

Section 1.1: Animal Management & Care

- ◆ **The quality of animal care has improved since the Zoological Society assumed management in 1993. The veterinary program has improved dramatically. The veterinarians have an excellent working relationship with the Animal Keepers. The Animal Keepers are professional, knowledgeable, and caring as a group. An independent evaluation by Dr. Joel Parrott concluded that veterinary care at the San Francisco Zoo is excellent and general care is good. The greatest deficiency in animal care remains the physical plant.**
- ◆ **The Budget Analyst conducted a survey of Animal Keepers to obtain their opinions and suggestions on a variety of animal management and care issues. Among the more significant findings of that survey are that 1) morale among the various Animal Keeper Sections varies between reasonably good to extremely poor; 2) there are perceived wide variances in the levels of actual job performance and job demands placed on individual Animal Keepers; 3) many Animal Keepers believe that their experiences and opinions are not sufficiently considered or appreciated prior to initiating animal management policies; and 4) Animal Keepers have a high degree of confidence in the Zoo's Veterinarian. Ideas for improving animal and animal-related management, such as staggering Animal Keeper work hours to allow the animals more time outside and to possibly keep the Zoo open for longer hours, should be seriously considered.**
- ◆ **The most glaring deficiencies in animal housing and exhibit facilities, because they do not provide natural environments and/or are limited in space, are facilities for the chimpanzees, orangutans, elephants, bears, sea lions, hippopotami, giraffe, and siamang. All, with the exception of the northern bears and sea lions, are scheduled for new facilities within Phase II (by the end of 2004) of the Zoo Master Plan. If the sea lions and northern bears are to remain at the Zoo, the existing facilities should be removed and new state-of-the-art exhibits constructed within the Phase II time span. Otherwise, the animals should be relocated to other institutions with better facilities. As cited by Dr. Parrott, ten to fifteen years is too long to address the deficiencies of the existing habitats, although the habitats do meet current AZA and USDA standards.**
- ◆ **Zoo management has not responded appropriately to non-compliance citations resulting from inspections conducted by the Department of Agriculture, Animal & Plant Health Inspection Service (USDA-APHIS). Since 1992, the Zoo has received one official warning "ticket," five letters of warning, and two warning statements on inspection reports. Most of these deficiencies dealt with repeated maintenance problems, such as rusting wire mesh in the Primate Discovery Center and deteriorating walls of the Asian Rhino housing area. Zoo staff should promptly address the non-compliant items and similar conditions in other parts of the Zoo, rather than challenging the report citations or fixing only the specific location cited.**

As part of our performance audit of the San Francisco Zoological Gardens, we examined the status of animal management and care to determine whether 1) the management and care of the living collection of the San Francisco Zoo is in accordance with applicable regulations and good practices, and 2) the Animal Management Department is accomplishing its objectives and goals in an economical and efficient manner.

To accomplish these objectives, we:

- Engaged the services of Dr. Joel Parrott, a Zoo veterinarian and Director of the Oakland Zoo, to perform an evaluation of animal management and animal care.
- Interviewed Animal Management Department personnel, including the General Curator, Associate Curators, Senior Animal Keepers, Animal Keepers, the Curator of Collections, the Commissary Manager, and the Zoo Veterinarian.
- Reviewed the 1998 and 1993 American Zoological Association (AZA) Accreditation Reports.
- Reviewed reports of inspections performed by the Animal and Plant Health Inspection Service (APHIS) of the United States Department of Agriculture (USDA).
- Reviewed various records and reports held by the Animal Management Department.
- Developed and administered an “Animal Keeper Questionnaire.”
- Visited the San Diego Zoo, the Oakland Zoo, and the Phoenix Zoo. Obtained animal management materials from the San Diego Zoo and the Oakland Zoo.

Background

The mission of the Animal Management Division is to manage and care for the living collection of the Zoo in support of the Zoo’s overall mission. In order to perform this mission, as of August 1999, the Animal Management Division includes a total of 99 employees, allocated as follows: 54 full-time, 15 part-time, nine temporary, nine intern, and 12 as-needed employees. An organizational chart of the Animal Management Department is shown on the following page (Exhibit 1.1.1). The Animal Management Division’s FY 1998-99 Budget for the Zoo’s Animal Services Program is \$6,970,672, which is approximately 3.3 percent greater than the \$6,745,195 expended for Animal Services in FY 1997-98, as shown in Exhibit 1.1.2.

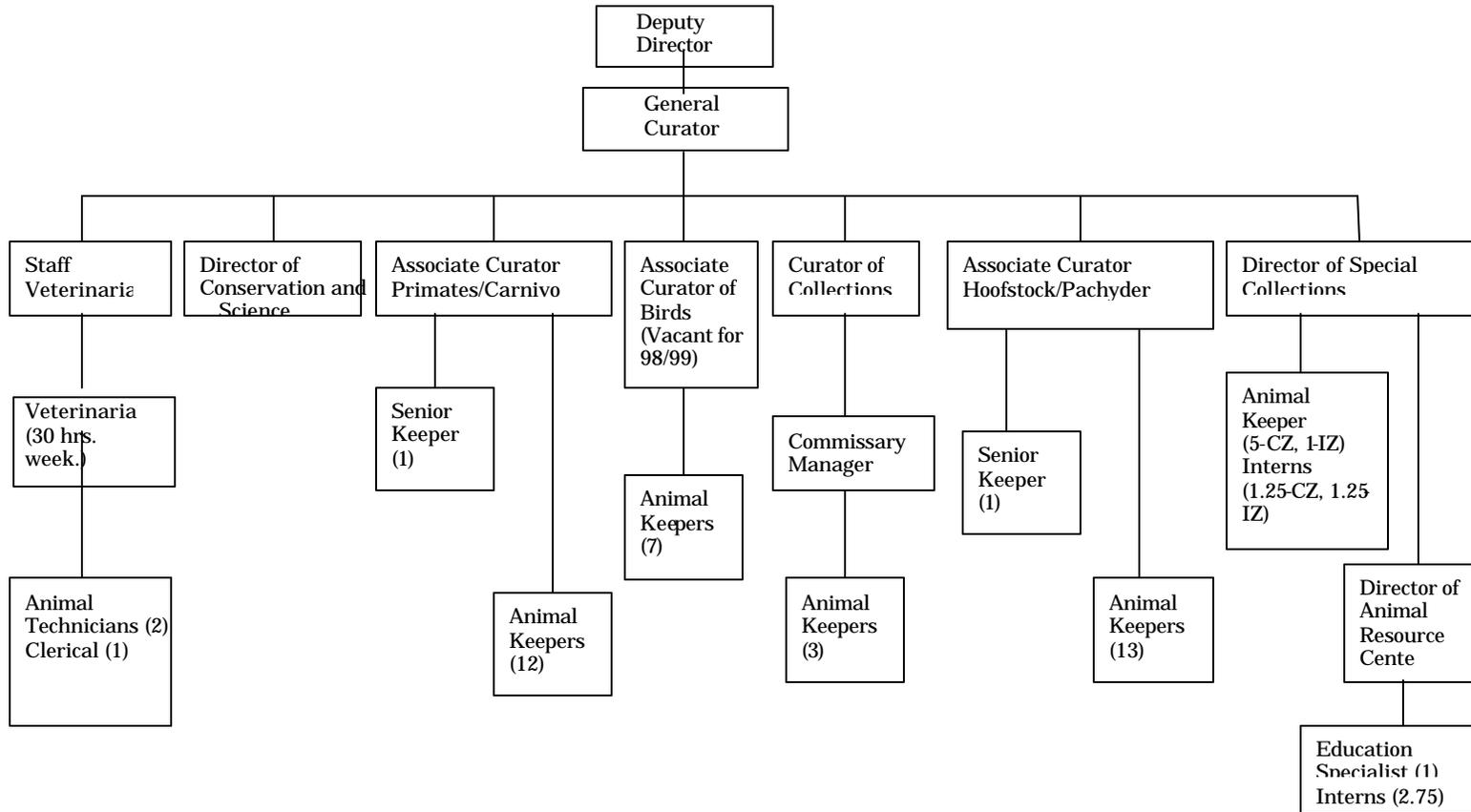


Exhibit 1.1.2
Animal Management Division
FY 1998-99 Budget

<u>Expense Classification</u>	<u>Amount</u>
Primates/Carnivores	\$867,839
Hoofstock/Pachyderms	902,892
Avian	433,892
Horticulture	432,264
Maintenance	640,873
Veterinary Services	486,629
City Services (Sewer, L,H&P)	925,000
Custodial Services	412,108
Collection/Commissary	827,528
Contract Services	210,000
G & A Allocation	423,548
General Curator	127,101
Admissions	<u>281,442</u>
Total	\$6,970,672

As previously stated, with the concurrence of the AZA, the Budget Analyst obtained the services of Dr. Joel Parrot, a zoo veterinarian and Director of the Oakland Zoo, to perform an evaluation of animal management and animal care at the San Francisco Zoo. Based on our interviews, observations, and reviews of written records, we concur with Dr. Parrot's findings. We do, however, believe that the level of dissatisfaction with Zoo management expressed by Animal Keepers may be more serious and more widespread than indicated in Dr. Parrott's report.

