

NATIONAL ZOOLOGICAL PARK

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2006 ACTUAL	202	20,374	4	613	22	5,937	3	847
FY 2007 ESTIMATE	212	20,676	4	1,028	22	7,358	4	900
FY 2008 ESTIMATE	215	21,842	4	1,028	22	3,521	4	950

STRATEGIC GOALS: INCREASED PUBLIC ENGAGEMENT; STRENGTHENED RESEARCH; AND ENHANCED MANAGEMENT EXCELLENCE

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2007		FY 2008		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Increased Public Engagement						
<i>Public Programs</i>						
Engage and inspire diverse audiences	2	247	2	252	0	5
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	114	9,706	115	10,249	1	543
<i>Collections</i>						
Improve the stewardship of the national collections	47	5,579	49	5,918	2	339
Strengthened Research						
<i>Research</i>						
Engage in research and discovery	28	2,187	28	2,261	0	74
Enhanced Management Excellence						
<i>Security and Safety</i>						
Provide a safe and healthy environment	4	525	4	685	0	160
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	4	792	4	802	0	10
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	9	1,085	9	1,109	0	24
Ensure that the workforce is efficient, collaborative, committed, innovative, and diverse	0	100	0	100	0	0
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	4	455	4	466	0	11
Total	212	20,676	215	21,842	3	1,166

BACKGROUND AND CONTEXT

As the Nation's Zoo, the mission of the National Zoological Park (NZP) is to provide leadership in animal care, conservation science, education, and sustainability. The Zoo has outlined an ambitious new strategic plan with the goal that, by 2016, it will be recognized as the world's finest zoo, providing the highest quality animal care; advancing scientific excellence in conserving wildlife; teaching and inspiring people to engage in conservation of wildlife, water, and habitats; and practicing conservation leadership.

Consistent with the overarching objectives of the Institution, the NZP has established specific goals and performance metrics to fulfill its mission and achieve its vision. The Zoo has set as its highest priority an aggressive, long-range facilities maintenance and revitalization plan (i.e., the master plan) that ensures optimal safety and protection of facilities, collections, visitors, staff, and volunteers. This will provide the necessary infrastructure to achieve the NZP's programmatic goals. In support of the Smithsonian's goal of Increased Public Engagement, the Zoo will offer compelling, first-class exhibits, judiciously build, refine, and care for its animal and plant collections, and extend the reach of its educational programs, both for the general public and for professionals in the conservation sciences.

To achieve the goal of Strengthened Research, the NZP will expand programs that integrate research on both Zoo animals and species in the wild, resulting in synergies that benefit the health and well-being of both populations, as well as the human societies that interact with these diverse animals. The Zoo will continue to develop strategic partnerships with other Smithsonian units and external organizations to complement its strengths in veterinary medicine, reproductive sciences, and conservation biology. Under the Smithsonian Strategic Science Plan, the Zoo will pursue focused research on life's diversity, including partnership-based and multi-disciplinary studies of extinction-prone species and their habitats.

To achieve the goal of Enhanced Management Excellence, the Zoo will focus on increased attention to safety and health of the staff and collections, continue to apply integrated pest management throughout its facilities, modernize information management systems, and enhance the skills of staff and managers to increase their effectiveness. Major improvements already have been made in these and other areas that were cited as concerns in the 2003 American Zoo and Aquarium Association (AZA) accreditation inspection, in the 2003–2006 U.S. Department of Agriculture (USDA) inspection findings, and in the 2004 and 2005 reports of the National Academy of Sciences (NAS). The National Zoo will be preparing once again for re-accreditation in 2008.

For FY 2008, the budget estimate includes an increase of 3 FTEs and \$1,166,000. Included is an increase of \$566,000 for necessary pay for existing staff funded under this line item. In addition, the NZP is seeking a programmatic increase of 3 FTEs and \$600,000 to improve pest management in the Zoo, provide a better level of care for animals, improve horticulture maintenance and feeding of animals, and to meet safety needs.

MEANS AND STRATEGY

To achieve the goal of Increased Public Engagement, the NZP will continue to devote significant resources to its animal habitats and the care of the animals in the Zoo—recognizing that both are essential for the overall health and safety of the animal collection—as well as to ensure a high-quality visitor experience. A major portion of the NZP staff and budget will continue to be used to provide state-of-the-art medical care, nutrition, husbandry, and safe and enriching environments for all NZP animals.

