



Smithsonian
Institution

**National Zoological Park:
Improvements Needed to Strengthen
Monitoring of Recommendations to
Resolve Animal Care Issues**

Office of the Inspector General

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March 31, 2016



In Brief

National Zoological Park: Improvements Needed to Strengthen Monitoring of Recommendations to Resolve Animal Care Issues

Report Number *OIG-A-16-07*, March 31, 2016

What OIG Did

The objective of this audit was to determine to what extent the Smithsonian National Zoological Park's (National Zoo) management has addressed recommendations to improve animal care operations based on several reviews conducted at the Rock Creek Park campus.

Background

The National Zoo's mission is to provide leadership in animal care, science, education, and sustainability. Providing quality care to the approximately 1,800 animals in its care is also central to the mission.

The National Zoo operates in an environment that is regulated by both governmental and non-governmental organizations. For example, it is subject to the federal Animal Welfare Act and also must uphold standards to maintain its accreditation with the Association of Zoos and Aquariums.

In 2012 and 2013, the National Zoo underwent inspections based on concerns about animal care, including escapes and deaths, and an accreditation review. Some of the animal care incidents occurred at the Cheetah Conservation Station, which houses cheetahs, zebras, and other African species.

What Was Found

The Office of the Inspector General (OIG) found that the National Zoo had no centrally managed process to monitor recommendations made to improve animal care operations. Because the National Zoo was not centrally monitoring recommendations, OIG had to compile a list of the 51 recommendations from five reports issued in 2013 by the National Zoo's Animal Care and Use Committee, the Association of Zoos and Aquariums, the Smithsonian's Office of Safety, Health and Environmental Management, and the U.S. Department of Agriculture. The recommendations related to: (1) updating policies and procedures, (2) repairing or maintaining animal care facilities or equipment, (3) acquiring additional staff or equipment, and (4) updating and documenting training. OIG then worked with National Zoo staff and management to determine the status of corrective actions for each recommendation.

Based on the analysis of the 51 recommendations, OIG concluded that 7 recommendations had not been addressed as of April 2015. OIG met with National Zoo management to discuss the outstanding recommendations, and by July 2015, 5 recommendations had been resolved. In March 2016, more than 2 years after they were made, the remaining 2 recommendations were closed.

A key internal control involves active monitoring of the implementation of recommendations until corrective actions are completed. Although the Smithsonian is not required to follow the Office of Management and Budget's (OMB) Circular A-50, this circular addresses monitoring of recommendations; and it contains steps that management should take to ensure prompt resolution of recommendations, such as maintaining accurate records on the status of recommendations until they are resolved.

The National Zoo needs to develop a monitoring process for tracking all animal care recommendations. By implementing a monitoring process, the National Zoo will be in a better position to ensure timely action is taken to address animal care recommendations identified in the future.

What Was Recommended

OIG recommended that the Director of the National Zoo develop and implement a monitoring process for all recommendations related to animal care that incorporates the steps outlined in OMB Circular A-50. Management concurred with this recommendation.

For additional information or a copy of the full report, contact OIG at (202) 633-7050 or visit <http://www.si.edu/oig>.

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ABBREVIATIONS

ACUC	Animal Care and Use Committee
AZA	Association of Zoos and Aquariums
CCS	Cheetah Conservation Station
GAO	U.S. Government Accountability Office
National Zoo	National Zoological Park
OIG	Office of the Inspector General
OMB	Office of Management and Budget
OSHEM	Office of Safety, Health and Environmental Management
Smithsonian	Smithsonian Institution
USDA	U.S. Department of Agriculture

INTRODUCTION

In 2012 and 2013, a series of incidents including animal escapes and deaths raised concerns regarding animal care at the Smithsonian Institution's (Smithsonian) National Zoological Park (National Zoo) in Washington, D.C. For example, a red panda escaped from its enclosure on June 24, 2013. Although the red panda was recaptured unharmed, the incident prompted the U.S. Department of Agriculture (USDA) to conduct an inspection and issue a report with recommendations to address concerns surrounding the red panda's escape.¹ In addition, multiple incidents involving animal care issues occurred at the National Zoo's Cheetah Conservation Station (CCS), which houses cheetahs, zebras, and other African species. For example, the death of a red river hog on December 16, 2012, raised concerns about not ensuring adequate nutrition for animals, and concerns also were raised when two Abyssinian Ground Hornbill birds were kept in an inadequate holding space² for 8 months. As a result of a volunteer's complaint related to these incidents, the National Zoo's Animal Care and Use Committee (ACUC) investigated and made recommendations to National Zoo management to improve animal care.