Dr. Parrott, by virtue of his extensive experience in various branches of zoology, was able to interpret the raw data on animal management issues obtained through his observations, interviews, and reviews of written reports and to render professional judgments based on those interpretations. We believe that Dr. Parrott's evaluation report provides an accurate description of existing animal care at the San Francisco Zoo and also provides sound recommendations for improving animal management and care, animal facilities, and staff development.

As of August 1999, the San Francisco Zoo employed a total of 62 Animal Keepers and two Senior Animal Keepers (referred to collectively as Animal Keepers, for the sake of brevity), with employment statuses as follows:

Exhibit 1.1.3
Zoo Animal Keepers
August 1999

<u>Employment Status</u>	<u>Number of Animal Keepers</u>
Regular, Full-time	43
Regular, Part-time	11
Temporary	7
As-needed	<u>1</u>
Total	62

Of the 43 Regular, Full-time Animal Keepers, a total of 28 are City employees who have grandfathered status as such by virtue of a provision in the Management Agreement

Animal Keepers are assigned to one or more animal “strings,” defined as a set of animals, exhibits, facilities and duties which constitutes the daily responsibilities of an Animal Keeper. Some Animal Keepers serve as relief staff for a number of strings in order to provide coverage on off days, holidays, sick days, etc.

As shown in the Animal Management Department organizational chart, Exhibit 1.1.1, the primary animal care organizational elements are (1) Primates/Carnivores, (2) Hoofstock/Pachyderms, (3) Birds, and (4) Children’s Zoo/Insect Zoo. The number of Regular, Full-time Animal Keepers assigned to each of those elements is as follows:

Exhibit 1.1.4
Zoo Animal Keepers
August 1999

<u>Animal Division</u>	<u>Number</u>
Primates/Carnivores	13
Hoofstock/Pachyderms	14
Birds	7
Children’s Zoo/Insect Zoo	6
Commissary	<u>3</u>
Total	43

An Associate Curator (Curator is the term used at zoos for a management position with animal collection responsibilities) normally heads each Division; however, the Bird Section has been without an Associate Curator since October of 1997.

Animal Keepers have varied backgrounds. The City Animal Keepers as a group are generally older, have many years of Animal Keeper experience, including experience at other animal facilities. Education among Animal Keepers ranges from a high school education to a Master's Degree. The one common element among the Animal Keepers we interviewed was a genuine concern for the well being of their animals.

Comments on Dr. Parrott's Review of Animal Management at the San Francisco Zoo

Dr. Parrott's report is appended to this section of the audit report as Section 1.1a, "Review of Animal Management at the San Francisco Zoo." Dr. Parrott's report should be read in its entirety in order to gain an understanding of the current state of animal management and care at the San Francisco Zoo and comparisons to animal management and care in the recent past.

Budget Analyst comments, primarily for purposes of clarification, elaboration, or emphasis, are discussed under the topic name found in Dr. Parrott's report.

Facilities

If the northern bears and the sea lions are to remain a part of the Zoo's animal collection, new, state-of-the-art exhibits should be constructed for those animals during the Phase II time period (Phase II projects are currently scheduled to be completed by the end of 2004).

Management

Dr. Parrott's report contains the statement "Single specimen collection holding is present, but is generally justifiable due to special circumstances on a case-by-case basis." The Zoological Society's Exhibits Committee oversees animal collection issues for the Zoo. The Budget Analyst recommends that the Exhibits Committee review plans for single specimens currently in the Zoo's animal collection, on a priority basis.

As stated by Dr. Parrott, "A more formalized keeper training program should be in place." In that regard, the Budget Analyst has provided Zoo management with a copy of San Diego Zoo's "Animal Care Keeper Handbook" which can be used as a reference to assist in developing a list of tasks that should be covered in an Animal Keeper training syllabus.

USDA Reports

Following our review of recent APHIS inspections at the San Francisco Zoo and in order to obtain a better understanding of the Zoo's compliance history with APHIS deficiency findings, we contacted the Supervisory Animal Care Specialist for the Western Region. In response to our request, the Supervisory Animal Care Specialist has provided the Budget Analyst with a letter concerning the compliance history of the San Francisco Zoo that is shown in Attachment I to this audit report section. We have summarized that compliance history, as follows:

1. For the three-year period of 1996-1998, the Zoo received four complete inspections and four additional inspections at Site 3, which is the bison site at Golden Gate Park, due to public complaints. No Category IV citations (repeat violations) resulted from the public complaint inspections. However, the Zoo received numerous Category IV citations on the complete inspections during that period.
2. Since 1992, the San Francisco Zoo has received one official warning "ticket" from the APHIS, five letters of warning, and two warning statements on inspection reports.
3. The Zoo has responded in writing to challenge many of the inspector's citations. As reported by the APHIS Regional Office, "this level of formal protestation is much higher than is usual with other licensees, most of whom work out their disagreements with inspectors' citations during the outbriefing process."

Our recommendations concerning the San Francisco Zoo's relations with the USDA-APHIS, are identical to those stated by Dr. Parrott, which we repeat here in abbreviated form, for emphasis.

1. Zoo management needs to develop a better working relationship with the USDA-APHIS. Zoo staff should promptly address noncompliant items and negotiate for the best possible reasonable length of time for compliance. Zoo staff should not challenge minor findings, and reserve appeals for the rare, major noncompliant items that may, in fact, not threaten an animal's welfare and may not fairly qualify as non-compliant.
2. Zoo management should increase the Maintenance Department to address deferred maintenance items until maintenance is reasonably caught up. One method of increasing the size of maintenance staff without increasing operating costs is to assign new maintenance staff to bond-approved repair items.
3. Zoo management should develop a maintenance quality control program to insure that significant maintenance items are identified prior to APHIS inspections.

Staff Morale

Staff morale in animal sections ranges from reasonably good to extremely poor. Our interviews of Animal Keepers and our evaluations of the Animal Keeper survey indicate to the Budget Analyst that morale issues may be more serious than those observed by Dr. Parrott. The leadership of the Board of Directors is aware that the existing environment needs to improve greatly if the organization is to move forward, and has hired top-level management staff to improve operations and communication within the Zoo organization. Also, a consultant has been retained to assist in conflict resolution. We concur with Dr. Parrott's recommendations, with the addition that "team building" should be an integral part of the development process.

Bison Exhibit: Golden Gate Park

Dr. Parrott's report includes five recommendations concerning the bison exhibit at Golden Gate Park, four of which are the responsibility of the Recreation and Park Department. The Budget Analyst has obtained a detailed listing of minor maintenance and long-term exhibit modifications that would improve the bison exhibit, according to Zoo management. We have included the listing of improvements as Attachment II to this report, and recommend that the Recreation and Park Department perform the work to complete the projects.

Master Plan and Bond Program

Dr. Parrott's statement regarding the Zoo's elephants (the San Francisco Zoo has two African elephants and two Asian elephants) is repeated here for emphasis.

"At this point, Zoo management has not decided whether African elephants or Asian elephants or both will be part of the long-term plan. This will need to be decided very soon, because elephant facilities occupy a central role in the thematic display, and will consume a significant portion of the space, funding, and energy of the Zoo. In addition, the elephant facilities are especially poor."¹

Concerning the sequencing of Phase II projects, Zoo management has explained, to the satisfaction of Dr. Parrott and the Budget Analyst, that the need to proceed with Phase II projects as currently planned is driven by the

¹ According to the Zoo's 1998 AZA Accreditation Report, the existing African elephant facilities do not comply with AZA minimum standards.

following factors: 1) the presence of existing buildings on future exhibit sites; 2) the need to develop a new disability-accessible entrance and needed visitor services, such as restrooms; and 3) the lengthy time required to design, build, and manage the introduction of animals to naturalistic, mixed-species habitats.

Bond Program Funds and Expenditures

Dr. Parrott recommends that no more than 20 to 22 percent of bond funds should be expended on “soft costs.” As detailed in Section 5 of this audit report, “Capital Projects,” the Budget Analyst recommends that “soft costs” be limited to 22 percent, thus saving approximately \$3.64 million that can be used to construct additional improvements.

Privatization

Dr. Parrott’s statement regarding the transfer of Zoo management from the City to the Zoological Society is repeated here for emphasis.

