainable practices of land use in communities adjacent to elephant range.
- Development of Field Technologies - provide opportunities to explore the application of promising new methodologies and technology to the conservation of free-ranging and captive elephants.
- Develop research goals for in situ/ex situ conservation action and maintain an international inventory of in situ/ex situ research projects.

Fund Raising:

- Identify a Fund Raising Advisor for the Elephant TAG/SSP. The Fund Raising Advisor will help develop a fund raising plan for the TAG/SSP.

Training and Management:

- Continue to work with AZA Professional Training Program to provide a high quality training experience through its Principles of Elephant Management course.
- Complete and distribute the Elephant Management Resource Guide.
- Develop Birth Protocol, including suggested prepartum preparations and postpartum care/management of mother and calf.
- Assist, when needed, in the development of facility and elephant training protocols.
- Develop Elephant Facility Design Resource Manual.

Elephant TAG/SSP Three- Year Action Plan

Nutrition:

- Establish how nutrition and/or exercise impacts reproductive activity (cyclicality, pregnancy, parturition) and health, and develop species-appropriate diets.
- Assess the captive population's nutritional status and set physiological normal ranges through plasma sampling. From this determine vitamin and mineral requirements of elephants.
- Research and verify common feeding practices.
- Collect scientific data to determine if the composition of browse is a critical component of the diet, not simply enrichment
- Analyze the diets and nutritional status of both species of elephants in the wild.
- Develop a national genome bank for biomaterials and other tissues for nutritional analysis.
- Collect more information on milk composition, specifically more detailed vitamin, fatty acid, and mineral analyses for developing supplemental formulas.

Public Relations:

- Identify a Public Relations Advisor for the Elephant TAG/SSP. The PR Advisor will help develop a PR plan for the TAG/SSP.
- Present elephant issues in a positive manner to media whenever possible. The Elephant TAG/SSP Steering Committee will work to disseminate correct information which reflects positively on the efforts and activities of member facilities.

Reproduction:

- Better understand the basic biology of male and female elephants of both species from prepuberty to senescence to create a physiological database. Studies should focus on endocrinology (pituitary, gonadal, adrenal and thyroid function), reproductive tract morphology (ultrasound evaluations), semen physiology, pregnancy, parturition, lactation, immune function and musth.

Elephant TAG/SSP Three- Year Action Plan

- Optimize assisted reproductive techniques, including collection, analysis and processing of fresh and frozen semen, artificial insemination, estrous synchronization, gender selection, seminal pathogen analysis, and development of a genome resource bank.
- Further delineate the causes of reproductive dysfunction in female (e.g., ovarian acyclicity, reproductive tract pathologies) and male (e.g., poor semen quality, lack of libido) elephants through evaluations of behavioral, physiological, social and environmental factors, and develop appropriate treatments or mitigating strategies.
- Recommend evaluation of appropriate elephants to determine their reproductive status and to identify those elephants with the highest breeding potential. Continue to make breeding recommendations only for those elephants of known reproductive status.
- Train more bulls for semen collection.
- Identify strategies to reduce infant mortality and stillbirths.
- Encourage scientific investigation into musth to better understand social, reproductive and husbandry implications.

Research:

- Develop research goals for in situ/ex situ research action and maintain and international inventory of in situ/ex situ research projects.
- Coordinate research projects on (captive) elephants - A list of current and proposed research projects involving elephants should be created along with a means of coordinating and improving communication between researchers. This will minimize duplication of efforts and improve efficient use of resources (such as funding, equipment, animals, etc.)

Population Management:

- Recruit new (founder) animals into the SSP managed populations. These elephants can be recruited from private holders, zoos outside NA and from range countries.

Elephant TAG/SSP Three- Year Action Plan

- Identify strategies to secure more holding spaces for males. All facilities considering new construction for elephants should include spaces for bulls. The Elephant TAG/ SSP will encourage exhibit modifications that will enable the housing of bulls.
- Continue to investigate regional breeding and/ or bull holding facilities to deal with the expected increase in male offspring as a result of successful breeding efforts.

Veterinary Medicine:

- Establish an elephant serum bank - a centralized location for serum (and eventually tissues) should be developed to provide biomaterials for the development of diagnostic tests, retrospective disease assessments, epidemiologic studies. A location (Disney's Animal Kingdom) has been identified. Assistance with funding for additional freezers will be needed. Short-term goals: develop computerized method for tracking samples, solicitation of SSP population for samples, funding for shipping. Long-term goals: acquire funding and develop system for collection and shipping of samples from free-ranging elephants for comparative studies.
- SSP population medical summary - a method to regularly collect health data on the population is needed to produce an annual morbidity report and track disease trends. Short-term goals: create survey or other method to acquire data, identify interested individuals to collate and analyze data. Long-term goals: epidemiologic study of disease trends in population to identify contributing factors and create recommendations for prevention and treatment.
- Disease research - this ties into the action item above. Diseases affecting the captive elephant population that require additional research and funding include:
 - Tuberculosis
 - Endotheliotropic elephant herpesvirus (EEHV)
 - Encephalomyocarditis virus (EMC)
 - Salmonella
 - West Nile virus
 - Osteoarthritis/degenerative joint disease

Elephant TAG/SSP Three- Year Action Plan

In addition to research on diagnostics and treatment, basic pharmacologic information on drug effects, dosages, and treatment frequency should be considered a high priority. Antibiotics/antivirals, non-steroidal anti-inflammatories, and other commonly used drugs (such as the anti-tuberculosis drugs) should be studied to determine potential adverse effects, blood levels for effective treatment dosages, and frequency and route of administration. Collaboration with universities, private industry, and drug manufacturers should be pursued.

- Development of diagnostic tests validated for use in elephants - in conjunction with the items already listed, the development of elephant-specific reagents and techniques for diagnostic testing is a high priority. Use of serum bank samples and recruitment of samples from the current population along with funding for the research is required. High priority areas include improvement in TB diagnostics, reagents for EEHV serology, early detection of degenerative joint changes (using techniques such as thermography or enhanced imaging), and PCR for infectious disease identification.
- Develop an Elephant Medical Reference Notebook. The Notebook would include TB testing guidelines, necropsy protocol, research requests, annual morbidity and mortality reports.
- Improve the identification and treatment of health problems, including pododermatitis, arthritis, ventral edema, salmonellosis, colic, gastrointestinal disorders, encephalomyocarditis virus (EMCV), oral anomalies, herpes and tetanus.
- Update elephant medical literature database.
- Population serosurveys - in addition to the annual morbidity report, epidemiologic information should be collected to answer questions of disease susceptibility (ex. WNV), presence of asymptomatic carriers (ex. EEHV, Salmonella, TB), and response to vaccination (ex. tetanus) to develop scientifically based health recommendations and identify priorities for future research. In order to achieve these goals, work needs to be done on the development of validated diagnostic methods for elephants, and funds acquired for population-wide testing.

