



**AZA ELEPHANT TAG/SSP
REGIONAL COLLECTION PLAN**

2ND EDITION

**COMPILED BY AZA ELEPHANT TAG/SSP STEERING COMMITTEE
2007**

**ASSOCIATION
OF ZOOS &
AQUARIUMS**

AZA Elephant TAG/SSP Leadership

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Contact information for AZA Elephant TAG/SSP Leadership, Steering Committee Members and Advisors can be found within Appendix IX.

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AZA Elephant Mission Statement Adopted January 2005

The Association of Zoos and Aquariums (AZA) is comprised of caring, trusted experts committed to ensuring that elephants are part of the world's future. Through our conservation, education and research programs, elephants in our care play an essential role in the survival of the species in the wild. AZA advocates on behalf of elephants with a unified and consistent voice and collaborates with others committed to the long-term survival of elephants.

The AZA Board of Directors asked the AZA Elephant Taxon Advisory Group/Species Survival Plan (TAG/SSP) to develop a vision and long-range plan for the AZA-managed elephant population. A successful future in elephant conservation and management in accredited zoos requires strategic goals and an action plan that will guide AZA zoos in reaching the final vision.

An Elephant Management Strategic Planning Workshop was organized in December 2004 to assist the AZA Elephant TAG/SSP with developing a vision for the future of the elephant management program. It included drafting goals, which are a framework for action on how to create the desired future, and plan for the resources and opportunities that are necessary to meet those goals.

Twenty-three participants, including representatives from the AZA Elephant TAG/SSP, institutional directors, board members, and AZA staff, gathered in Fort Worth, Texas on 5-7 December 2004. The outcomes of this workshop were: 1) the development of a draft vision for the future of the AZA elephant program; and 2) the development of draft goals and actions for achieving this vision.

In January 2005, Directors of 78 AZA accredited zoos that care for elephants met to review the draft report from this workshop and enhance the long-range plans for elephant care, management, conservation and research. As a part of this meeting, the group defined the components of an institutional "commitment" to the AZA Elephant TAG/SSP. AZA Institutions that are committed to the AZA Elephant TAG/SSP will:

- Enhance population sustainability through institutional carrying capacity
 - SSP Participants that are breeding facilities will strive to hold 6-12 elephants, with capabilities for 2 or more males
 - Other SSP Participants will strive to hold 2-6 elephants, with capabilities for all males
- Participate in or contribute to *in-* or *ex situ* elephant conservation
- Participate in and support AZA Elephant TAG/SSP research projects (includes submitting samples, responding to surveys, contributing resources)
- Abide by AZA Elephant TAG/SSP breeding recommendations
- Promote AZA Elephant TAG/SSP education messages

- Contribute resources to developing conservation centers
- Contribute resources to hiring a full time position for program oversight
- Publicly speak and act with a unified voice
- Participate in a proactive public relations campaign
- Provide support for elephant staff to participate in AZA Elephant TAG/SSP activities
- Abide by AZA Standards for Elephant Management and Care (with the understanding that they're dynamic and may evolve as our knowledge increases)

TAG Definition

The AZA Elephant TAG/SSP includes two species in the family Elephantidae (Table 1). The Elephant TAG/SSP manages both Asian and African elephants at the species level.

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)¹.

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)². 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.

Table 1: AZA Elephant TAG/SSP Species (IUCN 1990 & 1999)

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 current IUCN Red Data List, US Fish and Wildlife Department (USFWS) listings and Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendices. Wild population status was gathered from the most recent IUCN/SSC African Elephant Specialist Group and Asian Elephant Specialist Group information. Zoo population status for each species was determined by reviewing the most current Regional Studbook data and/or by consulting

¹ Santiapillai, C. and P. Jackson, 1990. The Asian Elephant: An Action Plan for its Conservation. IUCN/SSC Asian Elephant Specialist Group. IUCN, Gland, Switzerland.

² Blanc, J.J. et al. IUCN African Elephant Status Report, 2007: an update from the African Elephant Database. IUCN/SSC African Elephant Specialist Group. IUCN, Gland, Switzerland.

current ISIS data. The wild and zoo status of each AZA Elephant TAG/SSP species are summarized in Tables 2 and 3. Wild elephant population estimates for Asia and Africa are listed by country in Appendix I and II.

Table 2. Conservation Status of Wild Elephants

Species	IUCN Red Data List ³	USFWS ⁴	CITES ⁵	Wild Population Estimates
Asian elephant <i>Elephas maximus</i> All subspecies	EN A1cd ver. 2.3 (1994)	Endangered	Appendix I	Between 36,790-51,160
African elephant <i>Loxodonta Africana</i> All subspecies	VU A2a ver. 3.1 (2001)	Threatened	Appendix I (except in Botswana, Namibia, South Africa and Zimbabwe which are Appendix II)	Between 472,269-689,671

Table 3: Global Status of Elephants in Human Care

Species	NA Population (SSP and non-SSP facilities)	International Population ⁶	
Asian elephant <i>Elephas maximus</i> All subspecies	273 (46.227) ⁷	Europe	52.190.2
		Other	44.85
African elephant <i>Loxodonta Africana</i> All subspecies	220 (33.187) ⁸	Europe	40.128
		Other	5.14

AZA Elephant TAG/SSP Space Analysis Survey

A Space Analysis Survey was distributed in 2007 to 230 facilities, including AZA member institutions, related facilities and non-AZA facilities which currently participate in the AZA Elephant TAG/SSP. The responses from this survey were analyzed to determine the space that is currently available and that will be available in the future to manage elephants in AZA Elephant TAG/SSP facilities (Table 4). A complete listing of the facility responses to the Space Analysis Survey is provided in Appendix III.