“Conditions at the SF Zoo in virtually every category were worse when the City ran the zoo. Poor morale was a major contributing factor to the previous zoo director leaving on stress disability. The Zoo Director position remained vacant for a prolonged period of time. The Primates Discovery Center, which has had so many animal management problems, was built under previous management. Veterinary care for the animals was poor, under investigation, and lacked the confidence of the keeper staff. Most indicative of all, conditions were so poor that the SF Zoo was on the verge of losing its accreditation by the Association of Zoos and Aquariums. In 1992, the accreditation commission was very concerned about the poor physical plant, the lack of funding to make major capital improvements, and the borderline funding for operations. Accreditation was tabled for one year until the major issues of the management contract were developed. The SF Zoo was accredited in 1993, with the expectation that under the new financial arrangement of privatization, new funding sources would be developed to resolve the serious concerns of the commission.”

Animal Keeper Perspectives

During the course of the preliminary survey phase of the Zoo audit, it became apparent from talking to Animal Keepers that as a group they had a number of serious concerns about animal management, in the comprehensive sense of that term. In order to collect information on the concerns in a manner that would render valuable information for improving the organization, we elected to develop an Animal Keeper questionnaire. The questionnaire was developed and disseminated to 48 Animal Keepers. We received responses from 25 of the Animal Keepers.

The auditors then compiled the responses from the individual questionnaires and provided access to that data, which is not attributed to any individual Animal Keeper, to the Chairman of the Zoological Society and to the Zoo's Director of Human Resources on a strictly confidential basis: by agreement, no other individual is permitted access to the non-attributed, compiled data. The Chairman of the Zoological Society and the Director of Human Resources collaborated to produce a synthesis of compiled responses, strictly for the Zoo's sole use and not a part of this report, in a form that could be used to develop plans for improving the Zoo's operations.

The Animal Keeper Questionnaire synthesis that follows was developed by the Budget Analyst completely independent from the syntheses compiled by the Chairman of the Zoological Society and the Zoo's Director of Human Resources.

The questions included in the Questionnaire generally pertain to the following topics concerning animal management and animal care:

- Management, including communication, priorities, allocation of resources, inclusion in decision making (consideration of ideas), support for staff development, commitment to safety, upholding work standards, and morale;
- Quality of Animal Care;
- Strong and weak elements of the animal collection;
- Zoo's Greatest Strengths/Greatest Weaknesses;
- Morale and Management/Animal Keeper relations;
- Ideas for Improving Zoo operations.

Responses to the 24 questions, many of which had sub-questions, varied widely and in some cases were contradictory. However, prevalent attitudes can be discerned in most cases. Our synopsis of the responses, subsumed under the foregoing topics, is as follows:

Management

Those sections that rated Section leadership more favorably also rated other leadership indicators and morale more favorably.

The Section with the least favorable leadership responses also expressed comments indicating intra-Section difficulties amongst Keepers.

Where significant differences in job performances occur, the belief is that adequate standards of performance should be enforced.

Many Animal Keepers believe that their counsel is sought only after decisions have been made.

Training for new Animal Keepers appears to be not standardized and inadequate.

Animal Keepers would appreciate seeing their leadership out in the Zoo on a regular basis.

Quality of Animal Care

Most think that animal care, within the limitations of the facilities afforded, is at least good.

Most think that veterinary care is excellent and believe that the Zoo is fortunate to have the services of its Veterinarian.

Some Animal Keepers cite a lack of quality time for animal enrichment and studying the animals.

The animal facilities most frequently cited as being deficient are the Chimpanzee/Orangutan facilities, the Elephant facilities (especially, the African Elephant facilities), and the Bear Grottos.

Strong and weak elements of the Animal Collection

Animal Keepers would like to see, and believe the public would appreciate, more animals.

There was a wide variance in the responses to the strong and weak elements of the collection. Based on survey responses, the following species stand out:

<u>Strong</u>	<u>Weak</u>
Gorillas	Elephants
Tigers/Lions	Bears
Kangaroos	Pygmy Hippo
Lemurs	Chimps/Orangutans
	Tomato Frog(s)

Zoo's Greatest Strengths/Greatest Weaknesses

Animal Keepers by far believe the Zoo's greatest strength lies in its dedicated, talented, staff. The Education Center, the Animal Resource Center (ARC), and the Children's Zoo are mentioned prominently.

Staffing Levels

The general consensus is that the animal sections are moderately understaffed.

Supporting Sections

Animal Keepers gave the highest rating for support to Visitor Services followed by the Horticulture Section (Veterinary Services weren't considered here).

Ideas for Improving Zoo Operations – **Note:** *The Budget Analyst has selected the following suggestions and opinions for improving Zoo operations from the many that we received in our survey of Animal Keepers.*

- Longer days for Animal Keepers (for example, four 10 hour shifts per week) to allow animal sufficient time outside.
- Regular and improved communications between Animal Sections concerning current animal conditions and care (e.g., a common bulletin board).
- Zoo is too small to do both elephant species well.

- More enrichment could improve animal care and the visitor's experience.
- There should be less territorialism between Animal Sections. There should be more management consistency between animal sections.
- Pay more attention to the Bird Section - it is generally overlooked and underrepresented.
- It would be great to have a behavioral specialist on staff to address enrichment and training issues – like they have at the Portland Zoo.
- Keepers should be given time to spend on enrichment and training and be made to spend less time building exhibits. (Many of our attempts at maintenance take a long time and must be re-done by the Maintenance staff).
- Aggressively address problem employees.
- Make it easier for senior people to work part time without losing seniority to the “as needed” staff.
- The recognition of the Animal Keepers as professional caretakers, and the creation of a real conservation department with a coherent theme of environmental awareness and education is the greatness potential strength of the Zoo.
- The Zoo needs to address minority attendance effectively.
- A dedicated Animal Keeper with adequate time could improve the overall appearance of an area, provide more enrichment and conditioning to make the animals visible and active for more of the day, be present to educate, answer questions, and clear-up confusion for the visitor.
- Increase operating hours by staggering keeper work shifts. This should increase revenue.
- Install educational graphics, hire more custodial staff to clean the trash up; encourage people to sit and quietly observe the animals (through good graphics and comfortable sitting areas); allow the keepers more time to be a presence in the Zoo.
- Management needs to communicate better if they want gossip to decrease.
- The Zoo as a whole has been improving in the (blank) years I've been a Keeper. There are many frustrations with my front line supervisor and some peers. I am encouraged by both this questionnaire and the new H.R. person's interest in specifics.

- Animal Keepers should not be the end all for all other departments; when something can't be accomplished by the appropriate department then it becomes the responsibility of the overburdened animal keeper staff. Is any department at the Zoo required to do similar varied work?

Animal Keeper Performance Evaluations

Zoo management has provided the Budget Analyst with a listing of regular, full-time Animal Keepers annotated to show the date on which each of the Animal Keepers last received a performance evaluation. Most of the Animal Keepers had not been evaluated within the past year, some had not been evaluated since 1989 or 1991, and some had never been evaluated.

With regard to performance evaluations of City Animal Keepers, the City's policy, which is contained in the City's "Handbook for Employees of the City and County of San Francisco," is that performance evaluations for permanent employees must be completed annually. The Zoological Society's policy is that the "frequency of performance evaluations may vary depending upon length of service, job position, past performance, changes in job duties or recurring performance problems." According to the Zoo's Director of Human Resources, the Zoo's Employee Manual, which includes the performance evaluation policy, is currently being revised. The Budget Analyst recommends that the Zoo's performance evaluation policy be amended to require annual evaluations and that a performance evaluation be completed for all Animal Keepers who have not been evaluated within the last year, whether City- or Zoological Society-employed, as soon as practicable, and annually thereafter.

CONCLUSIONS

The quality of animal care has improved since the Zoological Society assumed management in 1993. The veterinary program has improved dramatically. The veterinarians have an excellent working relationship with the Animal Keepers. The Animal Keepers are professional, knowledgeable, and caring as a group. An independent evaluation by Dr. Joel Parrott concluded that veterinary care at the San Francisco Zoo is excellent and general care is good. The greatest deficiency in animal care remains the physical plant.

The animal housing and exhibits are a mixture of old and new, demonstrating a wide range of conditions. The physical plant reflects a Zoo in transition. The newer exhibits are generally very good, as are the gorilla exhibit, koala exhibit, portions of the Primate Discovery Center, and the Children's Zoo. Excellent renovations were completed in the PDC, North American River Otter, Flamingo Lake, Tropical Building, and Warthog Exhibit. The Australian Walkabout is spacious and reflects

the energy and efforts of zoo staff. The existing housing is generally good. The Avian Conservation Center is an excellent facility. The Lorikeet Exhibit is well done and equal to any of the walk-through lorikeet exhibits currently existing in the country.