Elephant TAG/SSP Three- Year Action Plan

- Vaccination studies - although commercially available veterinary vaccines are used in elephants, no comprehensive studies have been conducted to determine safety, efficacy, and duration of immunity. The recent increased attention to vaccine-related health issues should stimulate development of scientifically based recommendations for long-lived species, such as elephants.
- Creation of an elephant veterinary listserv - the current SSP listserv does not reach all the veterinarians who work with elephants. Creation of a specific listserv to address elephant medical issues would facilitate communication and timely dissemination of elephant health information.
- Establish teams of "experts" available for consultation on elephant health issues - it is recognized that there are many elephant professionals with extensive experience in elephant health issues. Unfortunately, availability of the information is not readily available. By creating teams of "experts" for designated areas (such as tusk/dental, foot, infectious disease issues, etc), consultants would be more available for discussion of individual cases or problems. Short-term goals: identify elephant veterinary professionals with expertise and solicit participation. Long-term goals: create teams and methods of communication, make the Elephant TAG/SSP community aware of the resources for consultation.

Elephant Advisory Group Operational Structure

The Elephant TAG/SSP was approved by the AZA Board of Directors in 2001 as a result of the AZA Elephant Planning Initiative. The Elephant TAG/SSP was formed to follow through on actions outlined in the AZA Policy on Elephants (adopted by the AZA Board of Directors on 21 March 2000). This TAG/SSP serves as an advisory group to AZA participating facilities for elephant captive and field conservation.

The Asian Elephant SSP and the African Elephant SSP are managed cooperatively under the purview of the Elephant TAG/SSP to synchronize the captive management of these two important populations in a way that will result in the best utilization of the available resources and promote the establishment of sustainable captive populations for both species into the future.

The Elephant TAG/SSP leadership group consists of an appointed Chair and fourteen elected Steering Committee members. The Elephant TAG/SSP Chair's primary responsibility is to lead the TAG as it coordinates, facilitates and progresses toward the goals of its cooperative elephant management and conservation programs.

A Vote of Confidence (VOC) in the Chair is initiated by the Secretary and performed by the Institutional Representatives every three years. The last VOC was conducted in July 2001.

Steering Committee

The Elephant TAG/SSP Steering Committee is made up of fourteen individuals elected from the TAG/SSP Institutional Representatives (IRs). The Steering Committee members are elected by the IRs based on their elephant management expertise, the historical commitment of their facilities toward elephant management and conservation and/or their demonstrated leadership abilities.

The Steering Committee members are elected to three-year terms, with the terms staggered so four or five Steering Committee member positions are available through election each year. Once a year, a Call for Interest is conducted and each facility has an opportunity to put its IR up for election to the Steering Committee at that time.

Officers

From the fourteen Steering Committee members, a Vice-chair and a Secretary are elected by the Steering Committee to assist with the leadership of this TAG. These officer positions become available when the terms of the Steering Committee members holding these offices are up for re-election (every ~three years).

The Elephant TAG/SSP Vice Chair assists with the leadership of the TAG. As necessary, the Vice Chair will fill the role of Chair should the Chair be unavailable. In the event that the Chair steps down or is removed for any reason, the Vice Chair will assume the leadership for the TAG.

The Elephant TAG/SSP Secretary is responsible for conducting all TAG elections and communicating election results within the Steering Committee, to facilities and to AZA. The Secretary is also responsible for recording minutes at all TAG meetings and distributing the minutes to the TAG membership.

Steering Committee Responsibilities

All Steering Committee members are expected to participate in the activities of the Elephant TAG/SSP. Steering Committee members must have the professional commitment and the institutional support to fulfill the following responsibilities:

- Dedicate sufficient time to carry out the Elephant TAG/SSP duties.
- Attend at least one Elephant TAG/SSP meeting per year.
- Be prepared to chair Elephant TAG/SSP subcommittees or serve as Elephant TAG/SSP Secretary.
- Review and vote on submission of a Regional Collection Plan to WCMC.
- Review and vote on the Elephant TAG/SSP policy recommendation to the Board.
- Review and vote on SSP Masterplan recommendations.
- Have access to email.

Institutional Liaisons

To facilitate communication flow between the Elephant TAG/SSP and the participating facilities, each Steering Committee member is responsible for liaising with a subgroup of 5-7 participating facilities. Each Steering Committee member serves as the Institutional Liaison for his/her subgroup. A complete listing of the Steering Committee members and the facilities within his/her regional subgroup can be found in Appendix IV.

The primary responsibility of the Elephant TAG/SSP Institutional Liaison (IL) is to support and assist the participating facilities within his/her assigned subgroup with issues related to elephants and the Elephant TAG/SSP. Support and assistance are offered in a number of ways:

- The IL should serve as an information conduit between the subgroup of facilities he/she represents and the Elephant TAG/SSP.

- As needed the IL may be responsible for distributing Elephant TAG/SSP communications to the facilities in his/her subgroup (TAG/SSP documents, surveys, etc)
- The IL may also be called upon to serve as a resource of Elephant TAG/SSP information for participating facilities within his/her subgroup (answer questions, explain TAG/SSP direction/goals/activities/recommendations, accept feedback, etc.)
- The IL should distribute outgoing communications from the Elephant TAG/SSP to the participating facilities and respond to incoming inquiries from the participating facilities to the Elephant TAG/SSP in a timely fashion.
- The IL should attempt to handle questions, concerns and clarifications at the IL level. However, when appropriate and necessary, the IL should share incoming communications from participating facilities with the Elephant TAG/SSP Chair and Steering Committee.
- The IL should keep a record of all communication with regard to the Elephant TAG/SSP business and provide a brief summary report of his/her interactions with each facility within the subgroup annually.