³ 2006 IUCN Red List of Threatened Animals. www.iucnredlist.org The IUCN SSC, Gland Switzerland.

⁴ US Fish and Wildlife Service. www.fws.gov

⁵ Convention on International Trade in Endangered Species of Wild Fauna and Flora. www.cites.org

⁶ ISIS Abstracts, www.isis.org, 2007.

⁷ Keele, M. and K. Lewis, 2005. AZA North American Regional Studbook for Asian Elephants, April 2005.

⁸ Olson, D, 2006. AZA North American Regional Studbook for African Elephants, April 2006

Summary results of the Space Analysis Survey are listed in Table 4. The results indicated that currently there are 299 (146 Asian, 153 African) spaces being occupied by elephants in AZA and non-AZA Elephant SSP/TAG facilities with a current maximum capacity of 390 (182 Asian, 208 African) spaces available. Within the next 5 years, the Space Analysis Survey results indicate that the maximum capacity will increase within SSP/TAG participating facilities to 532 (251 Asian, 281 African) spaces.

A Resource Survey conducted for the First Edition of the AZA Elephant TAG/SSP Regional Collection Plan⁹ projected that between 386-406 spaces (roughly 200 spaces for each species) would be available for elephants in the future. This year's Space Analysis Survey clearly indicates an encouraging increased level of commitment of future elephant holding space by TAG/SSP participating institutions. Additionally, the Space Analysis Survey illustrates the understanding that more bull holding space is critical to achieving population targets for both species.

All AZA member institutions and related facilities, as well as non-AZA Elephant TAG/SSP participating institutions, were asked to respond to a Space Analysis Survey. All of the 81 Elephant TAG/SSP participating institutions responded to this survey (100%). Overall, only 176 of 230 surveyed facilities responded to the Space Analysis Survey (76% response rate). Requests for information were sent out three times in an effort to achieve AZA's desired 80% response rate and ample time was given to respond to the simple Yes/No survey. All of the survey non-responders are not currently holding elephants and are unlikely to ever hold elephants (aquariums, butterfly houses, etc), so after three requests, it was assumed by the Steering Committee that their non-response to the survey indicated their lack of interest in participating in the AZA Elephant TAG/SSP now or in the next five years.

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

Table 4: AZA Elephant TAG/SSP Space Analysis Survey, 2007

Species	Current holding 2007	Maximum holding 2007	Maximum holding in 5 years
Asian elephant <i>Elephas maximus</i> All subspecies	28.118 (146)	27.133.22 (182)	46.166.39 (251)
African elephant <i>Loxodonta Africana</i> All subspecies	23.130 (153)	31.159.18 (208)	48.184.49 (281)
Total Elephant Spaces	51.248 (299)	58.292.40 (390)	94.350.88 (532)

⁹ Fischer, M., editor. AZA Elephant TAG/SSP Regional Collection Plan, First Edition. 2003.

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 zoo and field conservation efforts and for designating an appropriate Management Category for each species.

The AZA 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 AZA Elephant TAG/SSP umbrella and both species deserve conservation support *in situ* and *ex situ*. Both species will be given priority for zoo 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 AZA Elephant 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 AZA 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 endangered and threatened in the wild due to habitat degradation/encroachment and to competition with humans and domestic livestock.
- Existence of a viable NA zoo population: Both species currently exist in NA. The NA zoo populations of both elephant species are currently not viable without importation.
- Availability of potential founders: Founders of both species are potentially available from other zoo 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 is no need and 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: Zoo 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

Space Analysis Survey results, zoo population status and population viability information provided by studbook keepers/SSP coordinators and their Small Population Management

Advisory Group (SPMAG) or Population Management Center (PMC) advisors were considered prior to setting target populations for each species. The three-year target populations were figured with the assistance of the TAG's Population Management Advisors, the AZA Population Management Center biologists and program managers. These target populations can be found within the AZA Elephant TAG/SSP Program Summary Table (Table 5).

Program 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)

Each species was also assessed using the suggested WCMC Management Assessment Criteria and the results of this assessment supported both the Steering Committee's professional assessment based on expertise. The Management Assessment Criteria table can be found in Appendix IV.

Programs Roles and Purposes

All species for which programs are recommended in this RCP contribute to the conservation and/or awareness of elephants and their native habitats or to research intended to improve management or aid conservation. The roles and purposes for all elephants are included within the Program Recommendations Summary Table (Table 5) and are described below.