Animal exhibits will continue to be upgraded, using the strategy of customizing or tailoring exhibit spaces to reflect the specific needs of the animal species, particularly with regard to their overall welfare and behavioral needs. Each species' behavior and natural history will be considered when designing habitats to stimulate natural behaviors for foraging, hunting, and breeding. Planned exhibit improvements will expand opportunities for animal enrichment; support behavioral, nutritional, or reproductive studies; and provide Zoo visitors with an inspiring and educational experience. Staff continue to update and improve the Zoo's popular website, rated by Web visitors as excellent in amount and quality of information and design. The website "Education World" gave the Zoo's website an A+ in December 2006, recommending it as a resource for teachers and children in kindergarten through grade 12. In 2006, the website attracted 27.3 million visits, an increase of 4.5 million from 2004. NZP's endearing giant panda cub, Tai Shan, continues to enthrall webcam watchers around the world, with more than 28 million visits to the Zoo's panda pages from the date of his birth in July 2005 through December 2006.

Numerous aging or failed exhibit, staff, and visitor areas continue to be revitalized as the NZP continues renovating and modernizing the Zoo. A priority will be upgrading the inadequate fire-detection and suppression systems throughout the Rock Creek and Front Royal, Virginia facilities. A review of the regular maintenance needs of these systems, addition of systems where none currently exist, and replacement of failing systems has been made in coordination with the Office of Facilities Engineering and Operations, and has been incorporated in the Zoo's Facilities Capital Program.

In FY 2007, the NZP will assess the success of Asia Trail I, which opened in October 2006. The Zoo provided programmatic guidance to design and begin construction of a new elephant “wing” that incorporates modern science and husbandry requirements into the historic Elephant House, which was built in the 1890s and last renovated in the 1930s. With input from other *in situ* and *ex situ* elephant experts around the world, the NZP is designing a series of habitats for its elephants that will stimulate a variety of natural behaviors and exercise. The Zoo will continue to incorporate and link science into existing and new exhibits, while also increasing the visibility and scope of its conservation efforts through demonstrations, the website, and various other media.

To achieve the goal of Strengthened Research, the NZP will continue to address significant scientific and conservation issues of key species and critical habitats by studying animals in the field and in captive environments. In the context of the Smithsonian Institution (SI) Science and NZP Strategic Plans, the Zoo will continue efforts to be recognized as a scientific leader in the conservation of species and their habitats. The NZP will enhance the integration of science with exhibits, selection and care of the animal collection, educational programs, and the overall facilities master plan. Scientific, curatorial, and veterinary personnel are working together to study the medical needs, reproductive patterns, behavior, habitat use, interaction with people, and populations of numerous, different endangered species—such as the Asian elephant—in captivity and in the wild. They monitor and maintain the health of the Zoo’s animal collection through advanced diagnostic techniques, and evaluate mortalities for potential emerging diseases. Avian monitoring and surveillance research provide accurate disease diagnostics for the West Nile virus, avian influenza and avian malaria. These measures protect the Zoo's valuable animal collection and could potentially mitigate the effects of avian influenza in the United States. Studies such as these help improve the management of populations of endangered animals around the world, and are often conducted in collaboration with scientific organizations worldwide. The NZP will continue to share the results of this research with the public and a wide range of scholars, university researchers, and field biologists, and to include scientific participation in exhibit planning, educational programs, and media opportunities. The NZP will continue to invite students and outside colleagues to participate and collaborate in efforts to increase the Zoo’s capacity for scientific research and science-based professional training programs. Such training contributes to placing the Smithsonian Institution at the center of conservation-based training.

To achieve the goal of Enhanced Management Excellence, the NZP will increase safety training, and has set a goal of zero injuries in 2008. Zoonotic

(human/animal disease transmission) training and increased biosecurity protocols have been implemented to minimize health risks to staff and the animal collection. The NZP will aggressively execute its strategic and long-range renewal plans and continue its modernization and improvement programs in the areas of life, health, and safety of people and animals, animal nutrition (including food distribution), pest management, training, records management, and information technology. In addition, the NZP is assessing its around-the-clock infrastructure support operation for animal exhibits to ensure the safety and well-being of the collection, visitors, facilities, and staff. The Zoo's master planning efforts, begun in January 2005, will incorporate the strategic plan, collection and exhibit plans, science priorities, and visitor amenities, and will establish priorities for facility renovation and improvements at both the Rock Creek Park and Front Royal sites.