Advisory Groups

To most effectively pursue the goals outlined in its Mission Statement, the Steering Committee of the Elephant TAG/SSP partners with a team of Advisors who assist with the management and conservation efforts of the TAG/SSP. Twelve Advisory Groups currently exist within the Elephant TAG/SSP: Behavior and Enrichment, Education, Field Conservation, Fund Raising, Nutrition, Pathology, Public Relations, Reproduction, Research, Population Management, Training and Veterinary Medicine. To facilitate communication between the Steering Committee and the Advisory Groups, each Advisory Group has a liaison from the Steering Committee.

Each Advisor has the option to form a subcommittee to assist them in managing his/her Advisory Group. The Advisors, the subcommittee members and the Steering Committee liaisons are listed in Appendix V. The Job Descriptions for the Elephant TAG/SSP Advisor positions are detailed in Appendix VI.

Institutional Representatives

There are 80 participating facilities in the Elephant TAG/SSP. According to the AZA guidelines for TAGs, each participating facility may designate an Institutional Representative (IR) to the TAG if it so chooses. The IR is the primary point of contact with the TAG, will receive all TAG communications and is responsible for

disseminating TAG information within his/her facility. IRs are responsible for voting to elect Steering Committee Members.

The 80 participating facilities of the Elephant TAG/SSP and the IRs for each facility are listed in Appendix VII.

Elephant TAG/SSP Listservs

The Steering Committee and Advisors of the Elephant TAG/SSP communicate throughout the year via email. There are three closed listservs available for various communications about Elephant TAG/SSP business and or elephant management.

elephantsc@lists.aza.org is a listserv that includes the Elephant TAG/SSP Chair, Steering Committee, Ken Redman (WCMC Liaison to the Elephant SSP/TAG) and Michael Hutchins (Director of AZA C&S Dept.). This listserv is used to provide a confidential method of communicating among the Steering Committee and conducting Elephant TAG/SSP business (discussions, voting, etc)

elephantscad@lists.aza.org is a listserv that includes the Elephant TAG/SSP Chair, Steering Committee, Advisors, Anne Baker (AZA Board Director), Brandie Smith (Assistant Director, AZA C&S Dept.), Ed Diebold (WCMC Advisor) and Michael Hutchins. This listserv is used to conduct Elephant TAG/SSP business that includes the Advisors.

elephant@lists.aza.org is a listserv that includes the Elephant TAG/SSP Chair, Steering Committee, Advisors, Institutional Representatives, Joseph Lankard (AZA C&S Dept.), Ed Diebold, Michael Hutchins and Jane Ballentine (AZA Public Affairs Director). This listserv is used for more general communication with and between the Elephant TAG/SSP and the IRs.

Policies, Procedures and Protocols

Several AZA and Elephant TAG/SSP Policies, Procedures and Protocols are available to facilities and individuals seeking more information on elephant management and conservation. If you are interested in acquiring one or more of these documents, contact your IL for assistance.

AZA Current Policies and Procedures

(available from AZA or through your Elephant TAG/SSP IL)

AZA Standards for Elephant Management and Care, Adopted March 2001, Updated May 2003

AZA Acquisition and Deacquisition Policy, March 2000

AZA Elephant TAG/SSP Policies, Procedures and Protocols

AZA Elephant Research and Tissue Request Protocol, April 2003. Available from Dr. Michele Miller, Elephant TAG/SSP Veterinary Advisory Group

AZA Elephant TAG/SSP Necropsy Protocol, 2002. Available from Dr. Michele Miller , Elephant TAG/SSP Veterinary Advisory Group

AZA Elephant TAG/SSP Key Education Messages, 2003. Available from Kathy Lehnhardt, Elephant TAG/SSP Education Advisory Group

Blood and Urine Sample Collection Protocols for Monitoring Reproductive Activity in Elephants, 2002. Available from Dr. Janine Brown, Elephant TAG/SSP Reproductive Advisory Group

Elephant TAG/SSP Voting

When an issue needs to be decided within the Elephant TAG/SSP Steering Committee, the Secretary will follow this procedure:

- 1) Secretary or Steering Committee Member will present issue to Steering Committee for discussion.
 - a) Indicate that this may be an issue that will require a vote from the Steering Committee.
 - b) Clearly list items for discussion, numbering if necessary.
 - c) Allow 10 days for appropriate discussion, if possible.
- 2) After discussion period, Secretary will call for a vote.
 - a) Summarize the discussion.
 - b) Ask for a Yes, No or Abstaining vote.
 - if abstaining, SC member must briefly explain reason for abstention.
 - c) Allow 5 days for voting, if possible.
- 3) After voting period, Secretary will summarize the vote.
 - a) List names by each vote.
 - b) List non-responses.
 - c) Secretary or SC member will notify appropriate individual(s)/facility(s) with results of vote, if necessary.

Elephant TAG/SSP Breeding/Transfer Recommendations Procedure

Breeding and transfer recommendations should be in line with and lead to accomplishing the goals of the Elephant TAG/SSP. The processes for breeding and transfer recommendation approvals were developed to support the Elephant TAG/SSP goals outlined in the Masterplan 1997-2002.

Breeding Recommendations: The Elephant TAG/SSP Steering Committee uses the following decision tree when making breeding recommendations:

Question # 1: Will the offspring of the proposed breeding potentially contribute genetically, demographically or scientifically to the goal of a self-sustaining ex situ elephant population?

If the answer to question #1 is yes, go to question #2.

If the answer to question #1 is no, deny recommendation.

Question # 2: Does the proposed breeding have a probability of success? (i.e. the reproductive status of the participants is known and documented).

If the answer to question #2 is yes, go to question #3.

If the answer to question #2 is no, deny recommendation.

Question # 3: Does the institution where the calf is to be born have the capability to house a male offspring, or has it made a commitment in writing, signed by the director of the institution, to provide housing for a male offspring in perpetuity?

If the answer to question #3 is yes, approve recommendation.

If the answer to question #3 is no, deny recommendation.

This decision tree functions to determine recommendations for all reproductive situations, including artificial insemination. It also applies when considering working with non-Elephant TAG/SSP institutions, such as providing semen for AI. These situations also require Elephant TAG/SSP approval.

Breeding recommendations for Elephant TAG/SSP participating institutions will primarily be generated by the Steering Committee as a part of the overall management plan. In the cases where institutions generate breeding requests, these requests should be submitted by the IR to the TAG/SSP Steering Committee Institutional Liaison assigned to the institution. The Steering Committee IL will gather all necessary details and present the request to the Steering Committee for review and approval/denial. In order for a breeding request to be approved, a 2/3 majority vote must result from the Steering Committee.

