

**The San Francisco Zoo**  
**Lemur Forest Exhibit**  
**Summative Evaluation**  
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## Executive Summary - Lemur Forest Summative Evaluation

The San Francisco Zoo's new Lemur Forest Exhibit is successful on almost every measure of visitor experience, education and inspiration. A summative evaluation, consisting of pre- and post-visit testing, and a tracking and timing study confirms that cued visitors gain knowledge about lemur types, lemur behavior, lemurs' endangerment status, and lemurs' land of origin.

Visitors also demonstrate enhanced appreciation for lemurs and emotional connection to them post-visit. While many pre-visit respondents are inclined to value protecting lemurs and their environment, post-visit responses that favor lemur-related conservation are stronger and more numerous. Half of all post-visit respondents specified that they felt more strongly about these issues than they did prior to the visit.

Visitors to the Lemur Forest exhibit readily perceive and understand the main messages about lemurs, as described above. They also gain knowledge about the San Francisco Zoo's participation in lemur conservation, but to a somewhat lesser degree.

Based on their own observations, almost all visitors credit the San Francisco Zoo as being an effective and careful steward of the lemurs in their collection. The lemurs are widely perceived to be "happy" and "comfortable" in their habitat. Visitors are very favorably impressed by the habitat itself. Many describe it as being large and natural looking.

The Lemur Forest exhibit is particularly effective at providing visitors with excellent viewing opportunities. Visitor satisfaction with that aspect of the exhibit experience is reflected in their comments about viewing, about what other visitors will "get from the exhibit," and about what they will tell their friends. Respondents register very high levels of enjoyment of the exhibit and appreciation for it. Post-visit respondents also evidence knowledge gain about lemur appearance and behavior based on their firsthand observations of the animals.

Visitor focus is clearly on the animals, but cued visitors do attend and learn from exhibit elements as well. Cued visitors are likely to learn from exhibit elements about lemurs endangered status, source of endangerment and things that people can do to help them.

The Keeper Talk is a powerful part of the Lemur Forest exhibit experience. Attending a Keeper Talk has a positive influence on visitors in many measures of knowledge gain, affect and behavior. This is particularly true regarding details of lemur behavior, lemur care at the Zoo, visitor weighting of the importance of lemur-related conservation and visitors' self reported likelihood of contributing to lemur-related conservation efforts.

Cued visitors who hear a Keeper Talk appear to leave the exhibit slightly less well informed about the details of lemur's endangerment than did their cued counterparts who did not listen to the Talk. If there is a true impact, it may be because those visitors spent their time and attention on the keeper rather than the exhibit elements. The data suggest that either the Keeper Talks are not addressing the specifics of lemur endangerment or attendees do not recall it. These findings underscore the value of the Keeper Talks and the importance of addressing their content.

In this study, cued visitors who attended a Keeper Talk spent an average of 12.23 minutes in the Lemur Forest. Predictably, visitors who did not attend a Keeper Talk spent less time: un-cued visitors spent an average of 7.25 minutes; cued visitors an average of 7 minutes. The fact that, in the absence of a Keeper Talk, cued visitors spend about the same amount of time as un-cued visitors is counterintuitive.



## Introduction to Summative Evaluation Overview

In March of 2003 San Francisco Zoo staff contracted with Wendy Meluch of Visitor Studies Services to design and conduct a summative evaluation of the Lemur Forest Exhibit. This exhibit opened in June of 2002 as a part of the New Zoo renovations.

Zoo staff identified the following assessment priorities.

### General Assessment

- do visitors perceive and understand the main messages
- do visitors perceive quality care of the animals by the Zoo
- does the lemurs' climbing structure enhance viewing or distract visitors

### Exhibit Visit Profile:

- how much time do visitors spend
- how many exhibit elements are attended
- which exhibit elements are attended

### Exhibit Impact on Visitor Knowledge:

- lemur biology
- lemur endangerment
- Madagascar conservation
- San Francisco Zoo's role in the conservation of lemurs and Madagascar
- actions they can take to conserve lemurs and/or Madagascar

### Affective Impact of the Exhibit

- evidence of visitor appreciation for or emotional connection to lemurs and/or Madagascar

### Behavioral Impact of the Exhibit

- the likelihood that visitors will take actions to support lemur and/or Madagascar conservation efforts

### Impact of Keeper Talks on the Visitor:

- knowledge base
- appreciation for or emotional connection to lemurs and/or Madagascar
- likelihood of taking action to support lemur and/or Madagascar conservation efforts

## Summary of Findings in the Overall Summative Evaluation

### Do visitors perceive and understand the main messages of the Lemur Forest exhibit?

The Lemur Forest exhibit is very successful at communicating to visitors. They readily understand and can articulate these three main points and much more. Please see the Exit Survey Results (Tab 4) for more information.