STRATEGIC GOALS AND FY 2008 ANNUAL PERFORMANCE GOALS

Increased Public Engagement

Engage and inspire diverse audiences (2 FTEs and \$252,000)

- Establish a curatorial residency program
- Re-establish clinical nutrition residency
- Coordinate the many opportunities for learning that exist in the Zoo environment—including exhibit graphics, informal talks provided by volunteer interpreters and keepers, and structured classes, special events, and courses—to encourage audiences of all ages to appreciate the diversity of wildlife and the impact of human behavior on habitats
- Use current and new affiliations and special programs to reach out to students, educators, and families. Special emphasis will be placed on engaging the many and diverse communities in both the greater Washington, DC and northern Shenandoah Valley regions
- Provide educational programming built on scientific content, with special attention to the contributions that Smithsonian scientists are making to understanding wildlife and conservation

Offer compelling, first-class exhibitions at the Smithsonian and across the nation (115 FTEs and \$10,249,000)

- Assess the new Asia Trail exhibit that opened in October 2006
- Continue construction of a new wing on the Zoo's historical elephant facility
- Improve graphics, signage, and the overall park presentation, concentrating on the visitor experience in improving cleanliness, amenities, access, and comfort

- Upgrade and increase the Zoo's popular animal webcams, based on Web visitor surveys, to improve service. Webcams will be added where surveys show the most visitor interest
- Use the collection planning process to increase the diversity of the animal collection by acquiring new species, and increase the population of the collection through reproductive programs and outside acquisitions
- Incorporate at least two videos and one live Webcam feed from the field into public exhibitions and the public website, www.nationalzoo.si.edu
- Continue the exhibit improvement program to renovate and upgrade existing exhibits, landscapes, and animal habitats, including effective, creative interpretation of the Zoo's science and conservation messages in these areas

Improve the stewardship of the national collections (49 FTEs and \$5,918,000)

- Conduct continual review and training on protocols to minimize the risk to the collection due to fire or other emergencies during and after normal operating hours
- Continue monthly preventive medical exams for appropriate animals at both the Rock Creek Zoo facility and the collection at the Front Royal Conservation Research Center
- Continue to meet the nutritional needs of the collection through routine monitoring of diets, improved quality control of daily feedings, and increased browse
- Continue to update and maintain animal diet database to exceed AZA and other appropriate standards
- Conduct annual reviews of all animal diets, food storage, handling and preparation methods, diet presentation, and record keeping associated with nutrition management of the collections
- Monitor effectiveness of centralized commissary operations
- Increase forage production at the Front Royal facility, yielding higher-quality forage over a longer growing season
- Work within the NZP, and with other zoos, to implement and promote the use of the new Zoological Information Management System (ZIMS) as a global database resource for improving animal care and knowledge of animals

Strengthened Research

Engage in research and discovery focused on discovering and understanding life's diversity (28 FTEs and \$2,261,000)

- Continue *in situ* and *ex situ* research on surveillance of wildlife health, disease, emerging infectious diseases, and the interfaces between wildlife, domestic animals, and human health, which is a

federal research priority area. A major effort is already under way for the Smithsonian Institution to work with several other zoos and agencies on a "first alert" system to track avian flu. Such research will be enhanced by the collections data available through ZIMS