In 2013, the National Zoo's ACUC issued two reports based on animal care incidents at CCS that recommended improvements with broad implications for the entire National Zoo. The Smithsonian's Office of Safety, Health and Environmental Management (OSHEM) also issued one report following a zebra attack on an animal keeper. Additionally, the Association for Zoos and Aquariums (AZA), during a periodic accreditation review at the National Zoo in May 2013, issued a report that identified concerns and made recommendations related to animal care and pest control. Collectively, these organizations (ACUC, AZA, OSHEM, and USDA) made 51 recommendations in five reports to improve animal care operations at the National Zoo. A breakdown of these 51 recommendations can be found in appendixes I, II, III, and IV.

The objective of the audit was to determine to what extent National Zoo management has addressed recommendations to improve animal care operations found in these reports. To conduct the audit, the Office of the Inspector General (OIG) reviewed the five reports published by ACUC, AZA, OSHEM, and USDA, listed the recommendations contained in each, and assessed the progress made in implementing those recommendations. OIG also conducted interviews with Zoo management and staff,

¹ USDA conducted this inspection in accordance with its responsibilities under the Animal Welfare Act, 7 U.S.C. §§ 2131-2159.

² Holding space is where animals reside when they are not on exhibit.

collected and analyzed supporting documentation regarding corrective actions taken, and inspected animal care areas referenced in the five reports. A detailed description of our objective, scope, and methodology is presented in Appendix V.

BACKGROUND

The National Zoo was created by Congress in 1889 and became a part of the Smithsonian in 1890. Its mission is to provide leadership in animal care, science, education, and sustainability. Approximately 1,800 animals representing 300 different species are in the National Zoo's collection at its Rock Creek Park campus. The National Zoo encompasses 163 acres and has more than 2 million visitors each year.

As a zoological park with a broad mission and a large living collection, the National Zoo operates in an environment that is regulated by both governmental and non-governmental organizations. Specifically, USDA's Animal and Plant Health Inspection Service administers the Animal Welfare Act which requires that basic standards of care and treatment be provided for animals used in research or exhibited to the public. Under the act, USDA sets various standards and promulgates regulations. USDA makes unannounced inspections to ensure compliance with its standards and regulations. If an inspection reveals deficiencies, the inspector documents them in a report and instructs the facility involved to correct the problems within a specified time period.

AZA accredits institutions and sets standards that accredited institutions such as the National Zoo must follow. Accredited institutions are expected to strive to have the highest quality facilities, programs, and staff. To maintain its accreditation, the National Zoo must undergo a periodic evaluation of its animal management and care, including living environment, health, and nutrition. The National Zoo is also evaluated on its veterinary program, involvement in conservation and research, education programs, policies and procedures, security of physical facilities, guest services, and the quality of the institution's staff. The AZA review takes place every 5 years.

OSHEM has primary responsibility for implementing the Smithsonian's occupational safety and health program for staff within the framework of applicable federal state, and local laws, regulations, and standards. OSHEM is responsible for planning, developing, and administering policies and procedures for the Smithsonian relating to occupational safety, fire-protection, environmental, and health programs. OSHEM conducts independent reviews, surveys, staff visits, and spot checks of Smithsonian facilities. OSHEM also conducts investigations of accidents or injuries involving National Zoo employees.

In addition, the ACUC conducts internal reviews of the National Zoo's animal care and veterinary activities, research programs, and facilities; investigates reported animal care and use concerns; and inspects animal and veterinary care facilities and programs. The

ACUC is comprised of a variety of staff from across the National Zoo such as veterinarians and scientists. According to National Zoo policy, all results and recommendations made by ACUC investigations are to be made available to the National Zoo Director. The National Zoo Director is responsible for ensuring that zoo personnel are properly trained in the humane care and use of animals, and that they are qualified to perform their duties. This responsibility includes ensuring that staff members understand their obligation to comply with all relevant regulations and animal care and use protocols.