- lemurs come from Madagascar only
- lemurs are endangered because of habitat loss
- San Francisco Zoo is part of a network which is helping to protect lemurs and Madagascar

## How does the Lemur Forest exhibit impact visitor knowledge?

The Lemur Forest exhibit is extremely effective at educating cued visitors. When we compare pre- and post-visit knowledge we see a statistically significant gain on every main point of information tested. Only two areas of information tested did not show significant knowledge gain: details about Madagascar's current trouble and details about how the San Francisco Zoo helps Madagascar and lemurs.

The table below shows data from the Entrance and Exit Surveys. Knowledge gain on each item shown is significant at the 99.9% confidence level. Please see Tests of Statistical Significance below for more information.

Lemur/Madagascar Information:	Entrance Sample (% of 50)	Exit Sample (% of 83)	Change in knowledge based on % of samples	
Know that lemurs come only from Madagascar:	12%	72%	+ 60% (+++)	
Are certain that lemurs are endangered:	14%	66%	+ 52% (+++)	
Cite with certainty that endangerment is a result of habitat destruction:	6%	29%	+ 23% (+++)	
Are certain that Madagascar is in some sort of trouble:	46%	70%	+ 24% (+++)	
Know that SF Zoo helps to protect lemurs and/or Madagascar:	8%	81%	+ 73% (+++)	
Know specific ways that individuals can support lemur/Madagascar conservation:	2%	10%	+ 8% (+++)	Small numbers of respondents render this data suggestive, not definitive.

(+++) denotes statistical significance at the 99.9% confidence level.

Two other points of information may be impacted by visiting the Exhibit as well.

- Entrance Survey respondents cited logical guesses for the ways in which the Zoo supports conservation efforts, such as education and breeding. Exit survey participants offer more responses and their responses are more specific, including emphasis on breeding and public education. For more detail please refer to the Entrance Survey Results Question 15 (Tab 3) and Exit Survey Results Question 23 Part 2 (Tab 4).
- While only 10% of the Exit Survey sample cited specific way for individuals to help protect lemurs and/or Madagascar, 42% of them said that they did find out about ways to do so.

## Do visitors perceive the SF Zoo as an effective and careful steward of lemurs?

A large majority of respondents to the Exit Survey felt that the Zoo is caring for the lemurs very well. Not one respondent felt that the lemurs were not well cared for. These responses stemmed from the visitors' own firsthand observations. Please see Exit Survey Results, Question 15 (Tab 4) for more information.

## What is the affective impact of the Lemur Forest exhibit?

A visit to the Lemur Forest does indeed enhance a visitor's appreciation for and/or emotional connection to lemurs, based on visitor use of positive affective language. Positive affective language recorded includes vocabulary like *adorable*, *beautiful*, *cute*, *friendly*, fun and *wonderful*.

The table below shows a statistically significant increase of 20% in the number of visitors using such language after experiencing the exhibit. These data indicate a positive influence of the exhibit. For more information, please see the Entrance and Exit Survey Results documents (Tabs 3 and 4 respectively).

Use of Positive Affective Language $\geq$ Once	Entrance Sample (% of 50)	Exit Sample (% of 83)	Change in % of visitors using Positive Affective Language
Yes	8 (16%)	30 (36%)	+ 20% (+++)
No	42 (84%)	53 (64%)	- 20%
Total	50 (100%)	83 (100%)	--

(+++ ) denotes statistical significance at the 99.9% confidence level.

Comments overheard during the Tracking and Timing Study demonstrate that visitors relate to lemurs on a personal level ("I'm like that sometimes.") and can feel empathy toward them ("Do you think they have a good life here?").