- Expand strategic partnership in science by implementing the George Mason University/NZP conservation biology program
- Work with federal agencies, universities, and nongovernmental organizations, including the AZA, to provide professional training in ecological and biodiversity monitoring, geographic information systems applications, veterinary medicine, comparative nutrition, reproductive biology, conservation genetics, and wildlife management
- Serve as expert technical advisors to recovery programs for threatened species, with input from the U.S. Fish and Wildlife Service, and work with partners in the newly established Conservation Centers for Species Survival (CCSS) consortium (e.g., The Wilds [Ohio], White Oak [Florida], Fossil Rim [Texas], and Zoological Society of San Diego [California]) to conserve highly endangered species such as the Przewalski's horses, dama gazelles, cheetahs, and Mississippi sandhill cranes, among others
- Provide leadership in advancing the sciences of reproductive physiology, ecological nutrition, veterinary medicine, biodiversity assessment, conservation genetics, and small population management, with priorities established by the NZP Science Plan
- Increase the Zoo's collection-based research on Asian elephants, giant panda, kori bustards, cheetahs, several species of endangered frogs, Japanese giant salamanders, Pacific giant octopus, Atlantic cuttlefish, tropical Atlantic and Indo-Pacific corals, freshwater stingrays, and electric fishes
- Share research results with the global scientific community by publishing more than 100 peer-reviewed technical publications annually
- Train at least 10 postdoctoral fellows and 30 graduate students annually in reproductive sciences and conservation biology
- Collaborate with partners in the National Ecological Observatory Network (NEON) to establish a Mid-Atlantic Regional Ecological Observatory (MAREO) funded by the National Science Foundation
- Increase integration of Zoo- and field-based research to improve the overall impact of the NZP's conservation and educational programs
- Continue to integrate science at the NZP with animal husbandry, exhibits, and education, especially through the programming and implementation of the elephant program

Enhanced Management Excellence

Provide a safe and healthy environment to support Smithsonian programs (4 FTEs and \$685,000)

- Expand biosecurity practices throughout Zoo facilities to minimize the risk of avian flu and other diseases among the Zoo collections and the transmission of diseases between the collections and the staff

Modernize the Institution's information technology systems and infrastructure (4 FTEs and \$802,000)

- Continue to act as a ZIMS Center of Excellence, providing guidance in development and implementation of ZIMS to the zoological community. Continue beta testing new modules and upgrading ZIMS to provide leadership in animal electronic record keeping
- Monitor implementation of computer security protocols, including regular password changes, to reduce risk of penetration by hackers

Strengthen an institutional culture that is customer centered and results oriented (9 FTEs and \$1,109,000)

- Prioritize NZP facilities projects to ensure the safety of animal collections, staff, and visitors, and to support the implementation of the Zoo's master plan
- Reorganize management support to increase efficiency and to ensure timely processing of procurement, travel, and other program requirements as well as to meet Smithsonian Institution reporting responsibilities

Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse (\$100,000)

- Assess and enhance the skills of staff, supervisors, and managers to increase their effectiveness

Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments (4 FTEs and \$466,000)

- Enhance the Zoo's national and international exposure by promoting the Zoo's success stories in science, animal care, and education through regular news releases, photo releases, interviews, and press briefings to local and national news outlets, as well as popular and professional journals and magazines
- Develop the Zoo's credibility with the news media by meeting journalists' needs and answering their queries in a timely, efficient, and productive manner

FY 2008 REQUEST — EXPLANATION OF CHANGE

The FY 2008 budget estimate includes an increase of 3 FTEs and \$1,166,000. Included is an increase of \$566,000 for necessary pay for existing staff funded under this line item. In addition, the NZP is seeking a programmatic increase of 3 FTEs and \$600,000 to improve pest management in the Zoo, provide a better level of care for animals, improve horticulture maintenance and feeding of animals, and to meet safety needs. The increases are as follows:

- (+ \$100,000) This increase is requested to ensure safe management of a wide assortment of pests natural to zoos and the city, and exacerbated by the large amount of food distributed throughout the park to both animals and visitors (as well as the addition of six buildings on almost six acres of the Asia Trail exhibit). Funding is needed due to the complexity of pest management around a living collection of more than 400 species with different sensitivities, requiring various methods to minimize the number of rodents, cockroaches, ants, wasps, and other pests that can endanger animals and people. Additional funds are requested to support these services and associated pest management supplies for those activities carried out by staff.
- (+ \$280,000, + 3 FTEs) This increase is to support animal welfare. The new Asia Trail exhibits are from three to 10 times the size of many of the failed areas they replace. Two new species (giant salamanders and clouded leopards) have been added, and five of the species will be participating in a major breeding program as part of the AZA Species Survival Plan (SSP). The Zoo requests one additional animal keeper to support the larger exhibit area and animals. In addition to typical cleaning and feeding tasks carried out by keepers, basic animal care now requires regular enrichment to encourage animal behavior more typically observed in the wild, as well as interaction with the public to provide a much more meaningful experience for the visitor. The addition of one GS-13 clinical veterinarian and one GS-9 pathology medical technician to work with existing diagnostic staff will allow 24/7 medical care. Currently, there is one veterinarian on duty every day at the NZP Rock Creek site and none at the NZP Front Royal site on weekends; weekend care is limited to emergency treatments and there is no technician on duty to run tests. Timely laboratory tests for the increased living collections and post-mortem tests provide the best information upon which the NZP veterinarians can base clinical decisions. The additional laboratory technician will enable the Zoo to provide seven-day support for the veterinarians on duty. As the NZP continues to increase the number of