RESULTS OF THE AUDIT

The National Zoo Needs to Strengthen Monitoring of Recommendations to Improve Animal Care

The National Zoo does not have a centrally managed process to monitor recommendations that relevant organizations make to address animal care concerns. As a result, OIG needed to compile a list of the recommendations that ACUC, AZA, OSHEM, and USDA made to the National Zoo and determine the status of each one. The OIG found that as of March 2016, the National Zoo had addressed all 51 animal care recommendations.³

The National Zoo Does Not Have a Centrally Managed Process to Monitor Recommendations

OIG found that the National Zoo had no centrally managed process to monitor recommendations made to address deficiencies in animal care, such as those contained in five reports by ACUC, AZA, OSHEM, and USDA. To ensure timely and effective corrective action, a key internal control specified by the U.S. Government Accountability Office (GAO) involves active monitoring of the implementation of such recommendations until corrective actions are completed.⁴ Such a monitoring process is also addressed in the Office of Management and Budget's (OMB) Circular A-50.⁵ While we recognize that the reports referenced in this audit were not issued by audit organizations and the National Zoo is not required to follow Circular A-50, it nonetheless establishes best practices that management should follow to ensure prompt resolution and corrective action on recommendations. Specifically, Circular A-50 states that a

³ OIG made this determination by verifying the actions the National Zoo agreed to take to resolve each recommendation. The organizations that made these recommendations either: (1) approved the National Zoo management's action plans to address the recommendations but do not plan to follow up until the next scheduled review or inspection, which can be as long as 5 years as is the case for the AZA, or (2) left it up to National Zoo management to determine the best course of action, with no planned follow-up actions.

⁴ GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: September 2014).

⁵ OMB, Circular A-50 (Revised), *Audit Follow-up* (Washington, D.C., September 1982).

monitoring process should (1) identify written plans for corrective actions with specified target action dates, (2) assign a responsible official to follow up on recommendations, (3) maintain accurate records of the status of recommendations through the entire process of resolution, and (4) provide semi-annual reports to the Director on the status of all unresolved recommendations. The National Zoo does not have a monitoring process in place that includes any of these steps.

Because the National Zoo lacked a central monitoring process, OIG needed to compile a list of 51 recommendations from the various reports (see table 1). Collectively, the 51 recommendations were related to: (1) updating policies and procedures (30 recommendations), (2) repairing or maintaining animal care facilities or equipment (11 recommendations), (3) acquiring additional staff or equipment (6 recommendations), and (4) updating and documenting training (4 recommendations). OIG then worked with National Zoo staff and management to determine the status of corrective actions for each recommendation. See appendixes I, II, III, and IV for detailed information on these recommendations and the status of the National Zoo's corrective actions.

Table 1: Five Reports with Recommendations to Improve Animal Care at the National Zoo

Report Title and Date	Number of Recommendations
<i>USDA Inspection Report, June 27, 2013</i>	1
<i>National Zoological Park ACUC Task Force Investigation: Cheetah Conservation Station, September 3, 2013</i>	24
<i>AZA, Final Report of the Visiting Committee to the Accreditation Commission, Smithsonian National Zoological Park, Washington, D.C., September 9, 2013</i>	3
<i>National Zoological Park ACUC Recommendations for Best Practices within the National Zoological Park Memorandum, October 8, 2013</i>	15
<i>OSHEM Safety Investigation Report of Zebra-Keeper Incident on November 18, 2013, December 11, 2013</i>	8
Total Number of Recommendations	51

Source: OIG analysis of ACUC, AZA, OSHEM and USDA reports.

Based on the analysis of the 51 recommendations, OIG concluded that 7 recommendations had not been addressed as of April 2015. OIG met with National Zoo management to discuss the outstanding recommendations, and by July 2015, 5 recommendations had been resolved. The 5 closed recommendations were related to

updating policies and procedures covering topics such as clarifying for staff which officials should receive reports of animal care concerns and ensuring the availability of animals' nutrition records.

In March 2016, more than 2 years after they were made, the remaining two recommendations were closed. The recommendations were similar, both relating to holding space and exhibit space where animals will be on display to the viewing public. ACUC made those recommendations in two separate reports dated September 3, 2013, and October 8, 2013. One related specifically to the CCS, and the other was to be applied zoo-wide. The recommendations said holding and exhibit space must be available before animals are brought into the National Zoo's collection. These recommendations were in response to an incident in which two Abyssinian Ground Hornbill birds were kept in inadequate holding space for 8 months while their exhibit space was undergoing renovations. According to the September 3, 2013, ACUC investigation report, the exhibit's curator stated that he was forced to bring the birds into the collection without adequate holding facilities. To address the two outstanding recommendations, in March 2016 National Zoo management issued an animal intake protocol document that provides specific steps for staff to follow when bringing an animal into the collection.