## Do visitors leave the Lemur Forest exhibit feeling that protecting lemurs and/or Madagascar is important?

The Lemur Forest exhibit does inspire concern for lemurs and Madagascar in visitors. The table below reports pre- and post-visit responses to this Likert scale question. When we combine visitors who responded *Very important* with those who responded *Somewhat important* we see a statistically significant gain of 39%.

Another indicator of the exhibit's influence on visitors' opinions of protecting lemurs is found in Exit Survey Question 22. Visitors were asked if they felt more strongly about protecting lemurs after their visit than they had before. Nearly half, 49%, of them said that they felt more strongly about lemur conservation than they did previously. For more information please see the Entrance Survey Results Question 19 (Tab 3), and Exit Survey Results Questions 21 and 22 (Tab 4).

How important is protecting lemurs?	Entrance Sample (% of 50)	Exit Whole Sample (% of 83)	Change based on % of samples
1 - Very important	16 (32%)	38 (46%)	+ 14%
2 - Somewhat Important	8 (16%)	34 (41%)	+ 25%
3 -	2 (4%)	6 (7%)	+ 4%
4 - Not very important	0	4 (5%)	+ 5%
5 - Not at all important	0	1 (<2%)	+ <2%
Excluded due to lack of visitor knowledge	24 (48%)	--	--
Total	50 (50%)	83 (100%)	--

(+++ ) denotes statistical significance at the 99.9% confidence level.

## Does the lemurs' climbing structure enhance viewing or distract visitors?

The Lemur Forest provides viewers with a superb viewing opportunity and the climbing structure plays a big role in that. Over three-quarters of the Exit Survey sample remembered seeing lemurs on it (Exit Question 8). When asked what they thought visitors "will get out of this exhibit," 22% emphasized the experience of seeing the lemurs (Exit Question 10).

The most and longest stops to look at lemurs took place in the viewing areas nearest the climbing structure. No visitors commented negatively about the structure either in the surveys or while being observed for the Tracking and Timing study. One subject of the Tracking and Timing Study was heard to say, "Oh, I can really see them!" Please see the Tracking and Timing Study Results (Tab 5) for more information.

## Evidence of the Impact of Firsthand Observation

Being able to view animals is the reason that people come to the zoo. Offering a satisfying viewing opportunity sets the visitor up for a good experience. Visitor satisfaction is evidenced by their comments in the Exit Survey about their experience and about what they will say to friends (Exit Question 31). They are also very enthusiastic about the exhibit in their comments for the people who planned and created the Lemur Forest (Exit question 32).

From their own observations visitors describe the following.

- their opinion that the thing visitors will "get from" the exhibit is an opportunity to view the lemurs (Exit Question 10)
- clear memories of lemur appearance (Exit Question 11)
- clear memories of certain lemur behaviors (Exit Questions 11, 14 Part 2)
- strong affective impression of lemurs "how cute they are" (Exit Question 11)
- a high regard for the San Francisco Zoo as an effective steward of these lemurs (Exit Question 15)
- positive word-of-mouth messages to their friends (Exit Question 31)

## Evidence of the Impact of Exhibit Elements

This study was commissioned, among other reasons, to look at the impact of the Lemur Forest exhibit as a whole and to identify any special impact that the Keeper Talk might have. As we review the data with an eye towards comparing the overall Exhibit impact with that of the Keeper Talks, we can see a few instances in which exhibit elements are particularly effective.

Exhibit elements include informational panels, labels, banners, feeding stations, and the like. How can exhibit elements have much of an impact when subjects observed in the Tracking and Timing Study stop at an average of only 2.25 elements? Two things account for this apparent discrepancy: first, visitors may be taking in element messages without actually stopping at them; and second, cueing visitors, as we did for the Exit Survey, heightens visitor attention to an exhibit resulting in higher use of exhibit elements.

Responses to questions in the Exit Survey that appear to be influenced by exhibit elements include the following. Note that some visitors also evidence knowledge gain in these areas from the Keeper Talk as well.