Transfer Recommendations: To best manage the populations, the Elephant TAG/SSP Steering Committee uses the following decision tree when making transfer recommendations that do not include breeding recommendations:

Question #1 Will the move potentially contribute spatially, demographically, or scientifically to the goal of a self-sustaining ex-situ elephant population, or does it meet a specific housing, (i.e. for facility renovation) or animal welfare need?

If the answer to question #1 is yes, go to question #2.

If the answer to question #1 is no, deny recommendation.

Question #2 Is the move to an AZA accredited or a non-AZA SSP participating institution?

If the answer to question #2 is yes, go to question #5.

If the answer to question #2 is no, go to question #3.

Question #3 Has the receiving institution been inspected by qualified elephant staff from the sending institution or a member of the Elephant TAG Steering committee and written documentation of the findings of the inspection submitted to the steering committee?

If the answer to question #3 is yes, go to question #4.

If the answer to question #3 is no, table the request until appropriate documentation has been submitted.

Question #4 Does the receiving institution meet the AZA Standards for Elephant Management and Care sufficiently for the TAG Steering Committee to be convinced that the facility can adequately care for the elephant?

If the answer to question #4 is yes, go to question #5.

If the answer to question #4 is no, deny recommendation.

Question #5 Does this move represent an improvement in the overall situation for the elephant?

If the answer to question #5 is yes, go to question #6.

If the answer to question #5 is no, deny recommendation.

Question #6 Does the move potentially conflict with the AZA Code of Ethics, or other AZA policies or practices?

If the answer to question #6 is yes, consult with the AZA Wildlife Care and Management Committee (WCMC) chair in writing to request a WCMC review of the proposed move.

If the answer to question #6 is no, approve the recommendation.

Appendix I. Current Estimates of Wild Populations of Asian Elephants

Country	Minimum	Maximum
Bangladesh	195	239
Bhutan	60	100
Borneo	1,000	2,500
Cambodia	200	500-(?2000)
China	250	300
India, Northern	750	1,000
Northeastern	7,200	11,300
Central	1,500	2,000
Southern	9,640	15,150
Indonesia (Sumatra)	2,800	4,800
Laos	950	1,300
Myanmar (formerly Burma)	4,639	5,000
Peninsular Malaysia	800	1,200
Nepal	41	60
Sri Lanka	3,160	4,405
Thailand	1,300	2,000
Vietnam	109	144
Total	34,594	50,998

From the IUCN/SSC Asian Elephant Specialist Group, 2000.

Appendix II. Summary of Elephant Population Estimates on the African Continent, IUCN 1998

Region	Country	Number of Elephants				Total Area (km ²)	Range Area (km ²)
		Definite	Probable	Possible	Speculative		
Central Africa	Cameroon	1,071	5,285	8,704	675	475,440	229,195
	Central African Republic	2,515	1,600	6,605	8,000	622,980	314,274
	Chad	0	0	1,600	300	1,284,000	219,130
	Congo	0	0	0	0	342,000	255,373
	Democratic Republic of Congo	3,736	20,219	5,618	120	2,345,410	1,476,560
	Equatorial Guinea	0	0	0	80	28,050	14,559
	Gabon	0	0	7,500	54,294	267,670	263,306
	Total	7,322	27,104	27,613	63,469	5,365,550	2,772,397
Eastern Africa	Eritrea	2	0	0	0	121,320	2,967
	Ethiopia	321	0	0	985	1,127,127	59,717
	Kenya	14,364	11,350	4,882	100	582,650	112,988
	Rwanda	39	0	20	10	26,340	1,019
	Somalia	0	0	130	120	637,660	11,783
	Sudan	0	0	0	0	2,505,810	404,908
	Tanzania	67,416	12,196	12,078	0	945,090	458,315
	Uganda	215	565	1,662	280	236,040	11,872
	Total	83,770	22,698	17,216	1,495	6,182,037	1,063,569

Appendix II. Summary of Elephant Population Estimates on the African Continent, IUCN 1998 (cont)

Region	Country	Number of Elephants				Total Area (km ²)	Range Area (km ²)
		Definite	Probable	Possible	Speculative		
Southern Africa	Angola	0	0	0	170	1,246,700	678,785
	Botswana	76,644	13,414	13,414	0	600,370	81,486
	Malawi	647	1,569	1,649	20	118,480	7,968
	Mozambique	6,898	1,946	4,496	0	801,590	467,062
	Namibia	6,263	1,421	1,421	0	825,418	145,015
	South Africa	11,905	0	0	0	1,219,912	25,847
	Swaziland	39	0	0	0	17,360	188
	Zambia	15,873	6,179	6,964	0	752,610	208,123
	Zimbabwe	63,070	8,034	10,185	0	390,580	109,563
	Total	196,845	17,057	22,623	190	5,973,020	1,724,037
West Africa	Benin	0	0	400	0	112,620	13,036
	Burkina Faso	1,616	606	1,486	0	274,200	18,198
	Ghana	476	218	1,185	443	238,540	30,202
	Guinea	0	0	108	140	245,860	2,277
	Guinea Bissau	0	0	0	35	36,120	331
	Ivory Coast	51	0	495	645	322,460	35,543
	Liberia	0	0	0	1,783	111,370	22,003
	Mali	0	0	950	50	1,240,000	37,024
	Niger	0	0	817	100	1,267,000	2,694
	Nigeria	157	0	860	236	923,770	34,383
	Senegal	9	0	11	10	196,190	8,428
	Sierra Leone	0	0	0	0	71,740	2,914
	Togo	0	0	96	0	56,790	5,430
	Total	2,489	644	6,228	3,442	5,096,660	212,463
Total Continental Estimates		301,773	56,196	60,780	68,596	22,617,267	5,772,466

Appendix III. Elephant TAG/SSP Resource Survey Results by Facility and by Species, 2002