There are a number of animal exhibits that are out-of-date and can only be considered minimal facilities. The most glaring deficiencies in housing and exhibit design are the chimpanzees, orangutans, elephants, bears, sea lions, hippopotamus, giraffe, and siamang. All of these are recognized as minimal facilities by current Zoo management. All, with the exception of the bears and sea lions, are scheduled for new facilities within Phase II (\$73 million) of the Master Plan. Somewhere in-between are the enclosures for the greater cats. Although the Lion House is a public sentimental favorite, it is clearly dated in concept and design. The animal holding and exhibit facilities should be considered adequate but minimal. Many of the facilities overall show a lack of general maintenance. Rust is a major problem with the Sloat Boulevard location.

A significant concern is that of the sea lion pool and bear grottos. The polar bears and Kodiak bear do not appear in the Master Plan. However, the collection plan indicates maintaining the polar bears, with the possibility of replacing the Kodiak bear with a grizzly bear. Since Phase II of the Master Plan is scheduled to be completed by the end of 2004, this means that the bears will be in the existing grottos for ten years, and possibly longer. This is also true of the sea lion and harbor seal exhibits. A decision should be made sooner rather than later on whether these species will be part of the Master Plan. If the seals and northern bears are not part of the long-term plan for the Zoo, the animals should be relocated to other institutions with better facilities. The bear grottos should then be removed. If the animals are part of the Master Plan, the existing facilities should be removed and new state-of-the-art bear and sea lion exhibits constructed. Ten to fifteen years is too long to address these concerns.

An elephant restraint chute, which can be relocated into the new exhibit when that is completed, is needed for the African elephants. This will address a current limitation of the existing facilities for African elephant management.

The Zoo and quality of animal care have improved since the SF Zoological Society assumed management in 1993. The veterinary program has improved dramatically: it was poor and is now excellent. The veterinarians have an excellent working relationship with the keepers. The veterinary care for the animals is excellent. Diets have been reviewed, modified, and improved. Rodent control has improved from poor to good. The keepers at the SF Zoo are professional, knowledgeable, and caring as a group. Morale remains an issue and is still problematic in specific areas. Numerous new exhibits, facilities, and renovations are very good to excellent. The following list highlights the significant improvements attributable to the management since the SF Zoological Society took over:

New facilities

- Avian Conservation Center
- Feline Conservation Center (\$2,000,000; replaced string of cat cages)
- Australian WalkAbout (\$562,000)
- Puente al Sur
- Lorikeets

Renovations:

- Warthog exhibit (\$150,000)
- Flamingo Lake (\$52,000)
- River Otter exhibit (\$234,000)
- Lion Cub exhibit
- Aviary/Tropical Building (\$162,000)
- Numerous major maintenance projects deferred from City management

A review of necropsy records reveals a mortality report well within the range of a high quality animal program in a zoo with an animal collection comparable to the size and makeup at the SF Zoo. The necropsies are well documented and supported by histopathology examinations. There were no indicators of deaths due to mismanagement in animal care or veterinary care. Strong confidence in the veterinary department among keepers ran throughout the organization. The high quality of veterinary care and high level of confidence in that care cannot be overstated. It represents a real and measurable improvement in animal care from the previous zoo management (considered poor at the time and under investigation) and prior to the SF Zoological Society management of the zoo.

A survey of Animal Keepers to solicit ideas on improving animal and animal-related management produced a number of excellent ideas for improving such management and also reinforced our opinions concerning several management issues. Among the more significant findings of the survey are that 1) morale among the various Animal Keeper Sections varies between reasonably good to extremely poor; 2) standards for selecting new animal keepers should be established, 3) there is a perceived wide variance in the performance of various Animal Keepers and a perceived wide variance in what is demanded of various Animal Keepers; 4) many animal keepers believe that their experiences and opinions concerning animal management are not sufficiently appreciated or considered prior to initiating animal management policies or implementing animal management projects; and 5) Animal Keepers have a high degree of confidence in the Zoo's Veterinarian and believe that the veterinary care afforded the animals is of the highest order.

The leadership of the Board of Directors is aware of the existing morale problems, and that the existing organizational climate needs to improve greatly if the organization is to move forward. The Zoological Society has recently hired top-level management staff to improve operations and communication within the Zoo organization. Also, a consultant has been retained to assist in conflict resolution.

Animal Keepers by far believe the Zoo's greatest strength lies in its dedicated, talented, staff. The Education Center, the Animal Resource Center (ARC), and the Children's Zoo are mentioned prominently. Also, the Zoo's location is rated a plus.

Animal Keepers would like to see, and believe the public would appreciate, more animals. (One Keeper responded to the question concerning the adequacy of staffing by saying that current staffing is adequate given that the Zoo currently has only a skeleton collection).

There was a wide variance in the responses to the strong and weak elements of the collection. Based on survey responses, the following species stand out:

<u>Strong</u>	<u>Weak</u>
Gorillas	Elephants
Tigers/Lions	Bears
Kangaroos	Pygmy Hippo
Lemurs	Chimps/Orangutans
	Tomato Frog(s)

Zoo management has not responded appropriately to non-compliance citations resulting from inspections conducted by the Department of Agriculture-Animal & Plant Health Inspection Service (USDA-APHIS). Since 1992, the Zoo has received one official warning "ticket," five letters of warning, and two warning statements on inspection reports. Most of these deficiencies dealt with repeated maintenance problems, such as wire mesh rusting in the Primate Discovery Center and deterioration in the walls of the Asian Rhino housing area. Zoo management has recently initiated a better working relationship with the USDA-APHIS, beginning with a meeting with USDA representatives in July of 1999.

At this point, Zoo management has not decided whether African elephants or Asian elephants or both will be part of the long-term plan. This will need to be decided very soon, because elephant facilities occupy a central role in the thematic display, and will consume a significant portion of the space, funding, and energy of the Zoo. In addition, the elephant facilities are especially poor.

One of the most important considerations for animal management is the microclimate along Sloat Boulevard and the Great Highway. The toll that the weather (cool, wind, fog, and salt air) takes on the structures is mentioned in the accreditation report, as is the potential for the weather's effect on the animal's health. Zoo staff at all levels were asked if the primates seemed generally comfortable or uncomfortable in this climate, to see if the clinical picture suggested that these temperatures might be too low for these animals. The general impression of staff is that the animals acclimate to the climate and do well (even those that are tropical species). Primates are exhibited in other areas in temperature North

American and voluntarily go outside when temperatures approach freezing. An advantage of this site is that the average low temperature in the coldest month is only 45 degrees. It has rarely reached freezing.

The bison exhibit in Golden Gate Park presents a special problem for all concerned. Animal care and veterinary care are the responsibility of the San Francisco Zoo. The enclosure and facility is the responsibility of the Recreation and Park Department. The animals are exhibited under the license of the San Francisco Zoo. USDA violations related to the facility result in citations given to the San Francisco Zoo, though it would be Recreation and Park' responsibility. A citizens group known as the Watch Bison Committee in Golden Gate Park monitors the site and advocates for the animals.

A site visit to the bison exhibit revealed a group of animals which appear to be in very good health. General Care of the animals themselves appears to be good, although it was difficult to see due to the generally poor condition of the site. A few piles of animal waste were present which should have been removed.

The bison exhibit physical site appeared worn and overgrown. Much of the site was overgrown with weeds, and fencing appeared old and in some cases appeared to be oriented for some previous function. "Do Not Feed" signage was present but poorly displayed. Plans for new fencing and, more importantly, restoration of the main field are in place and scheduled for construction. The Bison Watch Committee volunteers have contributed project support and general maintenance work (weed pulling etc.) but would like to see more support for the facility. The facility improvements could be achieved at minor cost.

Annual performance evaluations have not been regularly completed for most Animal Keepers.

Dr. Parrott's animal management evaluation contains the following statement regarding the transfer of Zoo management from the City to the Zoological Society:

"Conditions at the SF Zoo in virtually every category were worse when the City ran the zoo. Poor morale was a major contributing factor to the previous zoo director leaving on stress disability. The Zoo Director position remained vacant for a prolonged period of time. The Primates Discovery Center, which has had so many animal management problems, was built under previous management. Veterinary care for the animals was poor, under investigation, and lacked the confidence of the keeper staff. Most indicative of all, conditions were so poor that the SF Zoo was on the verge of losing its accreditation by the Association of Zoos and Aquariums. In 1992, the accreditation commission was very concerned about the poor physical plant, the lack of funding to make major capital improvements, and the borderline

funding for operations. Accreditation was tabled for one year until the major issues of the management contract were developed. The SF Zoo was accredited in 1993, with the expectation that under the new financial arrangement of privatization, new funding sources would be developed to resolve the serious concerns of the Commission.”