- knowledge that lemurs come from Madagascar only (Exit Questions 14, 17)
- awareness that lemurs are endangered (Exit Questions 16)
- awareness that lemurs are endangered due to habitat destruction (Exit Question 16 Part 2)
- awareness that Madagascar is in some sort of trouble (Exit Question 18)
- knowledge of things that individuals can do to help lemurs (Exit Question 19)
- knowledge that the Zoo plays a role in lemur conservation (Exit Question 23)

## Evidence of the Impact of Keeper Talk Attendance

Experiencing a Keeper Talk appears to have a positive impact on the points listed below. Exit Survey participants who saw a Keeper Talk were more likely to exhibit significant knowledge gain or other clear impacts in these areas than those who did not see the Keeper Talk.

- details about lemur behaviors (Exit Questions 11, 12)
- knowledge that lemurs come from Madagascar only (Exit Questions 14, 17)
- the importance of protecting lemurs and Madagascar in the opinion of the visitor (Exit Question 21)
- an increase in how strongly visitors feel about the need to protect lemurs and Madagascar post-visit (this item is on the verge of statistical significance) (Exit Question 22)
- the likelihood that a person thinks they will contribute to a lemur-related conservation organization (Exit Question 29)
- how much the respondent enjoyed his/her visit to the Lemur Forest (this item is on the verge of statistical significance) (Exit Question 30)

Though not statistically significant, some data also suggest that attending the Keeper Talk negatively impacts visitor knowledge of the lemur's endangered status, the reason for it and how one can help prevent it (Exit Questions 16, 18 and 19). If there is a true impact, it could be because visitors focus their time and attention on the keeper and disregard the exhibit elements. This would suggest that either the Keeper Talks are not addressing conservation or that attendees are not remembering it.

The Keeper Talk is clearly an effective tool, but by its nature, the verbal content of it can vary. Just as many visitors can parrot the idea of female dominance among lemurs after seeing a Keeper Talk, they could probably parrot specifics about endangerment as well. We can expect a docent with a biofact cart to have a positive impact as well. The content of the messages from keepers and docents deserves special attention.

## How much time do visitors spend in the Exhibit?

We expect cued visitors to spend longer in an exhibit on average than un-cued visitors, and this is what we found for the Lemur Forest. Un-cued visitors spent an average of 7.25 minutes whereas cued visitors spent an average of 9.43 minutes.

When we break out average times spent by cued visitors who did and did not watch a Keeper Talk, things look a bit different. The occurrence of a Keeper Talk appears to have a greater impact on visit length than does cueing. Those cued visitors who watched a Keeper Talk spent 12.23 minutes on average; those cued visitors who did not see the Talk spent an average of only 7 minutes. The fact that, in the absence of a Keeper Talk, the cued visitors spent about the same amount of time as un-cued visitors in the Tracking and Timing study is counterintuitive.

Visit Length in Minutes	Tracking and Timing Study	Exit Survey (cued)		
	Whole Sample (44)	Whole Sample (83)	With Keeper Talk (37)	No Keeper Talk (46)
Average	7.25	9.43	12.23	7
Range	2 - 21	2 - 24	4 - 24	2 - 20
Median	6	8	11	7
Mode	4 minutes (11 visitors, 25%)	8 and 5 minutes (11 visitors each, 13.25%)	8, 11, 13 minutes (5 visitors each, 13.5%)	5 (9 visitors, 19.6%)



## Visitor stops to view animals

In addition to the recorded stops to view animals, visitors watch animals as they walk along the boardwalk. The average number of stops to view animals made by members of the sample of 44 visitors in the Tracking and Timing Study was 3.14; maximum stops were 5; minimum 1. No one walked through the exhibit without any stops. More and longer stops took place in the viewing areas nearest the lemurs' climbing structure.

The amount of time visitors actually stopped to watch the lemurs ranged from a minimum of 5 seconds to a maximum of 11.22 minutes. The average time spent stopped to watch them was 3.85 minutes. Please see the Tracking and Timing Study Results (Tab 5) for more information.

## How many exhibit elements are attended?

Exhibit elements include informational panels, labels, banners, feeding stations, and the like. Because visitors' main focus when attending the zoo is to see the animals, we expect a lower rate of attention to exhibit elements than is found in museums. Indeed, un-cued visitors to the Lemur Forest stop at an average of only 2.25 exhibit elements. For more information please see the Tracking and Timing Study Results (Tab 5). The Exit Survey could not take into account how many or which elements were attended by sample members.