Facility	Currently # Elephants Held				Current Maximum # Spaces				Maximum # Spaces in 5 years			
	# African bulls	# African cows	# Asian bulls	# Asian cows	# African bulls	# African cows	# Asian bulls	# Asian cows	# African bulls	# African cows	# Asian bulls	# Asian cows
Abilene Zoo		2				2				2		
African Lion Safari			5	7			5	7			5	10
Albuquerque Biological Park		1		3		1		5			1-2	4-6
Audubon Park Zoo				2				2				
Baltimore Zoo		2				4				4		
Birmingham Zoo				2				2			3	6-8
BREC's Bat on Rouge Zoo				2				4				4
Bronx Zoo				6				7				7
Brookfield Zoo		3				3				3		
Buffalo Zoo				3				4				4
Busch Gardens - Tampa				8				8			1	9
Caldwell Zoo		4			1	4			1	4		
Calgary Zoo			1	3			1	4			1	4
Cameron Park Zoo		2				3				3		
Central Florida Zoo				2				2				2
Chaffee Zoo			1	2				3				3
Chehaw Wild Animal Park	Did not return survey											
Cheyenne Mountain Zoo		2				2				2		
Cincinnati Zoo			1	3			1	3				
Cleveland Metroparks Zoo		3				3			2	2		
Columbus Zoo			1	2			2-3	8			2-3	8
Dallas Zoo		1				2			1-2	3-6		
Denver Zoo				2				3			1-2	4
Detroit Zoo	Did not return survey											
Dickerson Park Zoo			3	5			3	6			3	6-8

Appendix III. Elephant TAG/SSP Resource Survey Results by Facility and by Species, 2002 (cont)

Facility	Currently # Elephants Held				Current Maximum # Spaces				Maximum # Spaces in 5 years			
	# African bulls	# African cows	# Asian bulls	# Asian cows	# African bulls	# African cows	# Asian bulls	# Asian cows	# African bulls	# African cows	# Asian bulls	# Asian cows
Disney's Animal Kingdom	3	7			5	11			5	11		
El Paso Zoo	Did not return survey											
Fort Worth Zoo			1	5			1	6			2	6
Gladys Porter Zoo	Did not return survey											
Granby Zoo		2			1	2-3			1	3		
Greenville Zoo		1				2				2		
Have Trunk Will Travel			1	6			1	9			1	9
Honolulu Zoo				2				2			1	4
Houston Zoo			1	3			1	3			1	3
Indianapolis Zoo	1	6			2	9			2	9		
Jackson Zoo		3				3				3		
Jacksonville Zoo	1	3			1	5			1	5		
Kansas City Zoo	2	6			3	8			3	8		
Knoxville Zoo	1	3			2	4			2	4		
Lee Richardson Zoo		2				4			1	3		
Lincoln Park Zoo		2				3				3		
Lion Country Safari	1	3			1	3			1	3		
Little Rock Zoo				2				2				2
Los Angeles Zoo		2	1	1			1	6			1	6
Louisville Zoo		1	1	1		3				3		
Lowry Park Zoo					2	3			2	3		
Memphis Zoo		2				3			1	3		
Metro Toronto Zoo		7				7				7		
Miami MetroZoo	1	3	1	1	1	3	1	1				
Milwaukee Co. Zoo		2				2			1	3		
North Carolina Zoo	1	2			1	3+			1	4+		
Oakland Zoo		3			1	3			2-3	4-5		
Oklahoma City Zoo				2				2				2
Omaha's Henry Doorly Zoo		2			1	3			1	3		
Oregon Zoo			3	4			3	5			3	5

Appendix III. Elephant TAG/SSP Resource Survey Results by Facility and by Species, 2002 (cont)

Facility	Currently # Elephants Held				Current Maximum # Spaces				Maximum # Spaces in 5 years			
	# African bulls	# African cows	# Asian bulls	# Asian cows	# African bulls	# African cows	# Asian bulls	# Asian cows	# African bulls	# African cows	# Asian bulls	# Asian cows
Philadelphia Zoo		1		1		1		1			1	4
Phoenix Zoo				3				3				3
Pittsburgh Zoo	1	4			1-2	3-4			1-2	3-4		
Point Defiance Zoo				3				3				3
Reid Park Zoo		1		1		1		1		1		1
Riverbanks Zoo		3				4			1	4		
Roger Williams Park Zoo		3				3			1	5		
Rosamond Gifford Zoo at Burnet Park			1	6			1	6				
San Antonio Zoo		1		2	1	2-3	1	2-3	1	1	2-3	2-3
San Diego Wild Animal Park	1	3	1	5	1	5	1	5	1	5	1	5
San Diego Zoo		1		2		1		2		1		2
San Francisco Zoo	Did not return survey											
Santa Barbara Zoo				2				2				2
Sedgwick County Zoo		2				2				2		
Seneca Park Zoo		2				2			1	4		
Six Flags Marine World		4		3		6		5	1	6	1	5
Smithsonian National Zoo			1	3				5			4	6
St. Louis Zoo			1	5			2-3	6-8			2-3	6-8
Toledo Zoo		2				4				4		
Tulsa Zoo			1	2			1	3			1	3
Utah's Hogle Zoo		2		1		2		1		3		1
Virginia Zoo		2				4				4		
Wildlife Safari	1	2			1	4			1	5		
Woodland Park Zoo		1		4		1		3				4
Zoo Atlanta		3				3				3		
Total	14	119	26	122	26-27	156-159	26-28	152-155	36-38	158-163	37-43	155-162

Appendix IV. Elephant TAG/SSP Institutional Liaison Assignments (2003)

David Blasko	Bruce Bohmke	Chuck Doyle	Martha Fischer	Charlie Gray
6 Flags Marine World	Woodland Park Zoo	Rosamond Gifford Zoo	St. Louis Zoo	African Lion Safari
Wildlife Safari	Point Defiance Zoo	Buffalo Zoo	Dickerson Park Zoo	Calgary Zoo
Cleveland Metroparks	Oregon Zoo	National Zoo	Tulsa Zoo	Have Trunk Will Travel
San Francisco	Reid Park Zoo	Bronx Zoo	Santa Barbara Zoo	Albuquerque Zoo
Chaffee Zoo	Houston Zoo	Buttonwood Park Zoo	Audubon Zoo	Fort Worth Zoo
Honolulu Zoo	Phoenix Zoo		Oklahoma City Zoo	Metro Toronto Zoo
				Granby Zoo
Dale Leeds	John Lehnardt	Guy Lichty	Steve McCusker	Debbie Olson
Denver Zoo	Disney's Animal Kingdom	North Carolina Zoo	San Antonio Zoo	Indianapolis Zoo
Zoo Atlanta	Miami Metrozoo	Oakland Zoo	El Paso Zoo	Knoxville Zoo
Baton Rouge Zoo	Lion Country Safari	Topeka Zoo	Dallas Zoo	Roger Williams Pk Zoo
Abilene Zoo	Montgomery Zoo	Louisville Zoo	Little Rock Zoo	Philadelphia Zoo
Ut ah's Hogle Zoo	Jacksonville Zoo	Birmingham Zoo	Brookfield Zoo	Caldwell Zoo
Cheyenne Mtn Zoo	Lowry Park Zoo	Virginia Zoo		Cameron Pk Zoo
Chehaw				
Harry Peachy	Mike Quick	Randy Rieches	Conrad Schmitt	
Columbus Zoo	Sedgwick Co. Zoo	San Diego WAP	Riverbanks Zoo	
Cincinnati Zoo	Kansas City Zoo	San Diego Zoo	Pittsburgh Zoo	
Busch Gardens Tampa	Omaha's Henry Doorly Zoo	Lincoln Park Zoo	Greenville Zoo	
Los Angeles Zoo	Lee Richardson Zoo	Gladys Porter Zoo	Jackson Zoo	
Detroit Zoo	Memphis Zoo	Seneca Park Zoo	Toledo Zoo	
Central Florida Zoo	Milwaukee Co Zoo		Baltimore Zoo	