CONCLUSION

The National Zoo's mission is to provide leadership in animal care, science, education, and sustainability. Providing quality care to the approximately 1,800 animals in its care is also central to its mission. The National Zoo has taken steps to improve animal care operations by implementing all of the 51 recommendations in the five reports OIG reviewed. However, to better ensure timely corrective actions, the National Zoo needs to develop a monitoring process for tracking all animal care recommendations until they are resolved. By doing so, the National Zoo will be in a better position to ensure timely action is taken to address animal care concerns that are identified in the future.

RECOMMENDATION

OIG recommends that the Director of the National Zoo:

1. Develop and implement a monitoring process for all recommendations related to animal care that incorporates key steps contained in OMB Circular A-50. Those steps are: identifying written plans for corrective actions with specified target action dates; assigning a responsible official to ensure prompt resolution; maintaining accurate records on the status of corrective actions; and providing semi-annual reports to the Director on the status of unresolved recommendations.

MANAGEMENT COMMENTS AND OUR EVALUATION

We provided the Smithsonian National Zoo with a draft report for comment and National Zoo management provided their response (see Appendix VI). They concurred with the recommendation and plan to implement a monitoring process for all animal care recommendations.

Appendix I

Recommendations Related to Updating Policies and Procedures

Thirty of the 51 recommendations regarding animal care at the National Zoo were related to updating protocols for caring for specific animals, developing standard operating procedures for animal weight management, updating emergency response procedures, and addressing miscellaneous animal care operations. See table 2 for a full description of these recommendations.



Figure 1: Red River Hog

One recommendation stemmed from the December 16, 2012, death of a red river hog (see figure 1) that was on a modified diet. An investigation report on September 3, 2013, by the National Zoo's Animal Care and Use Committee (ACUC) on this incident identified a lack of adequate policies and procedures in key areas, such as identifying and managing target weights for animals. As a result, ACUC recommended that the National Zoo's Department of Nutrition Science develop a standard operating procedure for identifying target weight and monitoring body condition for animals on a modified

diet. The recommended procedure was to include plans on what to do if there was weight gain or loss outside expected ranges; methods for communicating changes between the various departments; and procedures to make adjustments for variations in medical conditions. On December 10, 2013, the Department of Nutrition Science issued a standard operating procedure that included all recommended elements.

Appendix I

Table 2: Status of 30 Recommendations Related to Updating Policies and Procedures, as of March 2016

Report	Recommendation	Status
<i>National Zoological Park ACUC Task Force Investigation: Cheetah Conservation Station, September 3, 2013</i>	Put in place a plan to determine how the vultures will be exhibited on a long-term basis.	•
	Continue to closely monitor the flight status of the vultures and trim feathers as needed.	•
	Reevaluate the acquisition of additional kudu.	•
	Put in place a plan to minimize future trauma, if additional Kudu are scheduled for acquisition.	•
	Chart and document barn temperatures.	•
	Obtain incoming weights and routine weights on all animals during the quarantine period.	•
	Develop and use a standard operating procedure for identifying a target weight, and monitoring body condition score and weights for any animals on a diet modification on a regular basis (Department of Nutrition).	•
	Address animal care and overall organization, accountability, follow-up, and communication.	•
	Establish and maintain methods to ensure a consistent and accountable animal care system.	•
	Ensure that all employees meet Standards of Professionalism as outlined in the Animal Keeper Performance Plans and are held accountable in evaluations if standards are not met.	•
	Dismiss keeper aide at the discretion of the area curator, volunteer coordinators, and the National Zoo legal team.	•
	Ensure that holding facilities and exhibits are ready before animals are transferred into collection quarantine.	•
<i>National Zoological Park ACUC Recommendations for Best Practices within the National Zoological Park Memorandum, October 8, 2013</i>	Add a representative from the Department of Nutrition to the ACUC, Facilities and Welfare Concerns Subcommittee.	•
	Reissue and advertise the 2003 Chain of Command Memo.	•
	Distribute widely the current Animal Welfare Concern Reporting Policy.	•
	Develop a plan that includes methods of communication, tracking, setting appropriate timelines and maintaining accountability to ensure facilities work is completed in a timely manner (directed to upper management of the National Zoo and Smithsonian Facilities).	•
	Ensure that, for cases related to animal health and welfare and/or animal medical concerns, final decisions are under the authority of the attending veterinarian (per the Animal Welfare Act).	•
	Ensure that the Department of Nutrition works with curators and veterinarians to develop a Standard Operating Procedure for monitoring weights in all species.	•