- **Conservation Support and Safety Net Population**
A sustainable zoo program managed to ensure against the loss of the species in the wild, and which has components which directly link to some aspect of *in situ* conservation for the species.
- **Conservation Link and Education Population**
A sustainable zoo program that is maintained to ensure minimal input from wild populations, and which contributes to *in situ* conservation efforts for the species by generating interest and support, or through interpretive education programs for zoos and zoo visitors. The need for released animals in field programs is not immediate, and the management of the population for release is not considered a priority.
- **Education and Display Population**
A sustainable managed zoo program that will require minimal input from wild populations. The program is intended for species that do not have strong conservation links, but which are important elements of mixed-species or other displays, and/or may be utilized in zoo education programs.
- **Research Population**
A zoo program that is maintained in a sustainable program to provide data for research, either basic or applied, intended to improve elephant management and/or contribute to elephant conservation.

Table 5: AZA Elephant TAG/SSP Program Recommendations Summary Table

Species	Program Recommended	3-Year Target Population in AZA facilities	Program Role and Purpose	Program Contacts
Asian elephant <i>Elephas maximus</i> All subspecies	SSP	150	Conservation Support and Safety Net	Mike Keele Oregon Zoo (SSP & Studbook)
African Elephant <i>Loxodonta africana</i> All subspecies	SSP	145	Conservation Support and Safety Net	Mike Keele Oregon Zoo (SSP) Debbie Olson Indianapolis Zoo (Studbook)

AZA and International Elephant Foundation Partnership

AZA and its members currently support more than 85 elephant conservation, research and education projects. In 2004, AZA and the International Elephant Foundation (IEF) entered into a new partnership to help identify and fund critical conservation and research projects that will benefit Asian and African elephants. The MOU provides for greater collaboration and addresses serious needs for programs assisting elephants in the wild and in AZA-accredited zoos. The AZA Elephant TAG/SSP encourages institutions to partner with IEF on elephant conservation and research efforts. Information about IEF and its programs can be found at www.elephantconservation.org.

Three-Year Action Plan

The AZA 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.

The AZA 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. The group felt that the plan should stand as written 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. All items identified in the sections below are important in the TAG/SSP's long-range vision plan. The items in **bold** in each section are the primary focus items for the next three years.

The following should be considered when reviewing this plan:

- The Elephant TAG/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 actions 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 AZA Elephant TAG/SSP Three-Year Action Plan has considerable overlap with the goals and objectives of the developing AZA Vision Plan for Elephants. The Steering Committee recognizes that some of the action items listed within the RCP may receive support through these efforts.

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.
- Conduct a study of baseline activity levels and distance traveled on zoo and wild elephants.

Education:

- 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 zoos, and other pertinent information that could easily be incorporated into signage, teacher manuals, "partners in conservation" programs, curricula for local schools and reading lists.
- Compile factual, detailed information about AZA elephant programs to support our practices and positions.
- Continue to develop key elephant messages, fact sheets and FAQs for member use.

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/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 zoo 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:

- **Assist, when needed, in the development of facility and elephant training protocols.**
- **Continue to work with AZA Professional Training Program to provide a high quality training experience through its Principles of Elephant Management course.**
- Review and update the current AZA Standards for Elephant Management and Care.
- Develop a framework for a universal transition plan for institutions wishing to remove elephants from their collection plan.
- Determine elephant husbandry requirements in the areas of temperature, space, foot care, exercise, facility design, etc.

Nutrition:

- **Collect scientific data to determine if the composition of browse is a critical component of the diet, not simply enrichment.**

- Establish how nutrition and/or exercise impacts reproductive activity (cyclicality, pregnancy, parturition) and health, and develop species-appropriate diets.
- Assess the AZA 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.
- 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.**

Reproduction:

- **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.**
- **Train more bulls for semen collection.**
- **Identify strategies to reduce infant mortality and stillbirths.**
- 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.
- Encourage scientific investigation into musth to better understand social, reproductive and husbandry implications.

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.
- 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 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

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.

- Hire an intern to collect and analyze all the data currently available on the prevalence of foot problems and their impact on elephants. Review the effectiveness of current foot treatments on both Asian and African elephants. Collect, analyze and disseminate information on the causes of foot problems and establish best practice models.

- Hire an intern to collect and analyze all the data currently available on arthritis and its impact on elephants. Review the effectiveness of current arthritis treatments.
- 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.
- 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.

AZA Elephant TAG/SSP Operational Structure

The AZA Elephant TAG/SSP was approved by the AZA Board of Directors in 2001 as a result of the AZA Elephant Planning Initiative. The AZA 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 zoo and field conservation.

The Asian Elephant SSP and the African Elephant SSP are managed cooperatively under the purview of the AZA Elephant TAG/SSP to synchronize the zoo 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 zoo populations for both species into the future.

The AZA Elephant TAG/SSP leadership group consists of an appointed Chair and fourteen elected Steering Committee members. The AZA 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.

Steering Committee

The AZA 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 AZA 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 AZA 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 AZA 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 AZA Elephant TAG/SSP meeting per year.
- Be prepared to chair AZA Elephant TAG/SSP subcommittees or serve as AZA Elephant TAG/SSP Secretary.
- Review and vote on submission of a Regional Collection Plan to WCMC.
- Review and vote on the AZA Elephant TAG/SSP policy recommendations to the Board.
- Review and vote on SSP Masterplan recommendations.
- Have access to email.