Responses from cued visitors to the Exit Survey reveal significant knowledge gain from exhibit elements. How can exhibit elements have much of an impact when subjects observed in the Tracking and Timing Study stop at an average of only 2.25 elements? Two things account for this apparent discrepancy: first, visitors may be taking in element messages without actually stopping at them; and second, cueing visitors, as we did for the Exit Survey, heightens visitor attention to an exhibit resulting in higher use of exhibit elements.

That visitors can take messages in from elements, sometimes without stopping at them, attests to their effective design. Large type, short lines and single ideas on each element make them accessible and easily understood.

## Which exhibit elements are attended?

The "Where in the World" panel and globe elements are the most commonly attended exhibit elements. They are located along the boardwalk that approaches the animal viewing areas so animals are not yet easily visible. The globe has a strong attraction in that it is nice looking and inviting to the touch. One other set of panels gets about the same amount of attention: the Keeper Note and a panel about Madagascar's diversity. For more information, please see the Tracking and Timing Study Results (Tab 5).

## Study and Sample Design and Rationale

Measuring the impact of the exhibit on visitors requires a comparison of visitors who have never experienced the exhibit with those who have. To ensure that these two distinct groups are otherwise similar, with reference to Zoo attendance and animal knowledge, both samples were screened to eliminate frequent zoo visitors. Before participating in either the Entrance Survey or the Exit Survey all target subjects were asked if this was their first trip to the New Zoo. Our assumption was that a visitor who had never been to the New Zoo, which opened about 11 months prior to data collection, could be considered an infrequent zoo visitor. The Entrance Survey includes a sample of 50 such visitors, the Exit Survey, 83. The validity of this research design is confirmed by the fact that respondents to both the Entrance and Exit Surveys were equally likely to have heard of lemurs before today's visit (84% and 88% respectively).

To assess any enhancement that witnessing a Keeper Talk might have on visitor impact, a comparison must be made between visitors who attend the exhibit with and without experiencing the Talk. To that end, the Exit Survey sample contains 38 visitors (46%) who did see a Keeper Talk, and 45 (54%) who did not.

Questions of visit length and use of exhibit elements are best answered with an unobtrusive tracking and timing study. In this type of study, visitors are not influenced by being cued and are not aware that they are under observation. It is the most rigorous test of an exhibit. Per Beverly Serrell's work a minimum sample of 40 was sought.<sup>1</sup> The Tracking and Timing Study in this evaluation includes 44 subjects.

The nature of a zoo visit is determined in large part by the visitors. Those visitors with very young children have two main priorities: to keep track of the toddlers; and to look at the animals. Generally speaking, these visitors can't or don't want to focus on anything else, such as labels. For this reason the target audience for this evaluation was limited to adults only or adults with children who appear to be of school age (about five years old and up).

To heighten visitor attention to the exhibit, we used a cued approach. At the entrance of the exhibit, visitors were screened to be sure that this was their first visit to the New Zoo and then invited to participate. They were told that at the exit of the exhibit there would be a table where they could complete a questionnaire and receive a thank you gift.

In all studies, a probability based sampling method was used. This removes bias on the part of the data collectors and provides data that can be considered statistically representative of the target population within specified ranges of certainty.

Because of the way that groups move along together, a few families were invited to participate in the Exit Survey before the data collector realized that they had a young child with them. Questionnaires from those visitor groups were kept in the sample only if they were fully completed and the adults had clearly been able to give attention to the exhibit.

All data were collected during April of 2003. The weather was breezy and cool in the shade but warm to hot in the sun.

## Tests of Statistical Significance

Statistical significance was determined using chi-square and the Fisher exact probability test. Observed impacts of the Exhibit on visitors are considered statistically significant when they reach a 95% confidence level or greater. Three levels of confidence are observed in this Summative Evaluation report:

- 95% level noted as (+)
- 99% level noted as (++)
- 99.9% level noted as (+++)

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<sup>1</sup> Serrell, Beverly, *Paying Attention: Visitors and Museum Exhibitions*, American Association of Museums, 1998



## Evidence of Affective Connection to Lemurs Among Respondents to Entrance Survey

In the Entrance Survey, very few visitor comments reveal an appreciation for or emotional connection to lemurs among pre-visit respondents. Only 16% used positive affective language at least once in their responses.