Appendix I

Table 2: Status of 30 Recommendations Related to Updating Policies and Procedures, as of March 2016

Report	Recommendation	Status
<i>National Zoological Park ACUC Recommendations for Best Practices within the National Zoological Park Memorandum, October 8, 2013</i>	Modify the Species Acquisition Proposal to include: <ul style="list-style-type: none"> ▪ Taxonomic Advisory Group/Species Survival Plan species recommendations specific to: husbandry requirements (e.g., space and environmental parameters) and target where information exists. ▪ Development of guidelines (as standard operating procedures) for training staff on species-specific husbandry, behavioral, nutritional and medical needs. 	•
	Ensure that Animal Programs does the following for animals quarantined in non-Department of Animal Health quarantine: <ul style="list-style-type: none"> ▪ Obtain incoming weight into quarantine and outgoing weight when the animal leaves quarantine. ▪ Obtain regular weights during the quarantine period. ▪ Communicate weight changes to the Nutrition and Veterinary Departments when weights are obtained. ▪ Communicate any concerns regarding diet transitions (and or increases/reductions) to the Nutrition and Veterinary Departments in a timely manner. ▪ Follow non-Department of Animal Health quarantine protocols established by Animal Programs, Department of Nutrition, and Veterinary Departments. ▪ Develop methods of improving communication/reporting. 	•
	Save nutrition diet records on a shared drive.	•
	Consult and institute AZA Taxonomic Advisory Group/Species Survival Plan husbandry recommendations whenever possible.	•
	Ensure that the National Zoo and the Friends of the National Zoo provide information to volunteers regarding the following procedures/processes: <ul style="list-style-type: none"> ▪ Species acquisition and disposition, ▪ Chain of command, ▪ Role of the ACUC, process for addressing animal welfare concerns, and ▪ Methods of communicating and addressing animal welfare concerns. 	•
	Update protocols as follows: <ul style="list-style-type: none"> ▪ If the animal is not on a prescribed weight loss program, an 8-10 percent body weight loss from one weight to the next should be reported to veterinarians and nutritionists. ▪ If the animal is an active medical case, veterinarians may implement more specific or different guidelines with input from nutritionists. ▪ If the animal is on a prescribed weight loss program, the Department of Nutrition should communicate the appropriate/expected degree of weight change in a specified period of time based on diet modification (with input from veterinarians if an active medical case). If the weight change is greater/less than expected, this should be reported to both the Nutrition and Veterinary Departments. 	•

Appendix I

Table 2: Status of 30 Recommendations Related to Updating Policies and Procedures, as of March 2016

Report	Recommendation	Status
<i>National Zoological Park ACUC Recommendations for Best Practices within the National Zoological Park Memorandum, October 8, 2013</i>	<p>Ensure the following for holding and exhibit space:</p> <ul style="list-style-type: none"> ▪ Animal Programs holding and exhibit space must be available prior to an animal's entry into quarantine and should meet Taxonomic Advisory Group/Species Survival Plan recommendations (where they exist). ▪ Improve curatorial communication across units, in regard to holding space. ▪ Animal Programs holding and exhibit space should meet or exceed Taxonomic Advisory Group/Species Survival Plan species recommendations (where they exist). ▪ Routinely update holding needs in curator meetings and senior management/animal care meeting to provide animals with necessary resources. ▪ Quarantine is not considered a holding space or exhibit space. 	●
<i>AZA, Final Report of the Visiting Committee to the Accreditation Commission, Smithsonian National Zoological Park, Washington, D.C., September 9, 2013</i>	Improve integration of police with Animal Care and Animal Health staffs to assure the most appropriate response to dangerous animal emergencies.	●
<i>OSHEM Safety Investigation Report of Zebra-Keeper Incident on November 18, 2013, December 11, 2013</i>	Review written zebra-related protocols and determine if they need revision.	●
	Develop a training plan and continually update the plan as protocols are reviewed.	●
	Ensure proper supervisor and employee accountability when following protocols.	●
	Conduct zoo-wide workload analyses to ensure proper employee-to-animal ratio and proper supervisor-to-employee ratio.	●

Source: OIG analysis of ACUC, AZA, OSHEM and USDA reports.