RECOMMENDATIONS

The Zoological Society should:

- 1.1.1 Acquire an elephant restraint chute as soon as possible, which can be relocated into the new exhibit when that is completed. This will address a current limitation of the existing facilities for African elephant management.
- 1.1.2 Allocate more of the Maintenance Department’s time for general facility maintenance, rather than assignments to new exhibit construction projects..
- 1.1.3 Develop a better working relationship with the USDA-APHIS. Zoo staff should promptly address non-compliant items and negotiate for the best possible reasonable length of time for compliance. Zoo staff should not challenge minor findings, and reserve appeals for the rare major non-compliant items that may, in fact, not threaten an animal’s welfare and may not fairly qualify as non-compliant.
- 1.1.4 Ensure that the entire Zoo management participates in regular leadership training, to cultivate skills necessary to continue to improve staff morale.
- 1.1.5 Continue development of strategic planning, definition of the organization’s values, and the conflict resolution process.

- 1.1.6 Recognize that the weather at the San Francisco Zoo is at the cooler limit for keeping many tropical species, without resorting to indoor temperature-controlled exhibits. New outdoor exhibits should be designed with ample windbreaks, outdoor shelters, and on-exhibit heat sources. The animal collection should be carefully selected, as much as possible, for an animal's ability to acclimate to cooler temperatures, or select species that originate from cooler climate zones, such as tropical zones at elevation or northern climate zones.
- 1.1.7 Ensure that enrichment items are regularly added and changed within the bison exhibit.
- 1.1.8 Decide within a short time period whether sea lions and northern bears (Polar bears and the Kodiak bear) will be part of the Master Plan. If the seals and northern bears are not part of the long-term plan for the Zoo, the animals should be relocated to other institutions with better facilities. The bear grottos should then be removed. If the animals are part of the Master Plan, the existing facilities should be removed and new state-of-the-art bear or sea lion exhibits constructed within the time period of Phase II. Ten to fifteen years is too long to address these concerns.
- 1.1.9 Ensure that its Exhibits Committee, on a priority basis, review plans for single specimens currently in the Zoo's animal collection.
- 1.1.10 Carefully consider each of the ideas presented by Animal Keepers in the "Animal Keeper Perspectives" section of this audit report and implement those ideas, were warranted.
- 1.1.11 Ensure that all Animal Keepers who have not received a performance evaluation within the past year be provided a performance evaluation as soon as practicable and annually thereafter.

The Department of Recreation and Park should:

- 1.1.12 Allocate greater resources to the bison facility. The site itself actually has exceptional potential, with the cooler climate and large open setting.
- 1.1.13 Implement the Bison Exhibit minor maintenance and long-term modification improvements contained in Attachment II to this report section.

COSTS/BENEFITS

The recommendations contained in this audit section would significantly improve animal management and care. The recommendations contained in this audit section would also require significant additional costs for new, state-of-the-art northern bear and sea lion exhibits. However, according to Dr. Parrott, if the decision is made to keep the animals such costs are necessary for adequate facilities.

Significant benefits would accrue to the Zoo, its management, staff, and Animal Keepers if the recommendations concerning goal setting, communication, and trust are implemented.

Attachment I

Attachment II

Dr. Parrott's Evaluation

REVIEW OF ANIMAL MANAGEMENT AT THE SAN FRANCISCO ZOO

The purpose of this report is to review the animal management program at the San Francisco Zoo. In general, animal management covers a wide range of areas, including sanitation, housing, water quality, nutrition, veterinarian care, curatorial decisions, animal disposition, and quality of staff. This report will address all of these areas. In August 1998, these areas were reviewed by an inspection team of zoo professionals, representing the Association of Zoos and Aquariums, as part of the re-accreditation process for the SF Zoo. A review of the AZA accreditation narrative report is recommended in association with the results of the findings in this report.

In addition to a general review of the animal management program and animal care at the Zoo, this report will address specific questions and issues that relate to animal care and management. Issues and concerns which were raised in discussions with the USDA, other issues detailed in an article which appeared in a May 1999 publication of The San Francisco Bay Guardian ("The Zoo Blues"), discussions with the Board of the SF Zoological Society, and any concerns regarding management expressed in a survey of the SF zookeepers will be included. Where appropriate, clear recommendations will be made.

The approach included a review of materials (including, but not limited to, financial reports, USDA inspection reports, animal keeper questionnaires, AZA accreditation reports, bond summaries, staff records and correspondence, etc.), interviews, and a tour of the physical plant. The following individuals were interviewed June 22 – 24:

Judith van Es, Human Resources Director
Ron Bernardi, Keeper (avian)
Karen Raby, Keeper (Children's Zoo)
Jill Andrews, Keeper (primates)
Dave Bocian, Keeper (primates)
Deb Cano, Keeper (carnivores)
Nancy Rumsey, Keeper (koalas)
Antonietta Brocksen, Keeper (avian)
Roger Hoppes, Associate Curator (Children's Zoo)
Michele Rudovsky, Associate Curator (hoofstock, pachyderm)
Eve Lyon, Associate Curator (primates, carnivore)
David Robinett, General Curator
Tony Bila, Human Resources
Freeland Dunker, Senior Staff Veterinarian
David Anderson, Zoo Director
Robert De Liso, Bond Program Manager
Phil Carlton, Golden Gate Park Bison
V. Wensley Koch, DVM, USDA
Michael J. Smith, DVM, USDA

Paul Jansen, President, SF Zoological Society
John Wortman, General Curator, Denver Zoo

Animal Care

Animal care is best described by reviewing each individual aspect of management, care, and well-being of the animals at the Zoo. A similar review was conducted by the AZA accreditation inspection team, and that report should be considered in addition to this report.

Facilities:

The animal housing and exhibits are clearly a mixture of old and new, demonstrating a wide range of conditions. The physical plant reflects a Zoo in transition. The newer exhibits are generally very good, as are the gorilla exhibit, koala exhibit, portions of the Primate Discovery Center, and the Children's Zoo. Excellent renovations were completed in the PDC, North American River Otter, Flamingo Lake, Tropical Building, and Warthog Exhibit. The Australian Walkabout is spacious and reflects the energy and efforts of zoo staff. The existing housing is generally good. The Avian Conservation Center is an excellent facility. The Lorikeet Exhibit is well done and equal to any of the walk-through lorikeet exhibits currently existing in the country. The newest animal exhibit complex, "Puente al Sur," is excellent.

There are a number of animal exhibits that are out-of-date and can only be considered minimal facilities. Certainly the most glaring deficiencies in housing and exhibit design (and well-known to all concerned) are the chimpanzees, orangutans, elephants, bears, sea lions, hippopotamus, giraffe, and siamang. All of these are recognized as minimal facilities by current Zoo management. Somewhere in-between are the enclosures for the greater cats. Although the Lion House is a public sentimental favorite, it is clearly dated in concept and design. The animal holding and exhibit facilities should be considered adequate but minimal. Many of the facilities overall show a lack of general maintenance. Rust is a major problem with the Sloat Boulevard location. General maintenance will be covered in greater detail under "USDA Concerns."

The Feline Conservation Center requires special consideration, due to the history and its mention in the Guardian article. The original intent and design of the FCC was to serve as an off-exhibit holding, breeding, and conservation center for cats. The original intent and design of the Feline Conservation Center (FCC) was to serve as an off-exhibit holding, breeding, and conservation center for cats. The original intent was also to provide new quarters so that the old string of cat cages could be demolished. In that regard, the FCC is a very good facility and a tremendous improvement in quality-of-life from the conditions that the animals were in. Later, a decision was made to allow public viewing of the enclosures as an exhibit. Although it is not aesthetically a strong exhibit complex for public viewing, it remains a very good facilities for its original intent (improved possibly by the addition of indoor facilities for tropical cats). The FCC definitely represents a major improvement from the previous cat cages. In fact, the accreditation report lists the FCC as an "excellent project."

The outdated animal enclosures and exhibits are the greatest concern of the general public. They were the driving force for the success of the bond measure vote and should be moved to top priority for the bond program.

Recommendations:

1. The African Savanna project should be the first elements designed and constructed, to address the needs of the chimpanzee, orangutan, elephant, lion, giraffe, and rhinoceros.
2. An elephant restraint chute should be acquired as soon as possible, which can be relocated into the new exhibit, when that is completed. This will address a current limitation of the existing facilities for African elephant management.
3. The bear grottos and sea lion should be included within the Phase II (\$70,000,000) portion of the Master Plan.
4. The maintenance department should be allocated more time for general facility maintenance, rather than assignments to new exhibit construction.