Institutional Liaisons

To facilitate communication flow between the AZA 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 AZA 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 AZA 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.
- The IL should provide input/comment on institutional performance and compliance to recommendations at time of accreditation.

Advisory Groups

To most effectively pursue the goals outlined in its Mission Statement, the Steering Committee of the AZA 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 AZA 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 Commitment

In January 2005, Directors of 78 AZA accredited zoos that care for elephants met to discuss the long-range plans for elephant care, management, conservation and research. As a part of this meeting, the group defined the components of an institutional “commitment” to the AZA Elephant TAG/SSP. AZA Institutions that are committed to the AZA Elephant TAG/SSP will enhance population sustainability through institutional carrying capacity as defined in the following categories:

- Breeding Facilities: SSP Participants that are breeding facilities and will strive to hold 6-12 elephants, with capabilities for 2 or more males
- Holding Facilities: Other SSP Participants that will strive to hold 2-6 elephants, with capabilities for all males
- Supporting institution – AZA institutions that will not hold elephants but will financially support various goals of the TAG/SSP.

Institutional Representatives

There are 81 participating facilities in the AZA 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. A complete listing of the AZA Elephant TAG/SSP IRs for each facility is available from AZA.

AZA Elephant TAG/SSP Listservs and Website

The Steering Committee and Advisors of the AZA 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.

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

elephantscad@lists.aza.org is a listserv that includes the AZA Elephant TAG/SSP Chair, Steering Committee, Advisors, AZA Board Chair, Assistant Director, AZA C&S Dept., WCMC Liaison. This listserv is used to conduct AZA Elephant TAG/SSP business that includes the Advisors.

elephant@lists.aza.org is a listserv that includes the AZA Elephant TAG/SSP Chair, Steering Committee, Advisors, Institutional Representatives, AZA C&S Dept. and the AZA Public Affairs

Director. This listserv is used for more general communication with and between the AZA Elephant TAG/SSP and the IRs.

www.elephanttag.org is the AZA Elephant TAG/SSP website that includes information on Asian and African elephants, as well as resources such as studbooks, regulations and other professional documents.

AZA Elephant TAG/SSP Policies, Procedures and Protocols

Several AZA and AZA 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 Elephant TAG/SSP Policies, Procedures and Protocols

The AZA Standards for Elephant Management and Care, 1991. (revised in 2003; amended in 2005; revisions currently in prep for reissue in 2007) are available from AZA, on the AZA Elephant TAG/SSP website (www.elephanttag.org) or from your AZA Elephant TAG/SSP IL.

In addition, several elephant health monitoring and research protocols are available on-line at www.elephantcare.org, from the AZA Elephant TAG/SSP Veterinary Advisor or from your AZA Elephant TAG/SSP IL.

AZA Elephant TAG/SSP Voting

When an issue needs to be decided within the AZA 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.

AZA Elephant TAG/SSP Breeding/Transfer Recommendations Procedure

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

Breeding Recommendations: The AZA 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 AZA Elephant TAG/SSP approval.

Breeding recommendations for AZA 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 AZA 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 AZA Elephant TAG/SSP 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 Conservation 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. Estimated minimum and maximum number of elephant in the wild in Asia¹⁰

Country	Minimum	Maximum
Bangladesh	190	230
Bhutan	250	500
Cambodia	400	600
China	170	200
India, Northwestern	900	1,000
Northeastern	9,200	11,300
Central	2,400	2,700
Southern	10,300	17,400
Indonesia, Sumatra	1,180	1,557
Kalimantan	?	?
Laos	780	1,200
Malaysia, Peninsular	1,251	1,466
Sabah	1,100	1,600
Myanmar	4,000	5,300
Nepal	100	130
Sri Lanka	2,100	3,000
Thailand	2,500	3,000
Vietnam	70	100
Total	36,790	51,160

¹⁰ From *Gajah*, Journal of the IUCN/SSC Asian Elephant Specialist Group, Number 25: (2006).

Appendix II. Summary of Elephant Population Estimates on the African Continent, IUCN 2007.

Region	Country	Number of Elephants				Range Area (km ²)	
		Definite	Probable	Possible	Speculative		
Central Africa	Cameroon	179	726	4,965	9,517	118,571	
	Central African Republic	109	1,689	1,036	500	73,453	
	Chad	3,885	0	2,000	550	149,443	
	Congo	402	16,947	4,024	729	135,918	
	Democratic Republic of Congo	2,447	7,955	8,855	4,457	263,700	
	Equatorial Guinea	0	0	700	630	15,008	
	Gabon	1,523	23,457	27,911	17,746	218,985	
	Total	10,383	48,936	43,098	34,129	975,079	
	Eastern Africa	Eritrea	96	0	8	0	5,293
		Ethiopia	634	0	920	206	38,365
Kenya		23,353	1,316	4,946	2,021	107,113	
Rwanda		34	0	37	46	1,014	
Somalia		0	0	0	70	4,526	
Sudan		20	0	280	0	318,239	
Tanzania		108,816	27,937	29,350	900	390,366	
Uganda		2,337	1,985	1,937	300	15,148	
Total		137,485	29,043	35,124	3,543	880,063	

Appendix II (cont). Summary of Elephant Population Estimates on the African Continent, 2007.