collection animals at both sites, adequate staff to handle ongoing care is essential. Additional funds are also needed to cover increasing costs for hospital and pathology service contracts, as well as for medicine and laboratory supplies.

- (+ \$170,000) This increase is for additional funding for horticultural and grounds maintenance support and to ensure adequate food and browse for pandas, elephants, and other animals. Horticulture is an integral part of the Zoo exhibition and must be carefully monitored to ensure that toxic plants are not used in animal exhibits. In addition, grounds maintenance (e.g., plantings, leaf and snow removal, etc.) must be undertaken on a seven-day-per-week basis to ensure visitor safety. The NZP must propagate plants, and harvest bamboo, and manage and maintain the bamboo collections to support species such as the red and giant pandas. The increased exhibit area created by Asia Trail, the Zoo's growing family of giant pandas, and the increased need to use browse as enrichment for elephants and other animals are all contributing to increased costs.
- (+ \$50,000) This increase is for additional funding for safety training services. Safety at the Zoo is a major priority and requires ongoing zoonotic training, awareness, and prevention as well as efforts to ensure the protection of staff and visitors from dangerous animals (and often protection of the animals from visitors). Zoonotic issues take up a growing amount of time, particularly as the Zoo prepares for the potential of avian influenza appearing in the United States and in the Zoo's large wild and captive bird populations at both sites. Preventive safety training was an area of concern noted in the 2005 NAS study. Smithsonian Institution safety training requirements have also increased beyond the capability of the Zoo's two safety specialists to support in two facilities for the unusually complex needs of the NZP.

If the FY 2008 request is not allowed, the NZP will not be able to provide the needed pest management services nor support the proper level of animal enrichment activities needed for basic animal welfare. In addition, the Zoo will not be able to meet its goal of providing the highest standards of animal care for its collection. Without an additional medical technician, the pathology laboratory will be unable to provide seven-day-a-week coverage, including weekend hematology, chemistry, bacteriology, and parasitology services. Currently, the Pathology Department is often unable to support the veterinary clinical staff for the timely diagnosis of disease conditions in NZP animal collections. Without adequate horticulture and grounds maintenance support, the NZP will have a reduced ability to ensure that the giant pandas and elephants have needed browse for their diet, and maintenance of the

extensive public gardens will be below acceptable levels. This will affect the success of a major new exhibit as well as other Zoo exhibits as they are upgraded, thereby affecting public perception of the NZP's ability to not only care for the park as a whole, but for the animals in its care. Safety at the Zoo is always a critical issue, and without additional funding all the expected training will not be provided to staff. Without this additional funding, re-accreditation in 2008 is at risk, and an increase in negative USDA inspection findings can be expected.

NONAPPROPRIATED RESOURCES—General trust funds support salaries and benefits of education and outreach personnel, general operational support to ensure adequate animal care, science outreach activities, and animal acquisitions. Donor/sponsor-designated funds support costs related to specific programs and projects, such as research on animal nutrition, studies of elephant behavior in the wild, and professional training. A large percentage of these funds will also supplement federal funding for renovating and modernizing the Zoo. Private donations for the Asia Trail II, the Elephant Trails project, contribute to a portion of construction costs and support all exhibit interpretive design and implementation. Government grants and contracts support research on animal nutrition and reproduction and habitat studies of endangered species. NZP education, visitor services, and volunteer programs are funded almost exclusively by Friends of the National Zoo.