Management

A review of animal care at the zoo revealed a professional level of management throughout the animal management program. The keeper staff appeared conscientious and professional, as a group. The animal exhibit areas and holding areas are clean and well maintained, within the limitations of the physical facility. Keepers appear to be well-trained, qualified, and competent. All areas appeared to be adequately staffed to care for the animals. However, a common complaint by keepers was that the staffing level was borderline, and everyone felt pressed to complete the workload. This was also a common complaint of management. Management is confronted with a large workload, especially with the demands of growth and fundraising, which put pressure on maintaining day-to-day business. The busy workload does not appear to be at the expense of the animals. The recent hiring of a Chief Operating Officer should help upper management.

The veterinary medical program to care for the animals is excellent. The veterinary staff is excellent and is one of the most significant improvements in animal care since the SF Zoological Society assumed management of the zoo. The veterinary staff and animal management appear to have a good working relationship. A review of necropsy records reveals a mortality report well within the range of a high quality animal program in a zoo with an animal collection comparable to the size and makeup at the SF Zoo. The necropsies are well documented and supported by histopathology examinations. There were no indicators of deaths due to mismanagement in animal care or veterinary care. Strong confidence in the veterinary department among keepers ran throughout the organization. The high quality of veterinary care and high level of confidence in that care cannot be overstated. It represents a real and measurable improvement in animal care from the previous zoo management (considered poor at the time and under investigation) and prior to the SF Zoological Society management of the zoo.

A random sample review of animal diets indicated that the diets are complete and professionally designed. All diets were reviewed by a zoo nutritionist three years previous and are now collaboratively developed with veterinary and curatorial staff. The commissary appeared clean and foods were high quality. Refrigeration, storage, and food preparation areas appeared professionally managed.

Water quality for the animals appeared acceptable at all levels. Drinking water sources appeared very clean. Pools with filtration also appeared clean. Pools without filtration were drained and refilled daily. The ponds were not clear but are within guidelines for the environment.

Pest control also appears significantly improved over the past ten years. Past history of Norway rats at the SF Zoo now appears under greater control with the existing pest control program. The presence of mice and rats in a zoological environment can never be completely eliminated, it can only be controlled. The problem of rodents is primarily due to the necessary practice of feeding wildlife in an outdoor environment where the animals can still access the food. The exposure of that food makes it vulnerable to rodents. This exposure is controlled primarily by using fine mesh wiring (where possible) and a vigilant pest control program (poisoning, trapping, etc.). The rodent problem now appears under control at the SF Zoo.

Animal policies are within the guidelines of the AZA. San Francisco has one of the most stringent animal surplus policies in the country. The animal acquisition policy appears to be adhered to, based on the animal collection plan. The euthanasia policy is under the responsibility of the staff veterinarian. A detailed animal collection plan is in place, covering each species in the collection. A glaring exception is the lack of a plan for the future of the elephant collection. (Asian and African). The record system is complete and professionally maintained. The animal collection is included in the ISIS program.

Quarantine and isolation facilities are lacking, primarily in large hoofstock. However, this is a common problem with most zoos. Management is aware of this and hold facilities are included in the Master Plan.

An animal marking system to individually identify animals is in place and is above average. Animal enrichment was evident in numerous enclosures, to provide activities for the animals. However, more enrichment would be desirable and several keepers expressed frustration at a lack of time to devote to animal enrichment activities. The enrichment appeared to be within the professional norm.

Sociobiological concerns of various species appear to be addressed as much as is reasonable. Creating and maintaining the proper social mix of any group is always a concern of all zoos. Many different factors affect the ability to fulfill sociobiological needs. A review of San Francisco's animal inventory, collection plan, and plan for individual animals demonstrates that the zoo is aware of the challenge and is addressing it. Single specimen collection holding is present, but is generally justifiable due to special circumstances on a case-by-case basis.

The entire keeper training program was not reviewed. However, the keeper staff appeared well-trained and professional. The recent addition of a highly qualified coordinator in Human Resources should help facilitate standardization of staff training in the future. The extended use of the “full time temporary” status appears to create more of a morale problem than an animal care problem. Ample time should be allowed for the training period as new employees are hired. A more formalized keeper training program should be in place.

Calle – Elephant Tuberculosis

The management of the Asian elephants at the SF Zoo warrants special mention. This case was highlighted in the Guardian article.

In 1995, one of the two SF Zoo's Asian elephants died. For the next two years, zoo management attempted to find a companion for the remaining elephant, “Tinkerbelle.” Because elephants are highly social animals, they should not be kept in a solitary environment. In 1997, “Calle,” an Asian elephant at the Los Angeles Zoo, was relocated to the San Francisco Zoo. Calle was tested in Los Angeles for tuberculosis with preliminary screening tests and a trunk wash culture. She was shipped to San Francisco prior to the results of those tests being finalized. After arrival in San Francisco, the test results subsequently were found to be positive.

Upon review of this case and discussion with zoo management, several important points emerge. First of all, everyone in management acknowledged that it was a mistake not to wait until the final test results arrived prior to sending Calle to the San Francisco Zoo. The mistake was not in deciding to bring Calle to San Francisco; the mistake was not waiting until final test results were in before she went to San Francisco. Whether this turns out to be a fatal mistake remains to be seen. Following treatment, Calle now appears to no longer be shedding. The central issue is not whether Calle becomes an active clinical case, but whether through her shedding Tinkerbelle contracts the disease. Tinkerbelle may yet live a full life, without contracting TB or TB ever becoming an issue.

Other points must be considered. There was no report of prior exposure to TB in the LA herd (this was documented in the record). The LA Zoo was unaware that Calle was shedding. SF Zoo management had the opportunity to return Calle to Los Angeles. Management decided that it was in Calle's best interest to treat her in San Francisco.

The decision to bring Calle to San Francisco prior to final test results was a mistake, but it was not indicative of general mismanagement, nor does it create a pattern of mismanagement at the San Francisco Zoo. In fact, it is far more telling about management that, rather than correcting the mistake simply by sending Calle back to be the problem of the Los Angeles Zoo, Zoo management decided to rise to the challenge to treat her at considerable cost of time, money, and energy. Meanwhile, Calle has stopped shedding and is now living with Tinkerbelle.

United States Department of Agriculture (USDA) Reports

The primary concern of the USDA inspection involves ongoing general maintenance. To understand the compliance issues, it is helpful to understand the process.

The USDA is a regulatory agency, not a certifying agency, and is charged with enforcement of the Animal Welfare Act, through the Animal and Plant Health Inspection Service (APHIS). The rules and guidelines are established by Congress. Enforcement is achieved by routine, unscheduled visits by veterinary inspectors to insure that all sites licensed under the Animal Welfare Act are compliant with the federal guidelines. Items found noncompliant are cited and placed in one of four categories. Category I is previously cited items that have been corrected. Category II is previously cited items that are still within a correction deadline time frame established by the inspector. Category III items are those cited for the first time, with time allowed to correct the items. Category IV noncompliances are items that are noncompliant which have not been corrected within the allowed timeframe. Category IV noncompliant items are the main issues regarding the SF Zoo.

With this understanding, following is generally how the process actually works. The veterinary inspector will arrive at the facility unannounced, so that the organization does not “prepare” for the visit. If the inspector finds a violation, the zoo staff can discuss the nature of the violation, and then negotiate for a reasonable amount of time to correct the problem. While some problems are major, most are usually minor housekeeping issues. Minor housekeeping may be corrected on the spot, such as replacing covers to food storage or the removal of cobwebs. Other items require time, money, inconvenience, and a return visit inspection.

There are two sides to this process. On the one hand, inspections and minor infractions can be very irritating because the items can feel like minor “technical” violations which do not really represent a threat to the health of the animal. But they are violations. On the other hand, it is important to realize that the minimum standards are so minimal that it is almost embarrassing (witness animal conditions allowable for circuses). The low standards of animal care are not a reflection of the USDA; the standards are established by Congress. USDA enforces the standards. No zoo should be operating at a level in the vicinity of the minimal standards established by Congress.

The primary San Francisco Zoo non-compliant items relate to deferred maintenance. They relate to an aging facility subject to a relatively harsh marine environment, a small maintenance department trying to keep up while developing new, in-house exhibitry (warthog, lorikeet), a limitation of funds related to the management contract and limited pre-bond capital funding. Rust on the wire or rodent droppings do not constitute “inhumane conditions or feces filled cages.” Nor do they mean animals are suffering or sick. They represent a potential for problems and should be corrected. Complicating this further is the situation in the bison exhibit at Golden Gate Park. The animals are under the care of the San Francisco Zoo and under the Zoo’s USDA license; the facility is the responsibility of the Recreation and Park Department. If the Rec and Park Department fails to maintain the facility (rotting fence posts, inadequate “Do Not Fee” signage), the San Francisco Zoo is cited for non-compliance. Again, the rotting fence posts and lack of signage do not mean the animals are suffering. These conditions represent a potential for problems; they are violations and should be corrected. More significant is the non-compliant item cited for the lack of a shelter for the blackbuck. That the Blackbuck do not use the shelter is not the issue. That the blackbuck have the choice to use the shelter, and the USDA clearly points out the violation, is the issue.