Region	Country	Number of Elephants				Range Area (km ²)
		Definite	Probable	Possible	Speculative	
Southern Africa	Angola	818	801	851	60	406,946
	Botswana	133,829	20,829	20,829	0	100,265
	Malawi	185	323	632	1,587	7,538
	Mozambique	14,079	2,396	2,633	6,980	334,786
	Namibia	12,531	3,276	3,296	0	146,921
	South Africa	17,847	0	638	22	30,455
	Swaziland	31	0	0	0	50
	Zambia	16,562	5,948	5,908	813	201,247
	Zimbabwe	84,416	7,033	7,367	291	76,931
	Total	297,718	23,186	24,734	9,753	1,305,140
West Africa	Benin	1,223	0	0	0	13,673
	Burkina Faso	4,154	320	520	0	19,872
	Ghana	789	387	241	12	23,301
	Guinea	135	79	79	57	1,524
	Guinea Bissau	0	0	7	13	1,346
	Ivory Coast	188	152	119	506	33,985
	Liberia	0	0	0	1,676	15,977
	Mali	357	0	141	156	31,878
	Niger	85	0	17	0	2,683
	Nigeria	348	0	105	375	22,968
	Senegal	1	0	0	9	1,090
	Sierra Leone	0	0	80	135	1,804
	Togo	4	0	61	0	5,444
	Total	7,487	735	1,129	2,939	175,545
Total Continental Estimates	472,269	82,704	84,334	50,364	3,335,827	

Appendix III. AZA Elephant TAG/SSP Space Analysis Survey Results by Institution, Asian and African Elephants, 2007.

2007 AZA Elephant TAG/SSP Space Survey Results - Asian Elephants										
Institution	Current # of Asian Elephants			Current Maximum # of Asian Elephants			Future Maximum # of Asian Elephants			
	Males	Females	Unknown	Males	Females	Unknown	Males	Females	Unknown	
Abilene Zoological Gardens	0	0	0	0	0	0	0	0	0	
Adventure Aquarium	0	0	0	0	0	0	0	0	0	
African Lion Safari	4	11	0	4	16	0	4	16	0	
African Safari Park										
African Safari Wildlife Park	0	0	0	0	0	0	0	0	0	
Akron Zoological Park										
Alameda Park Zoo										
Albuquerque Biological Park	2	3	0	2	3	0	2	4	4	
Alexandria Zoological Park										
Aquarium & Rainforest at Moody Gardens, Inc.										
Aquarium of the Bay										
Aquarium of the Pacific	0	0	0	0	0	0	0	0	0	
Arizona-Sonora Desert Museum										
Audubon Aquarium of the Americas										
Audubon Center for Research of Endangered Species										
Audubon Zoo	0	2	0	0	2	0	0	2	0	
Bergen County Zoo	0	0	0	0	0	0	0	0	0	
Bermuda Aquarium, Museum and Zoo										
Binder Park Zoo	0	0	0	0	0	0	0	0	0	
Biodome de Montreal	0	0	0	0	0	0	0	0	0	
Birch Aquarium at Scripps Institute of Oceanography										
Birmingham Zoo	0	1	0	0	2	0	0	1	0	
Blank Park Zoo	0	0	0	0	0	0	0	0	0	
Boonshoft Museum of Discovery	0	0	0	0	0	0	0	0	0	
Bramble Park Zoo										
Brandywine Zoo	0	0	0	0	0	0	0	0	0	
BREC's Baton Rouge Zoo	0	2	0	0	2	0	0	3	0	

Zoo Atlanta	0	0	0	0	0	0	0	0	0	0	0	0	0
Zoo Boise													
Zoo de Granby	0	0	0	0	0	0	0	0	0	0	0	0	0
Zoo Montana	0	0	0	0	0	0	0	0	0	0	0	0	0
ZOOAMERICA North American Wildlife Park	0	0	0	0	0	0	0	0	0	0	0	0	0
Total of each sex	28	118	27	133	22	46	166	39					
Grand Total	146		182			251							

2007 AZA Elephant TAG/SPP Space Survey Results - African Elephants

Institution	Current # of African Elephants		Current Maximum # of African Elephants			Future Maximum # of African Elephants		
	Males	Females	Males	Females	Unknown	Males	Females	Unknown
Abilene Zoological Gardens	0	2	0	2	0	0	2	0
Adventure Aquarium	0	0	0	0	0	0	0	0
African Lion Safari	0	0	0	0	0	0	0	0
African Safari Park								
African Safari Wildlife Park	0	0	0	0	0	1	3	0
Akron Zoological Park								
Alameda Park Zoo								
Albuquerque Biological Park	0	0	0	0	0	0	0	0
Alexandria Zoological Park								
Aquarium & Rainforest at Moody Gardens, Inc.								
Aquarium of the Bay								
Aquarium of the Pacific	0	0	0	0	0	0	0	0
Arizona-Sonora Desert Museum								
Audubon Aquarium of the Americas								
Audubon Center for Research of Endangered Species								
Audubon Zoo	0	0	0	0	0	0	0	0
Bergen County Zoo	0	0	0	0	0	0	0	0
Bermuda Aquarium, Museum and Zoo								
Binder Park Zoo	0	0	0	0	0	0	0	0
Biodome de Montreal	0	0	0	0	0	0	0	0
Birch Aquarium at Scripps Institute of								