Positive affective language recorded includes *adorable*, *cute* and *friendly*. It primarily appears in Entrance Questions 1, 3 and 4. As in the Exit Survey, the most commonly used word from this list was *cute*.

Use of Affective Language	Frequency of Response	% of Sample
Yes	8	16%
No	42	84%
Total	50	100%

## Entrance Survey Results: Tally Tables and Narrative by Question

### Entrance Question 1: Have you ever heard of lemurs before?

Response	Frequency of Response	% of Sample
Yes	42	84%
No	8	16%

These visitors were not asked any more lemur-specific questions. Their interview skipped ahead to Question 9.

### Entrance Question 2: Where did you hear about them?

Thirty-two respondents made at least one television reference. This represents 64% of the sample. Eight individuals, 16% of the sample, had not previously been exposed to lemurs in any way. As should be expected per the research design, this breakdown is statistically equivalent to that found in the Exit Survey sample. The research was planned this way to ensure similar populations for both the Entrance and Exit surveys. We were looking for infrequent visitors to the Zoo so that no participants would have previous experience with the Lemur Forest exhibit.

Response Category	Frequency of Response	Comments
TV - nonspecific	16	
TV - Discovery Ch.	9	
Zoos	9	Denver Zoo; Happy Hollow in San Jose (2); Atascadero; Sacramento; Pittsburgh; Lincoln Park Zoo in Chicago;
Reading	4	Books or animal cards as a child; science books; National Geographic; KQED Magazine; books
TV - Zaboomafoo	3	
Other	4	Fierce Creatures movie; I am a biologist; my work selling supplies to zoo vendors; San Francisco Zoo map
TV - Animal Planet	2	
TV - KQED	2	
TV - Other	1	Nature shows
I don't know	1	
Total	not applicable	more than one answer accepted

### Entrance Questions 3 & 4:

#### What can you tell me about lemurs? How do they live?

Visitors who have heard of lemurs before most readily comment on some aspect of their appearance. The big eyes and long tails are most memorable. Respondents are also quick to mention animal facts, not all of which are accurate. More than one visitor believed them to be nocturnal.

Response Category	Frequency of Response	Comments
Appearance	27	respondents readily offered descriptions of how lemurs look. Most commonly stating that they look like monkeys; have long tails; big eyes
Animal "Facts"	27	related to monkeys; primates; prehensile tail; nocturnal; marsupials; and the like
Diet	8	fruit; leaves; bugs; vegetarians
No comment - never heard of lemurs	8	

For a complete list of respondents' verbatim comments, please see Appendix A. As more than one response was accepted these are not totalled.

### Entrance Question 5:

#### Why might people be concerned about lemurs?

A total of nine respondents, or 18% of the sample, were certain about the lemurs being threatened in the wild. Another 20 (40%) guessed at this. Twenty-one visitors, 42% of the sample, were unaware that lemurs are in any danger.

This question was meant to elicit feedback without leading visitors to conclude that lemurs are in trouble. The following question addresses this issue more directly.

Response Category	Frequency of Response	Comments
I'm not sure	19 (35%)	could offer no response
Maybe they are endangered?	18 (36%)	various references to the idea that they might be endangered
They are endangered.	6 (12%)	these respondents were certain that lemurs are endangered
The rainforest is being destroyed	3 (6%)	these respondents were certain about habitat destruction. "Habitat in danger. I'm concerned because I think they're adorable."
Maybe their habitat is being destroyed?	2 (4%)	various references to the idea that their habitat might be trouble
They aren't concerned	2 (4%)	these respondents did not think that there is reason for concern
Total	50 (100%)	

**Entrance Question 6:  
Are they endangered?**

Only 14% of this sample can say with certainty that lemurs are endangered. Many others guessed at it either because many other animal species are endangered or simply because the question was being posed.