Appendix V.

Elephant TAG/SSP Advisory Groups Advisors, Subcommittees and Steering Committee Liaisons (2003)

Group	Advisor	Subcommittee	SC Liaison
Behavior and Enrichment	Jill Mellen, Disney's Animal Kingdom		Chuck Doyle
Education	Kathy Lehnhardt, Disney's Animal Kingdom		Dale Leeds
Field Conservation	Chris Wemmer, National Zoological Park		Harry Peachy
Fund Raising	Vacant	Vacant	Vacant
Nutrition	Ellen Dierenfeld	Liz Hile, North Carolina Zoo Eduardo Valdez, Disney's Animal Kingdom	Bruce Bohmke
Pathology	Richard Montali, National Zoological Park		John Lehnhardt
Public Relations	Vacant	Vacant	Mike Keele
Reproduction	Dennis Schmitt, Southwest Missouri State University Janine Brown, NZP	Jeff Wyatt, Seneca Park Zoo Barb Wolfe, North Carolina Zoo Anne Savage, Disney's Animal Kingdom Thomas Hildebrandt, IZW Naida Loskutof, Omaha's Henry Doorly Zoo Richard Fayer-Hosken, University of Georgia-Athens	Debbie Olson
Research	Dennis Schmitt, Southwest Missouri State University	Bets Rasmussen, Oregon Graduate Institute Nancy Czekala, San Diego Zoo Nancy Hawkes, Woodland Park Zoo Dick Montali, National Zoo Laura Richman, Johns Hopkins School of Medicine Laura Graham, Toronto Zoo Bill Lindsay, Feld Entertainment, Inc.	Debbie Olson

Appendix V.

Elephant TAG/SSP Advisory Groups: Advisors, Subcommittees and Steering Committee Liaisons (2003)

Group	Advisor	Subcommittee	SC Liaison
Small Population Management Asian Elephant	Laurie Bingaman-Lackey, ISIS		Mike Keele
African Elephant	Bob Wiese, Fort Worth Zoo		Debbie Olson
Training	Bruce Upchurch, Woodland Park Zoo	Chuck Doyle, Syracuse David Blasko, Six Flags Darryl Hoffman, Buffalo	David Blasko
Veterinary	Michele Miller, Disney's Animal Kingdom	Richard Montali, National Zoo Laura Richman, Johns Hopkins School of Medicine Dennis Schmitt, Southwest Missouri State University Denise Sofranko, USDA, APHIS Scott Larsen, University of California-Davis College of Veterinary Medicine Susan Mikota, Sumatra Elephant Project Genny Dumonceaux, Busch Gardens Bill Lindsay, Feld Entertainment, Inc Janet Payeur, USDA, Ames, Iowa Joel Maslow, Oregon Zoo Don Neiffer, Disney's Animal Kingdom Jim Oosterhuis, SDWAP Rae Gandolf, The Wilds, Ohio Dominic Travis, Lincoln Park Zoo Ramiro Isaza, University of Florida College of Veterinary Medicine	John Lehnhardt

Appendix VI. Elephant TAG/SSP Advisor Job Descriptions

Behavior and Enrichment:

The Behavior and Enrichment Advisor should advise members on the issues related to training, behavior, and enrichment. Some of the responsibilities of this position include:

1. Advise facilities with animals that have behavioral issues.
2. Identify environmental conditions that promote behaviorally healthy animals.
3. Develop guidelines for reducing aggression towards herd mates and humans.
4. Develop guidelines for the reduction of various stereotypic behaviors.
5. Assist, when needed, in the development of training protocols for both protected and free contact facilities.

Education:

The Education Advisor should maximize the educational potential of captive elephant populations by:

1. Developing key messages and recommending that they be presented at every exhibiting facility.
2. Developing samples of signs, manuals and curricula, where appropriate, translating these products into the language(s) and learning styles of range countries and making them available in the form of their traditional learning materials.
3. Assisting the TAG with website development for the taxa.
4. Developing educational materials that might include a detailed range map of the distribution of all wild populations, a package of basic natural history information, accounts of status in the wild and in captivity, and other pertinent information that could easily be incorporated into signage, teacher manuals, "partners in conservation" programs, curricula for local schools and reading lists.
5. Gathering information on the cultural, legal and educational values and attitudes of the citizens of range countries as they relate to elephant conservation.

Field Conservation:

The Field Conservation Advisor should advise members on the direction of conservation/research initiatives for Asian and African elephants by:

1. Developing research goals for in situ conservation action and maintain an international inventory of in situ research projects.
2. Developing research goals for ex situ conservation action and maintain an international inventory of all ex situ research projects.
3. Facilitating the development of research projects by TAG members.
4. Reviewing all research proposals submitted to the TAG for support and make recommendations to the TAG steering committee.

5. Distributing relevant announcements and issues from outside scientific sources relevant to elephant conservation to committee members.

Fund Raising:

Recognizing a unique responsibility and opportunity for fund raising because of the broad appeal and visibility of elephants, the Fund Raising Advisor should:

1. Assemble lists of the resource needs of recognized in situ and ex situ projects, and then attract funding for elephant conservation and research in general, thereby freeing sponsors from the need to investigate specific taxa and projects.
2. Help identify, review and prioritize the projects to which contributions will be directed.
3. Identify and establish contacts with non-AZA organizations that are funding elephant research and conservation projects.