Six Flags Discovery Kingdom	0	4	0	0	4	0	0	0	0	0	2	0
Smithsonian National Zoological Park	0	0	0	0	0	0	0	0	0	0	0	0
Squam Lakes Natural Science Center												
St. Augustine Alligator Farm	0	0	0	0	0	0	0	0	0	0	0	0
St. Paul's Como Zoo	0	0	0	0	0	0	0	0	0	0	0	0
Staten Island Zoo												
Steve Martin's Natural Encounters, Inc.	0	0	0	0	0	0	0	0	0	0	0	0
Sunset Zoological Park	0	0	0	0	0	0	0	0	0	0	0	0
Tampa's Lowry Park Zoo	2	3	2	2	4	4	2	1	4	2	0	0
Tautphaus Park Zoo	0	0	0	0	0	0	0	0	0	0	0	0
Tennessee Aquarium	0	0	0	0	0	0	0	0	0	0	0	0
Texas State Aquarium	0	0	0	0	0	0	0	0	0	0	0	0
Texas Zoo												
The Butterfly House												
The David Traylor Zoo of Emporia	0	0	0	0	0	0	0	0	0	0	0	0
The Florida Aquarium												
The Good Zoo at Oglebay	0	0	0	0	0	0	0	0	0	0	0	0
The Living Desert	0	0	0	0	0	0	0	0	0	0	0	0
The Living Seas												
The Maryland Zoo in Baltimore	0	2	1	1	5	0	0	2	10	0	0	0
The Wilds	0	0	0	0	0	0	0	0	0	0	0	0
Toledo Zoo	1	1	1	1	2	2	0	1	2	2	0	0
Topeka Zoo	0	1	0	0	1	1	0	0	2	0	0	0
Toronto Zoo	0	6	0	0	6	0	0	0	6	0	0	0
Trevor Zoo	0	0	0	0	0	0	0	0	0	0	0	0
Tulsa Zoo and Living Museum	0	0	0	0	0	0	0	0	0	0	0	0
Turtle Back Zoo	0	0	0	0	0	0	0	0	0	0	0	0
Univ. of Nebraska Callitrichid Research Center												
Utah's Hogle Zoo	0	3	1	1	5	0	0	1	5	0	0	0
Vancouver Aquarium Marine Science Center	0	0	0	0	0	0	0	0	0	0	0	0
Virginia Aquarium & Marine Science Center	0	0	0	0	0	0	0	0	0	0	0	0
Virginia Zoological Park	0	3	0	0	4	0	0	0	3	0	0	0
Walter D. Stone Memorial Zoo												

Appendix IV. AZA Elephant TAG/SSP Program Management Assessment Table, 2007

Criteria	Asian Elephant	African Elephant
Availability within AZA	Low	Low
Availability outside AZA	Low	Low
Extinction Risk w/out management (in zoos and aquariums)	Endangered/Threatened	Endangered/Threatened
Extinction Risk with management (in zoos and aquariums)	Decreases	Decreases
Demand within AZA	High	High
Institutional Commitment	Moderate	Moderate
Ease of Breeding	Low-Moderate	Low-Moderate
Extinction Risk (wild) IUCN designation	Endangered/Threatened	Endangered/Threatened
Acquisition cost (outside AZA)	High	High
Program operating costs	High	High
International program	Yes	Yes
Link to conservation of wild populations	Direct	Direct
N. American governmental conservation program	No	No
Program designation	SSP	SSP

Appendix V. AZA Elephant TAG/SSP Program Recommendations Updates from 2004 RCP

Species	Previous Program Status	2007 Recommendation	Program Leader Change?	New Program Leader
Asian Elephant	SSP	SSP	No	No Changes
African Elephant	SSP	SSP	No	No Changes

Appendix VI. AZA Elephant TAG/SSP Program Status Table, 2007

Program	Date Program Initiated	Current Program Leader	Date Leadership Assumed	Date of Last Studbook Update	Date of Last PMP Publication	Date of Last SSP Publication
Asian Elephant NA Regional Studbook and SSP	1985	Studbook Keeper & SSP Coordinator Mike Keele Oregon Zoo mike.keele@oregonzoo.org	Studbook 1985 SSP 1996	April 2005	N/A	May 2006
African Elephant NA Regional Studbook and SSP	1992	Studbook Keeper Debbie Olson Indianapolis Zoo dolson@elephantconservation.org SSP Coordinator Mike Keele Oregon Zoo Mike.keele@oregonzoo.org	Studbook 1996 SSP 1996	April 2006	N/A	April 2006

Appendix VII. AZA Elephant TAG/SSP Institutional Liaison Assignments, 2007.