Legend: ● Recommendation Addressed
○ Recommendation not Addressed

Appendix II

Recommendations Related to Repairing or Better Maintaining Animal Care Facilities or Equipment

Eleven of the 51 recommendations addressed issues that necessitated repair or maintenance of animal-related facilities or equipment. These recommendations related to improvements such as enlarging animal holding space, cleaning a heater in a Abyssinian Ground Hornbill (hornbill) bird holding area, addressing drainage issues in exhibit space, and repairing facilities to address rodent infestation. The National Zoo has addressed the 11 recommendations, but National Zoo staff must continue to closely monitor these areas to ensure maintenance of a healthy environment for the animals. See table 3 for the full description of these 11 recommendations.

One recommendation was in response to a U.S. Department of Agriculture (USDA) inspection, conducted in June 27, 2013, after a red panda escaped from its enclosure (see figure 2). USDA recommended that the National Zoo ensure the red panda enclosure was designed and maintained in a manner that was appropriate for the species and would prevent escape. The USDA inspector approved the National Zoo's corrective action plan that



Figure 2: Hotwire on Rock in Red Panda Exhibit

included maintenance activities such as: assessing hotwires⁶ and making repairs if necessary, adding barriers to the space, and trimming trees and bamboo surrounding the enclosure. The Office of the Inspector General verified that the National Zoo implemented repair and maintenance activities outlined in the corrective action plan. National Zoo management incorporated these maintenance activities into the protocols for the red panda exhibit. The red panda exhibit space at the National Zoo is currently closed for renovations.

⁶ A hotwire has electric current running through it and is used as a barrier, as shown in figure 2.

Appendix II

Table 3: Status of 11 Recommendations Related to Repairing or Better Maintaining Animal Care Facilities or Equipment, as of March 2016

Report	Recommendation	Status
<i>National Zoological Park ACUC Task Force Investigation: Cheetah Conservation Station, September 3, 2013</i>	Enlarge holding stall to recommended species survival plan (SSP) size for the hornbill.	●
	Clean the dusty heater(s) in the hornbill holding area.	●
	Establish a regular schedule of cleaning and maintenance for all heaters/appliances/etc. in the hornbill area.	●
	Reassess the stall door to address safety concerns for the Lesser Kudu.	●
	Address drainage issues in the Sitatunga yard.	●
	Identify additional holding areas within the National Zoo for the wallaby, if mixed species behavior/stress issues cannot be mitigated through husbandry.	●
	Fix the third boiler at the CCS.	●
	Enlarge the Red River Hog holding stalls according to the AZA Taxonomic Advisory Group recommendations.	●
	Add roof-mounted exhaust fans to all holding stalls for the Red River Hog to improve ventilation and cooling.	●
<i>AZA, Final Report of the Visiting Committee to the Accreditation Commission, Smithsonian National Zoological Park, Washington, D.C., September 9, 2013</i>	Address rodent infestation in the Small Mammal House.	●
<i>USDA Inspection Report, June 27, 2013</i>	Implement the National Zoo-developed corrective action plan (Red Panda Escape). The plan included maintenance activities such as assessing hot wires and making appropriate repairs; adding barriers to the space; and trimming trees and bamboo surrounding the enclosure.	●

Source: OIG analysis of ACUC, AZA, OSHM and USDA reports.

Legend: ● Recommendation Addressed
○ Recommendation not Addressed

Appendix III

Recommendations Related to Acquiring Additional Equipment or Staff

Six of the 51 recommendations required the acquisition of new equipment, such as scales and radios, or hiring of additional staff. See table 4 for the full description of these recommendations.

One recommendation was based on the Association of Zoos and Aquariums (AZA) accreditation review report, dated September 9, 2013, that highlighted the inadequate operation of emergency radios at the National Zoo. AZA found that the radios sometimes failed to operate and consistently delayed response times by as much as 10 to 15 seconds. As a result, the radios could cause a failure to effectively communicate in emergencies. In response, National Zoo management developed a work plan to address the recommendation. The plan included procedures to evaluate the performance of the radio system and identify any necessary changes to improve radio communication. On September 30, 2014, the National Zoo obtained additional funding of approximately \$100,000 to replace the radios for the animal care staff. According to National Zoo management, the new radios are operating and meet the needs of the animal care staff.