Nutrition:

Some of the responsibilities of the Nutrition Advisor include:

1. Nutrition Advisor should be aware of activities of species advisors falling under the TAG - suggest species advisors and encourage active participation; excellent two-way communication is crucial between SSP and TAG advisors.
2. Provide annual summary of activities (limited to no more than one page), for Elephant TAG/SSP Chair; copy to AZA Nutrition Advisory Group (NAG) Chair for AZA report.
3. Annually conduct comprehensive literature search and update bibliography for elephants - to be submitted to Elephant TAG/SSP Chair and AZA Information Officer.
4. Lead and participate in the development of the nutrition section of the husbandry manual. Review existing nutrition section of husbandry manual annually, and update as needed (at least once per 5 years), following the established NAG review procedures.
5. Ensure that the nutrition section and all written diet husbandry, feeding guidelines and updates are submitted to the NAG vice-chair for review in a timely manner.
6. If asked, assist with review of nutrition-related research proposals to the Elephant TAG/SSP.
7. Facilitate review of any NAG Fact Sheets pertaining to elephants.
8. Post Elephant TAG/SSP Action Plan and encourage appropriate research activities addressing nutrition issues through listing on NAGNOTES (and other appropriate listservs).

Public Relations:

The Public Relations Advisor should advise members on the issues related to public perception and media coverage regarding elephants by:

1. Maintaining updated lists and materials regarding elephant related issues and coverage.
2. Identifying existing public attitudes and perceptions towards elephants in situ and ex situ.
3. Distributing national and global media releases concerning elephants to committee and institutional representatives

Reproduction:

An important aspect of the future of captive elephant management is the ability to breed the animals in our collection. The Reproduction Advisor should:

1. Participate in the reproductive evaluation of animals in the captive population.
2. Be available to consult with institutional representatives regarding elephant reproductive physiology.
3. Advise the Steering Committee on proposed TAG sponsored projects related to reproductive physiology.

Research:

The Research Advisor should assist members on the direction of research initiatives for Asian and African elephants by:

1. Developing research goals for in situ research action and maintaining an international inventory of in situ research projects.
2. Developing research goals for ex situ research action and maintaining an international inventory of ex situ research projects.
3. Facilitating the development of research projects by TAG members.
4. Reviewing all research proposals submitted to the TAG for support and making recommendations to the TAG Steering Committee.
5. Distributing relevant announcements and issues from outside scientific sources relevant to elephant research to committee members.

Small Population Management:

The Small Population Management Advisor should assist development of a sound genetic program for the captive population by:

1. Consulting with Asian and African elephant studbook keepers, management committee and institutional representatives, etc. when conducting analyses of the population.
2. Reviewing SSP Master Plan recommendations.
3. Participating in master planning sessions
4. Evaluating through computer analysis recommended pairings.

Training:

Considering that elephant training within our facilities varies considerably due to facility design, facility goals, staff ability and safety factors, the Elephant TAG/SSP Training Advisor should advise members accordingly on training and training options as follows:

1. To continually evaluate, standardize, disseminate and implement information on humane methods of behavior modification with elephants, primarily through AZA's Principles of Elephant Management course.
2. To serve as a resource for the Elephant TAG/SSP and member facilities.
3. To explain the principles and techniques of free, protected and confined contact elephant management.
4. To evaluate individual elephants and make recommendations regarding appropriate training protocols/strategies.
5. To evaluate training programs and their compliance with AZA Standards for Elephant Management and Care.

Veterinary & Pathology:

Recognizing the unique challenges related to elephant medicine the Veterinary Advisor and the Pathology Advisor can provide members with relevant information by:

1. Identifying the major medical problems for the taxon and pursuing methods of diagnostic evaluation and treatment.
2. Customizing the quarantine, movement, preventive medicine, and necropsy protocols to best suit the individual taxon.
3. Providing regular morbidity and mortality reports, Significant diagnostic tests; their availability, accuracy and cost, updates on vaccine recommendations, recommended contraception methods, and other significant medical activities to the Management Group members.
4. Identify scientific specialists in the areas affecting the health and well being of the species. Assist in coordinating data collection efforts between other AZA Science Advisors, scientific specialists, collection managers and veterinarians.
5. Advise the Elephant TAG/SSP on animal welfare, guidelines for surplus animals and significant federal legislation as it pertains to captive breeding, movement and or reintroduction.
6. Facilitate the development of centralized sera and tissue banks if needed.
7. Act as a reviewer for proposed research protocols and methods that pertain to the species/taxa. The SSP/TAG Management Group must be advised on the value and potential health and welfare issues posed by such proposals.
8. Act as reviewer for the medical portion of any surveys that are being sent out through the SSP/TAG or that are received by the SSP/TAG.

Appendix VII. Institutional Representatives

Facility	Institutional Representative	Email address	African or Asian Elephant Facility
Abilene Zoological Gardens	Mike Higgins/IR	higginsm@abilenetx.com	African
African Lion Safari	Charlie Gray/IR & SC	admin@lionsafari.com	Asian
Albuquerque Biological Park	Tom Silva/IR	tsilva@cabq.gov	African & Asian
Audubon Park	Dan Maloney/IR	dmaloney@auduboninstitute.org	Asian
Baltimore Zoo	Jay Mapp/IR	jmapp@baltimorezoo.org	African
Birmingham Zoo	Marcia Riedmiller/IR	mriedmiller@birminghamzoo.com	Asian
BREC's Bat on Rouge Zoo	Sam Winslow/IR	wslw@juno.com	Asian
Bronx Zoo	Jim Doherty/IR	jdoherly@wcs.org	Asian
Brookfield Zoo	Ann Petric/IR	anpetric@brookfieldzoo.org	African
Buffalo Zoo	Daryl Hoffman/IR	ddhoff17@aol.com	Asian
Busch Gardens-Tampa	Ken White/IR	Ken.white@buschgardens.com	Asian
Buttonwood Zoo	Dave Raboy/IR	508-979-1731	Asian
Caldwell Zoo	Scott Maddox/IR	smatzoo@aol.com	African
Calgary Zoo	David Banks/IR	daveb@calgaryzoo.ab.ca	Asian
Cameron Park Zoo	Joe Grubic/IR	joeg@ci.waco.tx.us	African
Central Florida Zoo	Fred Antonio/IR	fbantonio@hotmail.com	Asian
Chaffee Zoo	Ralph Waterhouse/IR	rwater@chaffeezoo.org	Asian
Chehaw Wild Animal Park	John Fowler/IR	jfowler@parksatchehaw.org	African
Cheyenne Mountain Zoo	Tracy Leeds/IR	tleads@cmzoo.org	African
Cincinnati Zoo	Michael Dulaney/IR	dulaney@cincyzoo.org	Asian
Cleveland Metroparks Zoo	Alan Sironen/IR	als@clevelandmetroparks.com	African
Columbus Zoo	Harry Peachy/IR & SC	harry.peachey@columbuszoo.org	Asian
Dallas Zoo	Ken Kaemmerer/IR	kkaem@airmail.net	African
Denver Zoo	Dale Leeds/IR & SC	curmammals@denverzoo.org	Asian
Detroit Zoological Park	Scott Carter/IR	scarter@voyager.net	Asian
Dickerson Park Zoo	John Collette/IR	jcollette@dickersonparkzoo.org	Asian
Disney's Animal Kingdom	John Lehnhardt/IR & SC	john.lehnhardt@disney.com	African
El Paso Zoo	Allan Seidon/IR	epzooeduca@aol.com	Asian