Terri Roth Terri.roth@cincinnati zoo.org	Bruce Bohmke Bruce.bohmke@zoo.org	Chuck Doyle chuckdoyle@ongov.net	Martha Fischer fischer@stlzoo.org	Charlie Gray cgray@lionsafari.com
Cincinnati Zoo	Woodland Park Zoo	Rosamond Gifford Zoo	Saint Louis Zoo	African Lion Safari
Wildlife Safari	Point Defiance Zoo	Buffalo Zoo	Dickerson Park Zoo	Calgary Zoo
Chaffee Zoo	Oregon Zoo	National Zoo	Tulsa Zoo	Have Trunk Will Travel
Honolulu Zoo	Utah's Hogle Zoo	Bronx Zoo	Audubon Zoo	Albuquerque Zoo
6 Flags Marine World	Cheyenne Mtn Zoo	Buttonwood Park Zoo	Oklahoma City Zoo	Fort Worth Zoo
	Denver Zoo			Metro Toronto Zoo
				Granby Zoo
Sharon Joseph sjoseph@houstonzoo.org	John Lehnhardt John.lehnhardt@disney.com	Guy Lichty Guy.lichty@nczoo.org	Steve McCusker mccusker@sazoo-aq.org	Debbie Olson dolson@elephantconservation.org
Houston Zoo	Disney's Animal Kingdom	North Carolina Zoo	San Antonio Zoo	Indianapolis Zoo
Topeka Zoo	Miami Metrozoo	Oakland Zoo	El Paso Zoo	Knoxville Zoo
Baton Rouge Zoo	Lion Country Safari	Zoo Atlanta	Dallas Zoo	Louisville Zoo
Abilene Zoo	Roger Williams Pk Zoo	Riverbanks Zoo	Little Rock Zoo	Philadelphia Zoo
Phoenix Zoo	Lowry Park Zoo	Greenville Zoo	Brookfield Zoo	Caldwell Zoo
Reid Park Zoo	Jacksonville Zoo	Virginia Zoo		Cameron Pk Zoo
				Nashville Zoo
Harry Peachey Harry.peachey@columbuszoo.org	Mike Quick mquick@scz.org	Randy Rieches rrieches@sandiegozoo.org	Amos Morris amorris@pittsburghzoo.org	
Columbus Zoo	Sedgwick Co. Zoo	San Diego WAP	Pittsburgh Zoo	
Busch Gardens/Tampa	Kansas City Zoo	San Diego Zoo	Baltimore Zoo	
Seneca Park Zoo	Milwaukee Co Zoo	Santa Barbara Zoo	Birmingham Zoo	
Cleveland Metroparks	Lee Richardson Zoo	Los Angeles Zoo	Jackson Zoo	
Central Florida Zoo	Memphis Zoo		Toledo Zoo	
Niabi Zoo	Omaha's Henry Doorly Zoo		Montgomery Zoo	

Appendix VIII. AZA Elephant TAG/SPP Advisory Groups Advisors, Subcommittees and Steering Committee Liaisons (2007)

Group	Advisor(s)	Subcommittee	SC Liaison
Behavior and Enrichment	Jill Mellen, Disney's Animal Kingdom jill.mellen@disney.com		Chuck Doyle
Education	Kathy Lehnhardt, Disney's Animal Kingdom kathy.lehnhardt@disney.com		John Lehnhardt
Field Conservation	Vacant	Wahdi Azmi, Fauna & Flora International Ravi Corea, Sri Lanka Wildlife Conservation Society Ian Craig, Northern Rangeland Trust Iain Douglas Hamilton, Save the Elephants Jayantha Jayawardene, Biodiversity & Elephant Conservation Trust Mike Loomis, North Carolina Zoo	Harry Peachey
Fund Raising	Vacant	Vacant	Vacant
Nutrition	Ellen Dierenfeld, Saint Louis Zoo Dierenfeld@stlzoo.org	Liz Hile, North Carolina Zoo Eduardo Valdez, Disney's Animal Kingdom	Bruce Bohmke
Pathology	Scott Terrell, Disney's Animal Kingdom Scott.p.terrell@disney.com		John Lehnhardt
Public Relations	Vacant	Vacant	Mike Keele
Reproduction	Janine Brown, NZP CRC brownjan@si.edu	Richard Fayer-Hosken, University of Georgia-Athens Thomas Hildebrandt, IZW Naida Loskutoff, Omaha's Henry Doorly Zoo Terri Roth, Cincinnati Zoo Anne Savage, Disney's Animal Kingdom Dennis Schmitt, Missouri State Univ/Feld Entertainment Barb Wolfe, The Wilds Jeff Wyatt, Seneca Park Zoo	Terri Roth
Research	Janine Brown, NZP CRC brownjan@si.edu	Nancy Czekala, San Diego Zoo Laura Graham Nancy Hawkes, Woodland Park Zoo Laura Richman, Johns Hopkins School of Medicine Terri Roth, Cincinnati Zoo	Terri Roth