Table 4: Status of 6 Recommendations Related to Acquiring Additional Equipment or Staff, as of March 2016

Report	Recommendation	Status
<i>National Zoological Park ACUC Task Force Investigation: Cheetah Conservation Station, September 3, 2013</i>	Create functional scales designated for quarantine use at off-site quarantine areas.	•
	Reinstitute and fill the biologist position for CCS (the ACUC committee strongly recommended this).	•
	Ensure that the biologist, in conjunction with and with support from the curator, develop and implement methods to improve communication and facilitate the daily routine and chart temperatures for cold-sensitive species during winter months and report concerns to curators.	•

Appendix III

Table 4: Status of 6 Recommendations Related to Acquiring Additional Equipment or Staff, as of March 2016

Report	Recommendation	Status
<i>National Zoological Park ACUC Recommendations for Best Practices within the National Zoological Park Memorandum, October 8, 2013</i>	Ensure that scales adhere to the following recommendations: <ul style="list-style-type: none"> ▪ Working, dependable, and sufficient numbers of scales are available throughout the park. ▪ Include additional scales designated for use during quarantine at non-Department of Animal Health quarantine areas. ▪ The ACUC strongly recommends scales and funding for scale repair/purchase be addressed as a top priority. ▪ The process and funding available for scales should be clarified for all staff members. 	●
	Hire the necessary curatorial, biologist, keeper, and veterinary staff for the current and expected collection size and the associated increased demands of modern zoo keeping. Alternatively, the animal collection size should be reduced to allow current staffing levels to meet modern husbandry needs.	●
<i>AZA, Final Report of the Visiting Committee to the Accreditation Commission, Smithsonian National Zoological Park, Washington, D.C., September 9, 2013</i>	Improve radio communication so radios will satisfactorily operate during critical emergencies.	●

Source: OIG analysis of ACUC, AZA, OSHM and USDA reports.

Legend: ● Recommendation Addressed
○ Recommendation not Addressed

Appendix IV

Recommendations Related to Updating and Documenting Training

Four of the 51 recommendations were related to updating and documenting training on policies and procedures. These recommendations were found in a December 11, 2013, report on an investigation of a zebra attack on an animal keeper at the Cheetah Conservation Station (CCS), where the zebras reside. The Office of Safety, Health, and Environmental Management (OSHEM) investigation found that an employee did not follow protocols. As a result of the investigation, the OSHEM recommended that the National Zoo review, update, and re-train its staff on animal care protocols for the CCS. OSHEM also recommended that the National Zoo document that staff had taken the training. Based on a review of the documentation, the Office of the Inspector General verified that applicable staff were now being trained on the protocols. See table 5 for a full description of these recommendations.

Table 5: Status of 4 Recommendations Related to Updating and Documenting Training, as of March 2016

Report	Recommendation	Status
<i>OSHEM Safety Investigation Report of Zebra-Keeper Incident on November 18, 2013, December 11, 2013</i>	Have supervisors go through the protocols with each employee individually.	●
	Re-train all employees in all CCS protocols and document the training.	●
	Document all training received for all personnel.	●
	Ensure injured employee does not return to work without demonstrating knowledge of all protocols with the supervisor/curator.	●

Source: OIG analysis of ACUC, AZA, OSHEM and USDA reports.

Legend: ● Recommendation Addressed
○ Recommendation not Addressed

Appendix V

Objective, Scope, and Methodology

The objective of the Office of the Inspector General (OIG) audit was to determine to what extent National Zoo management addressed recommendations to improve animal care operations based on reviews conducted at the Rock Creek Park campus. The scope of this audit includes recommendations contained in the following five reports:

- *U.S. Department of Agriculture (USDA) Inspection Report*, June 27, 2013. This report was based on the escape of a red panda.
- *National Zoological Park Animal Care and Use Committee (ACUC) Task Force Investigation: Cheetah Conservation Station (CCS)*, September 3, 2013. This memorandum stemmed from a volunteer's complaint regarding animal care incidents.
- *Association of Zoos and Aquariums (AZA), Final Report of the Visiting Committee to the Accreditation Commission, Smithsonian National Zoological Park, Washington, D.C.*, September 9, 2013. This report was based on an inspection conducted from May 27-31, 2013.
- *National Zoological Park ACUC Recommendations for Best Practices within the National Zoological Park Memorandum*, October 8, 2013. This memorandum was published based on lessons learned from the CCS investigation that could benefit the entire National Zoo.
- *Office of Safety, Health, and Environment Management (OSHEM) Safety Investigation Report of Zebra-Keeper Incident on November 18, 2013*, December 11, 2013. This report was based on an incident involving a zebra attack on an animal keeper.