Facility	Institutional Representative	Email address	African or Asian Elephant Facility
Fort Worth Zoo	Michael Fouraker/IR	ceo@fortworthzoo.org	Asian
Gladys Porter Zoo	Jerry Stones/IR	jstones@gpz.org	African
Granby Zoo	Danielle Delisle/IR	d.delisle@zoogranby.qc.ca	African
Greenville Zoo	Robert Wilson/IR	wilsonr@greater-greenville.com	African
Have Trunk Will Travel	Kari Johnson/IR	havetrunkwilltravel@earthlink.net	Asian
Honolulu Zoo	Richard Ball/IR	butch@hgea.org	Asian
Houston Zoo	Rick Barongi/IR	rbarongi@aol.com	Asian
Indianapolis Zoo	Debbie Olson/IR & SC	dolson@indyzoo.com	African
Jackson Zoo	Dave Wetzel/IR	dlwetzel@msn.com	African
Jacksonville Zoo	Craig Miller/IR	millerc@jaxzoo.org	African
Kansas City Zoo	Conrad Schmitt/IR & SC	conrad_Schmitt@fotzkc.org	African
Knoxville Zoo	Becky Hargis/IR	bhargis@knoxville-zoo.org	African
Lee Richardson Zoo	Delfi Messinger/IR	dmessinger@garden-city.org	African
Lincoln Park Zoo	Robyn Barbiers/IR	rbarbiers@lpzoo.org	Asian
Little Rock Zoo	Britt Thompson/IR	mblakely@littlerock.state.ar.us	African & Asian
Los Angeles Zoo	Jeff Briscoe/IR	briscoejeff@hotmail.com	African & Asian
Louisville Zoo	Steve Taylor/IR	staylor@louky.org	African
Lowry Park Zoo	Jennifer Hackshaw/IR	lpz61@aol.com	African
Lion Country Safari	Terry Wolf/IR	561-793-1084 ext 350	African
Memphis Zoo	Houston Winbigler/IR	hwinbigler@memphiszoo.org	African
Metro Toronto Zoo	Eldon Smith/IR	esmith@torontozoo.ca	African
Miami MetroZoo	Eric Stephens/IR	eric@co.miami-dade.fl.us	African & Asian
Milwaukee County Zoo	Bruce Beehler/IR	bbeehler@aol.com	African
North Carolina Zoo	Guy Lichty/IR & SC	guy.lichty@ncmail.net	African
Oakland Zoo	Colleen Kinzley/IR	colleen@oaklandzoo.org	African
Oklahoma City Zoo	Bill Savage/IR	bsavage@okczoo.com	Asian
Omaha's Henry Doorly Zoo	Dan Cassidy/IR	danc@omahazoo.com	African
Oregon Zoo	Mike Keele/IR & TAG Chair	keelem@metro.dst.or.us	Asian
Philadelphia Zoo	Kim Lengel/IR	lengel.kim@phillyzoo.org	African & Asian

Facility	Institutional Representative	Email address	African or Asian Elephant Facility
Phoenix Zoo	Gretchen Bickert/IR	gbickert@thephxzoo.com	Asian
Pittsburgh Zoo	Less Nesler/IR	nesler@zoo.pgh.pa.us	African
Point Defiance Zoo	Karen Goodrowe/IR	kgoodrowe@pdza.org	Asian
Reid Park Zoo	Mike Flint/IR	Mflint1@ci.tucson.az.us	African & Asian
Riverbanks Zoo	Steve Wing/IR & SC	swing@riverbanks.org	African
Roger Williams Park Zoo	Jennifer Warmbold/IR	jwarmbold@rwpzoo.org	African
Rosamond Gifford Zoo at Burnet Park	Chuck Doyle/IR & SC	chuckdoyle@ongov.net	Asian
San Antonio Zoo	Steve McCusker/IR & SC	mccusker@sazoo-aq.org	African & Asian
San Diego Zoo & Wild Animal Park	Randy Rieches/IR & SC	rrieches@sandiegozoo.org	African & Asian
San Francisco Zoo	Michele Rudovsky/IR	michelesfz@aol.com	African & Asian
Santa Barbara Zoo	Alan Varsik/IR	avarsik@santabarbarazoo.org	Asian
Sedgwick Co. Zoo	Mike Quick/IR & SC	mammals@scz.org	African
Seneca Park Zoo	Gail Tabone/IR	gtabone@mcls.rochester.lib.ny.us	African
Six Flags Marine World	David Blasko/IR & SC	dblasko@sftp.com	African & Asian
Smithsonian National Zoo	Bill Xanten/IR	xantenb@nzp.si.edu	Asian
Saint Louis Zoo	Martha Fischer/IR & SC	fischer@stlzoo.org	Asian
Toledo Zoo	Randi Meyerson/IR	randi@toledo zoo.org	African
Tulsa Zoo	Karen Dunn/IR	karendunn@ci.tulsa.ok.us	Asian
Ut ah's Hogle Zoo	Doug Tomkinson/IR	dtomkinson@hoglezoo.org	African & Asian
Virginia Zoo	Jody Watkins/IR	jody.watkins@norfolk.gov	African
Wildlife Safari	Pat Flora/IR	elephants@wildlifesafari.org	African
Woodland Park Zoo	Bruce Bohmke/IR & SC	bruce.bohmke@zoo.org	African & Asian
Zoo Atlanta	Maria Crane/IR	mcrane@zooatlanta.org	African

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