Appendix VIII (cont). AZA Elephant TAG/SSP Advisory Groups: Advisors, Subcommittees and Steering Committee Liaisons, 2007

Group	Advisor(s)	Subcommittee	SC Liaison
Small Population Management	Bob Wiese, Fort Worth Zoo rwiese@sandiegozoo.org Population Management Center pmc@lpzoo.org		Mike Keele Debbie Olson
Training	Bruce Upchurch, Woodland Park Zoo bruce.upchurch@zoo.org	Chuck Doyle, Rosamond Gifford Zoo Darryl Hoffman, Houston Zoo	Chuck Doyle
Veterinary	Michele Miller, Disney's Animal Kingdom michele.miller@disney.com	Genny Dumonceaux, Busch Gardens Rae Gandolf, The Wilds Thomas Hildebrandt, IZW Ramiro Isaza, University of Florida College of Veterinary Medicine Scott Larsen, University of California-Davis College of Veterinary Medicine Joel Maslow, Oregon Zoo Susan Mikota, Sumatra Elephant Project Don Neiffer, Disney's Animal Kingdom Jim Oosterhuis, SDWAP Janet Payeur, USDA, Ames, Iowa Laura Richman, Johns Hopkins School of Medicine Dennis Schmitt, Missouri State University/Feld Entertainment Dominic Travis, Lincoln Park Zoo	John Lehnhardt

Appendix IX. AZA Elephant TAG/SSP Leadership, Advisors and Program Leaders Contact Information

Program	Individual	Contact Information
Steering Committee	Mike Keele, Chair, Oregon Zoo	mike.keele@oregonzoo.org
	John Lehnhardt, Vice-Chair, Disney's Animal Kingdom	john.lehnhardt@disney.com
	Martha Fischer, Secretary, Saint Louis Zoo	fischer@stlzoo.org
	Bruce Bohmke, Woodland Park Zoo	bruce.bohmke@zoo.org
	Chuck Doyle, Rosamond Gifford Zoo at Burnet Park	chuckdoyle@ongov.net
	Charlie Gray, African Lion Safari	cgray@lionsafari.com
	Sharon Joseph, Houston Zoo, Inc.	sjoseph@houstonzoo.org
	Guy Lichty, North Carolina Zoological Park	guy.lichty@nczoo.org
	Steve McCusker, San Antonio Zoological Gardens & Aquarium	mccusker@sazoo-aq.org
	Amos Morris, Pittsburgh Zoo & PPG Aquarium	amorris@pittsburghzoo.org
	Debbie Olson, Indianapolis Zoological Society, Inc.	dolson@elephantconservation.org
	Harry Peachey, Columbus Zoo and Aquarium	harry.peachey@columbuszoo.org
	Mike Quick, Sedgwick County Zoo	mquick@scz.org
	Randy Rieches, Zoological Society of San Diego	rrieches@sandiegozoo.org
	Terri Roth, Cincinnati Zoo & Botanical Garden	terri.roth@cincinnati.zoo.org
Asian Elephant NA Regional Studbook Keeper	Mike Keele, Oregon Zoo	mike.keele@oregonzoo.org
African Elephant NA Regional Studbook Keeper	Debbie Olson, Indianapolis Zoological Society, Inc.	dolson@elephantconservation.org
Elephant SSP Coordinator	Mike Keele, Oregon Zoo	mike.keele@oregonzoo.org
Behavior and Enrichment Advisor	Jill Mellen, Disney's Animal Kingdom	jill.mellen@disney.com
Education Advisor	Kathy Lehnhardt, Disney's Animal Kingdom	kathy.lehnhardt@disney.com
Field Conservation Advisor	Vacant	Vacant
Fund Raising Advisor	Vacant	Vacant
Nutrition Advisor	Ellen Dierenfeld, Saint Louis Zoo	Dierenfeld@stlzoo.org
Pathology Advisor	Scott Terrell, Disney's Animal Kingdom	Scott.p.terrell@disney.com
Public Relations Advisor	Vacant	Vacant
Reproduction Advisor	Janine Brown, NZP Conservation and Research Center	brownjan@si.edu
Research Advisor	Janine Brown, NZP Conservation and Research Center	brownjan@si.edu
Small Population Management Advisors	Bob Wiese, Zoological Society of San Diego AZA Population Management Center	rwiese@sandiegozoo.org pmc@lpzoo.org
Training Advisor	Bruce Upchurch, Woodland Park Zoo	bruce.upchurch@zoo.org
Veterinary Advisor	Michele Miller, Disney's Animal Kingdom	michele.miller@disney.com

Appendix X. AZA 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 zoo 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 zoos, 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 making 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 AZA 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 AZA 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 AZA Elephant TAG/SSP.
7. Facilitate review of any NAG Fact Sheets pertaining to elephants.
8. Post AZA 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 zoo 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 zoo 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 Advisors should assist development of a sound genetic program for the zoo 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 AZA 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 AZA 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 AZA Elephant TAG/SSP on animal welfare, guidelines for surplus animals and significant federal legislation as it pertains to zoo 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.