Recommendations:

1. Zoo management needs to develop a better working relationship with the USDA APHIS. In my 18 years of experience working with the USDA, I have never known inspectors to be less than sincere in enforcing guidelines for animal welfare concerns, nor have they enforced rules with evidence of political motives. Zoo staff should promptly address non-compliant items and negotiate for the best possible reasonable length of time for compliance. Zoo staff should not challenge minor findings, and reserve appeals for the rare major non-compliant items that may, in fact, not threaten an animal's welfare and may not fairly qualify as non-compliant. Zoo management has already initiated a better working relationship with the Zoo Director meeting with USDA representatives in July of 1999.
2. Zoo management should increase the maintenance department to address deferred maintenance items until maintenance is reasonably caught up. One vehicle to increase the size of maintenance staff without increasing the operating overhead, is to assign new maintenance employees strictly to bond-approved repair items, thereby qualifying all costs for the force-account labor category in the bond program. Generally, force-account labor is more cost-effective than outside contracting, remains more focused, and is under direct control of zoo management. Zoo repairs and renovations are approved items under the bond program.
3. Zoo management should develop a maintenance quality control program to insure that significant maintenance items are identified prior to USDA inspections. The USDA should not be a quality control agency.

Staff Morale

Perhaps one of the greatest concerns of this management audit involves the persistent mixed morale present in the keeper staff. Poor morale has almost been endemic in the staff at the San Francisco Zoo, dating back at least to the 1960's. Historically, it has been severe at times, resulting in chronic absenteeism and tension between keeper staff and management.

Morale among the keeper staff has improved significantly since the San Francisco Zoological Society assumed management of the zoo. Poor morale remains a concern, but appears now in pockets rather than throughout the organization and does not appear as severe. However, it is nowhere near where it should be to have a vibrant and energized organization.

In discussions with keepers, attitudes ranged from individuals feeling most positive about the animals, the recent improvements, and their department, to individuals feeling negative about the values and direction of the zoo and relations with their supervisors.

Management is well aware of the pockets of animosity and poor morale. An Employment Assistance Program assessment has been completed for some employees. A consultant for conflict resolution has been hired to resolve issues. This is clearly a proactive approach to a major deep-seated problem that predates this Zoo administration. The recent hiring of a new

Human Resources Director could also be a major step toward identifying the problems and facilitating solutions.

It should be noted that there appears to be a true disconnect between poor morale and animal care. Apparently, even in those individuals who are discouraged, the sense of responsibility toward the animals has insured professional levels of care by the keepers.

Several additional points should be made. There does not appear to be significant interstaff animosity at the peer level. There appears to be no significant level of animosity between City keepers and Society keepers. The quality of interstaff relations is essentially on a personal basis.

After discussions with several keepers, the most important need appears to simply be better communication between all of the management and the keepers. Those keepers with close communication and a close working relationship with their supervisor generally had better morale. It is important to clearly state the values and vision of the organization. It is also important to establish and enforce consistent standards of performance.

Recommendations:

1. Middle management should take time to work closer with keeper staff, to develop mutual trust, respect, and understanding.
2. The entire zoo management should participate in regular leadership training, to cultivate skills necessary to continue to improve staff morale.
3. Continue development of strategic planning, definition of the organization's values, and the conflict resolution process.

Weather

Perhaps one of the most important considerations for animal management is the microclimate along Sloat Boulevard and the Great Highway. Why the City of San Francisco chose this location for the old Fleishackker Zoo is hard to understand. The toll that the weather (cool, wind, fog, and salt air) takes on the structures is mentioned in the accreditation report, as is the potential for the weather's affect on the animal's health.

The weather records for the zoo are registered at the Richmond District Station, just south of the zoo. A summary of average high temperature by month is included in this report. It is important to note that the average high temperature for any month does not exceed 66 degrees. Wind chill for this location would drop the temperature 3 to 5 degrees if there is no windbreak.

Zoo staff at all levels were asked if the primates seemed generally comfortable or uncomfortable in this climate, to see if the clinical picture suggested that these temperatures might be too low for these animals (this was suggested in the Guardian article). The general impression of staff is that the animals acclimate to the climate and do well (even those that are tropical species). Certainly, primates are exhibited in other areas in temperature North American and voluntarily go outside when temperatures approach freezing. An advantage of this site is that

the average low temperature in the coldest month is only 45 degrees. It has rarely reached freezing.

Recommendations:

1. As master planning progresses, it should be recognized by zoo management that the weather at the San Francisco Zoo is at the cooler limit for keeping many tropical species, without resorting to indoor temperature-controlled exhibits. New outdoor exhibits should be designed with ample windbreaks, outdoor shelters, and on-exhibit heat sources. The animal collection should be carefully selected, as much as possible, for an animal's ability to acclimate to cooler temperatures, or select species that originate from cooler climate zones, such as tropical zones at elevation or northern climate zones.

Bison Exhibit Golden Gate Park

The bison exhibit in Golden Gate Park presents a special problem for all concerned. Animal care and veterinary care are the responsibility of the San Francisco Zoo. The enclosure and facility is the responsibility of the Recreation and Park Department. The animals are exhibited under the license of the San Francisco Zoo. USDA violations related to the facility result in citations given to the San Francisco Zoo, though it would be Recreation and Park's responsibility. A citizens group known as the Watch Bison Committee in Golden Gate Park monitors the site and advocates for the animals.

A site visit revealed a group of animals which appear to be in very good health. An animal which lost weight and died of hepatic fibrosis was reviewed by the USDA and cleared from accusation of neglect. General Care of the animals themselves appears to be good, although it was difficult to see due to the generally poor condition of the site. A few piles of animal waste were present which should have been removed. However, the animals did not appear adversely affected.

The physical site appeared worn and overgrown. Much of the site was overgrown with weeds, and fencing appeared old and in some cases appeared to be oriented for some previous function. "Do Not Feed" signage was present but poorly displayed. Plans for new fencing and, more importantly, restoration of the main field are in place and scheduled for construction. The general impression is that the SF Recreation and Parks Department does not have much interest in this site. The Bison Watch Committee volunteers have contributed minor project support and general maintenance work (weed pulling etc.) but would like to see more support for the facility. The facility improvements could be achieved at minor cost.

Recommendations:

1. The SF Recreation and Parks Department should allocate greater resources to the bison facility. The site itself actually has exceptional potential, with the cooler climate and large open setting.

2. New fencing should be installed and oriented to maximize the available site, including areas currently overgrown with weeds or empty paddock. (SF Recreation and Parks)
3. Signage should be improved for greater visibility and a more professional presentation. (SF Recreation and Parks)
4. A simple corral and chute system should be installed to allow for safe management of the animals, including separation of problem animals and providing veterinary care. (SF Recreation and Parks)
5. Enrichment items should be regularly added and changed within the exhibit (SF Zoo)

Master Plan and Bond Program

The Master Plan and bond program were reviewed to evaluate how effectively they address animal management concerns. In many respects, the Master Plan appears excellent and well thought-out. The three zoological planning firms of CLR Design, Jones and Jones, and Portico are leaders nationwide in the field of zoological planning. Details of the exhibit layout are currently being developed. Therefore, it is difficult to comment, other than in general terms.

The overall thematic layout of the Master Plan carries an emphasis on animals from the equatorial zone (African Savanna, Asian Rainforest, South America, Great Ape Forest). As mentioned earlier, weather at the SF Zoo will be a factor, to insure that the animals selected are compatible with the Sloat Boulevard location. The animals identified so far are very popular with the general public and should be very well received. Supplemental heat and wind protection will be critical to the design.

At this point, zoo management has not decided whether African elephants or Asian elephants or both will be part of the long term plan. This will need to be decided very soon, because elephant facilities occupy a central role in the thematic display, and will consume a significant portion of the space, funding, and energy of the zoo. In addition, the elephant facilities are especially poor.

Phase II at the zoo will address many of the critical concerns of the USDA and many of the worst of the San Francisco Zoo exhibits. The most problematic exhibits are addressed in the bond program, including the chimpanzees, orangutans, African elephants, African lions, rhinoceros, giraffe, hoofstock holding and quarantine, and numerous repairs and maintenance relating to animal facility deficiencies. This is a clear sign that zoo management is well aware of the deficiencies and is actively addressing the problems. Without question, the chimpanzee, orangutan, and African elephant exhibits are of greatest concern.