To determine the status of the recommendations to improve animal care made in these reports, OIG needed to first compile a list of the recommendations in each report because the National Zoo did not have a comprehensive list of these recommendations or their status. To determine whether the recommendations had been implemented, OIG conducted interviews with National Zoo management, animal care staff, and representatives of the ACUC. Additionally, OIG met with staff from the following Smithsonian units: Smithsonian Facilities (formerly known as the Office of Facilities Engineering and Operations), Office of Protection Services, and OSHEM. OIG collected and analyzed supporting documentation (such as e-mails, training logs, and updated protocols and policies) obtained from National Zoo staff to determine if the recommendations were addressed. As part of the audit, OIG also inspected animal care facilities and equipment to confirm that National Zoo staff implemented the recommendations.

Appendix V

To understand the legal and regulatory framework for animal care operations at the National Zoo, OIG reviewed applicable laws and regulations, such as the Animal Welfare Act, which is enforced by USDA, and associated regulations. OIG also reviewed the AZA accreditation standards and related policies and relevant Smithsonian and National Zoo directives associated with animal care.

OIG used the U.S. Government Accountability Office's (GAO) *Standards for Internal Control in the Federal Government* (September 2014) establishing best practices related to monitoring recommendations. In addition, to identify best practices for establishing audit recommendation follow-up systems, OIG reviewed the Office of Management and Budget's Circular No. A-50 (Revised), *Audit Follow-up* (September 1982). This circular provides the policies and procedures for use by executive agencies when considering reports issued by Inspectors General, other executive branch audit organizations, GAO, and non-federal auditors where follow-up is necessary.

OIG conducted this performance audit in Washington, D.C., from April 2014 through March 2016 in accordance with generally accepted government auditing standards. Those standards require that OIG plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for its findings and conclusions based on the audit objectives. Because OIG did not rely on computer-generated data to support its findings, OIG did not conduct a data reliability assessment. OIG believes that the evidence obtained provides a reasonable basis for the findings and conclusions based on its audit objective.

Appendix VI

Management Response



Smithsonian
National Zoological Park

Office of The Director

March 25, 2016

Mr. Thomas E. Yatsco
Assistant Inspector General for Audits
Smithsonian Institution
MRC 524
P.O. Box 37012
Washington, DC 20013

Dear Mr. Yatsco:

This letter is in response to your email of March 14, 2016, including the draft document "Office of the Inspector General -- National Zoological Park: Improvements Needed to Strengthen Monitoring of Recommendations to Resolve Animal Care Issues" also dated March 14, 2016. You asked for our feedback on the (single) recommendation:

"Develop and implement a monitoring process for all recommendations related to animal care that incorporates key steps contained in OMB Circular A-50. Those steps are: identifying written plans for corrective actions with specified target action dates; assigning a responsible official to ensure prompt resolution; maintaining accurate records on the status of corrective actions; and providing semi-annual reports to the Director on the status of unresolved recommendations."

On behalf of Smithsonian National Zoological Park, I concur with the single recommendation. We will implement a monitoring process for all animal care recommendations that incorporate key steps outlined in OMB Circular A-50. Dr. Brandie Smith has already assigned Dr. Elizabeth Herrelko to oversee the creation of the new monitoring process, including prompt implementation. The target date for completion of implementation is May 31, 2016.

On behalf of my staff, we appreciate the professional approach that was demonstrated by the entire OIG team throughout this important audit.

Sincerely,

A handwritten signature in blue ink that reads "Dennis Kelly".

Dennis Kelly
Director

SMITHSONIAN INSTITUTION
National Zoological Park
Washington DC 20008-2598



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Office of the Inspector General

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202-252-0321

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P.O. Box 37012, MRC 524
Washington, D.C. 20013-7012

The Office of the Inspector General investigates allegations of waste, fraud, abuse, gross mismanagement, employee and contractor misconduct, and criminal and civil violations of law that have an impact on the Smithsonian's programs and operations.

If requested, anonymity is assured to the extent permitted by law. Although you may remain anonymous, we encourage you to provide us with your contact information. The ability to gather additional information from you may be the key to effectively pursuing your allegation.

Information provided is confidential.