A significant omission, which should not be overlooked, is that of the sea lion pool and bear grottos from the \$48 million bond program. The polar bears and Kodiak bear do not appear on the Master Plan. However, the collection plan indicates maintaining the polar bears, with the possibility of replacing the Kodiak bear with a grizzly bear. This phase of the bond program is expected to be completed in approximately seven years. This means that the bears will be in the existing grottos for ten years, and possibly longer (if future major funding becomes problematic). The same case could be made for the sea lion and harbor seal exhibits.

Recommendations:

1. The sea lion pool and bear grottos should be reprioritized to be included in the \$48 million bond program.
2. A decision should be made sooner than later on whether these species will be part of the Master Plan. If the seals and northern bears are not part of the long-term plan for the zoo, the animals should be relocated to other institutions with better facilities. The bear grottos should then be removed. If the animals are part of the Master Plan, the existing facilities should be removed and new state-of-the-art bear or sea lion exhibits constructed. Ten to fifteen years is too long to address these concerns.

All of the projects listed in the bond program are critical to the long-term health of the zoo. The need for improved concessions and a revenue-generating front entrance is magnified by a management agreement with the City of San Francisco which transferred the burden of financial viability from the City to the Zoological Society and zoo management. The revenue urgency and sense of vulnerability permeates the organization. Zoos historically were not designed to run at a profit. Zoos originally served as a public service. As the financial responsibilities shift to the SFZS, this strain carries with it the need for revenue from the gate, concessions, and fundraising. This need for revenue shows up in the programs (Ford Motor Company, white alligator) and capital improvements (Little Puffer, roller coaster). Complicating this is the honorable burden of paying staff salaries at the high end of the profession. Management cannot offer numerous free days, pay well, and de-emphasize commercial copromotions or concessions at the same time without feeling significant strain. It is important that the animal welfare issues not be overshadowed by these other zoo needs. The need for improved animal facilities is very real and was the driving force behind passage of the bond measure. Improvement in animal exhibits will drive attendance up (and therefore zoo revenue more than any other project).

Recommendations:

1. The individual projects in the bond sale remain essentially the same.
2. The priority of projects and time of construction be rearranged so that the new animal exhibits are constructed first. The education building, zoo support facilities, administration facilities, and Children's Zoo projects should be postponed. These projects total over \$9,600,000. Postponement of these projects will allow for the construction phase of the \$9,060,000 Africa. Any facilities in the way of construction should be relocated into temporary modular facilities.

It should be pointed out that delaying Children's Zoo improvements should not be overly problematic; the Children's Zoo received high marks in the AZA accreditation report, while the chimp, orangutan, elephant, and giraffe did not. Constructing the animal exhibits first will result in a major uplift in the spirit and enthusiasm of the staff and community. This will also clearly demonstrate the existing concerns of upper management for animal welfare.

Bond Program Fund and Expenditures

A review of the plan for the expenditure of bond funds reveals that expenses are expected to be approximately as follows:

Fees and Permits	1.5%
Construction Management	8%
Program Management	5%
Design	12%
SFZS Administration	4%
Total	30.5%
City SF Administration	?

This indicates over 30% of bond monies will not go directly to construction, but will be used in design and project administration. This could easily rise with cost overruns, especially in architectural services. The allowable limit is variable and established by the bond sponsoring political board, in this case the City of San Francisco. As a comparison to the 30.5% non-construction costs, the East Bay Regional Park District imposed a 15% cap on these costs in Measure AA:

“no more than 15% of grant funds shall be spent on eligible non-construction or non-acquisition costs such as directly related administration, preparation of plans and specifications, and appraisals. A fee of not to exceed 1.5% of the bond proceeds will be paid to EBRPD as an eligible cost to cover the costs of administering the Park Program. . .”

Oakland’s Measure I would not allow the City of Oakland to receive any funds for administration of the bond program, in projects administered by non-profit organizations. One hundred percent of the bond monies, with interest, were turned over to the non-profit organization. The total expenditure for non-construction costs at the Oakland Zoo for Measure I are approximately:

EBZS Administration	3.5%
Project Management	3.0%
Design	<u>10.0 - 12.0%</u>
Total	16.5 -18.5%

Recommendation:

1. No more than 20 to 22% of bond funds should be spent on eligible non-construction costs, such as directly related administration and the preparation of plans and specifications. This reduction would result in an additional \$3 – 4.8 million for construction and improvements. This amount alone would allow for funding the bear grottos.

Privatization

The final question remains: "Has privatization improved animal care at the SF Zoo?"

There are actually two components to this question. First, has the zoo improved under management of the SF Zoological Society? And, second, were conditions better when the City ran the zoo? The latter question should be addressed first.

Conditions at the SF Zoo in virtually every category were worse when the City ran the zoo. Poor morale was a major contributing factor to the previous zoo director leaving on stress disability. The Zoo Director position remained vacant for a prolonged period of time. The Primates Discovery Center, which has had so many animal management problems, was built under previous management. Veterinary care for the animals was poor, under investigation, and lacked the confidence of the keeper staff. Most indicative of all, conditions were so poor that the SF Zoo was on the verge of losing its accreditation by the Association of Zoos and Aquariums. In 1992, the accreditation commission was very concerned about the poor physical plant, the lack of funding to make major capital improvements, and the borderline funding for operations. Accreditation was tabled for one year until the major issues of the management contract were developed. The SF Zoo was accredited in 1993, with the expectation that under the new financial arrangement of privatization, new funding sources would be developed to resolve the serious concerns of the commission.

The Zoo and quality of animal care have improved since the SF Zoological Society assumed management in 1993. The veterinary program has improved dramatically; it was poor and is now excellent. The veterinarians have an excellent working relationship with the keepers. The veterinary care for the animals is excellent. Diets have been reviewed, modified, and improved. Rodent control has improved from poor to good. The keepers at the SF Zoo are professional, knowledgeable, and caring as a group. Morale remains an issue and is still problematic in specific areas. But overall, morale has improved. Numerous new exhibits, facilities, and renovations are very good to excellent. The following list highlights the significant improvements attributable to the management since the SF Zoological Society took over:

New facilities

Avian Conservation Center

Feline Conservation Center (\$2,000,000; replaced string of cat cages)

Australian WalkAbout (\$562,000)

Puente al Sur

Lorikeets

Renovations:

Warthog exhibit (\$150,000)

Flamingo Lake (\$52,000)

River Otter exhibit (\$234,000)

Lion Cub exhibit

Aviary/Tropical Building (\$162,000)

Numerous major maintenance projects deferred from City management

Perhaps the most pivotal sign of improvement which will bear fruit in the near future is the development of substantial funding to address the massive capital needs of the institution. Prior to David Anderson's arrival, the City had no significant funds earmarked for the capital improvement program. Today, well over \$60,000,000 is in place in both public and private funding to address the capital needs of the zoo. It is highly unlikely that the public bond portion would be available today without the advocacy of the San Francisco Zoological Society.

The zoo was subsequently reaccredited in September 1998. The Zoo meets the professional standards of animal care required by the AZA.

Conclusions

General animal care at the SF Zoo is good. The greatest deficiency in animal care remains the physical plant. As animal care continues to improve, these priorities should be considered:

1. Replacement of the exhibits and holding facilities for the chimpanzees, orangutans, elephants, bears and sea lions.
2. Increase the size of the maintenance department with bond-funded force account labor for increased repairs, maintenance, and minor renovations. This can address the USDA concerns and general animal welfare/exhibit concerns identified by management and the keeper staff.
3. Prioritize the bond-funded capital improvement projects to construct the animal exhibits of concern first.
4. Develop a strategic plan for the zoo to clearly articulate the goals, values, standards, and mission for the entire organization.
5. The Associate Curators and General Curator should work more closely with the keepers to develop a greater degree of mutual trust, respect, and mission. The existing conflict resolution program should be taken to completion. Regular leadership training programs should be available to all of the management.
6. Develop a more cooperative working relationship with the USDA inspection program.

The USDA concerns should be adequately addressed with the availability of bond funding. The major capital improvements in the Master Plan and a larger, more focused maintenance department should adequately address the problems.

Current plans for the new zoo do not address concerns regarding the bear or sea lion exhibits. These should be included. At that point, essentially all of the pressing animal care infrastructure issues will be addressed.

Addendum

Weather Summary
Richmond District Station

<u>Month</u>	<u>Average High Temperature *</u>
January	58
February	60
March	60
April	61
May	61
June	63
July	64
August	65
September	66
October	66
November	63
December	58

3 to 5 degrees cooler – Wind Chill

* (Degrees Fahrenheit)