Response Category	Frequency of Response	Comments
I'm not sure I don't know	18 (36%)	
Yes	7 (14%)	
No	4 (8%)	
Probably	4 (8%)	probably; isn't everything; and the like
Assume so	8 (16%)	assume they are endangered because of the question being posed
Other	1 (2%)	some of them are
Never heard of lemurs	8 (16%)	Question 1 above
Total	50 (100%)	

**Entrance Question 7:  
Where do lemurs live in the wild?**

Lemurs are associated with trees or forests in the minds of 40% of respondents.

Response Category	Frequency of Response	Comments
Trees	11 (22%)	one cited "arboreal"
Rain forest	5 (10%)	
Forest	4 (8%)	
Other	2 (4%)	Asia; tropics
Don't know	20 (40%)	
Never heard of lemurs	8 (16%)	Question 1 above
Total	50 (100%)	

**Entrance Question 8:  
In what country or part of the world?**

Six respondents, 12%, knew that lemurs come only from Madagascar.

Response Category	Frequency of Response	Comments
Madagascar only	6 (12%)	
South America & South American sites	6 (12%)	South America (4); and Amazon; Brazil;
Africa	5 (10%)	
Other single locales	4 (8%)	Australia; Indonesia; Malaysia; New World
Other- multiple locales	2 (4%)	South America and India; Central America, possibly, Africa, parts of Asia
Don't Know	19 (38%)	
Never heard of lemurs	8 (16%)	Question 1 above
Total	50 (100%)	

**Entrance Question 9:  
(Yes) Lemurs come from Madagascar... Have you ever heard of Madagascar before?**

Whether or not visitors had heard of lemurs, they were asked about Madagascar. A clear majority, 88%, had at least heard of Madagascar.

Response	Frequency of Response	% of Sample
Yes	44	88%
No	6	12%
Total	50	100%

**If yes, continue; if no, skip to Question 14a.**

**Entrance Question 10:  
Roughly where is Madagascar?**

A total of 17 members of this sample, 34%, could correctly locate Madagascar.

Response Category	Frequency of Response	Comments
African Coast	13 (26%)	
Other Correct	4 (8%)	Near Africa (3): Indian Ocean (1)
Other - Incorrect	5 (10%)	Mediterranean; Near Vietnam & Thailand; Off of South America; South America
Africa	2 (4%)	
Australia	2 (4%)	
South Africa	2 (4%)	
Don't Know	16 (32%)	
Never heard of Madagascar	6	
Total	50	

**Entrance Question 11:  
Can you tell me anything else about it?**

This question was meant to elicit responses without leading the visitor to mention environmental issues. The next question is more direct.

Response Category	Frequency of Response	Comments
It's an island	10	one ads that it was a French colony
Vanilla	1	the best vanilla comes from there
Other	4	black pepper comes from there; it's hot and arid; much civil unrest now; stink bugs
No response	29	
Never heard of Madagascar	6	
Total	50	

**Entrance Question 12:  
Is there reason to be concerned about Madagascar?**

None of the responses to this question were incorrect. Twenty-three visitors had some response to this question, 15 (30% of the sample) identified environmental issues.

Response Category	Frequency of Response	Comments
Deforestation	10 (20%)	reference to deforestation, slash and burn, and the like
Ecosystem	5 (10%)	broad reference to environment: unique species; endangered; rare species are there and it needs to be protected; very specific and fragile; habitat in danger
Lemur	2 (4%)	reference to the fact that lemurs live there
Social	2 (4%)	civil unrest; third world nation
Affirmative	4 (8%)	non-specific references: probably (2); yes (2)
No response	19 (38%)	
Never heard of Madagascar	6 (12%)	
Total	50	

**Entrance Question 13:  
Where have you learned about Madagascar?**

A total of 11 responses:

- Board game and Discovery Channel
- Books, zoo, KQED Magazine
- General knowledge
- Grew up in country - familiar with clear cutting
- Habitat distribution
- Happy Hollow Zoo in San Jose Zoo
- In the news - much civil unrest there now
- I am a geography teacher
- News
- School
- School, reading

**Entrance Question 14a: Data Collector Assessment:  
Does this respondent have too little information to continue with Questions 14b-19?**

For those visitors that had no information or were clearly guessing at the answers, continuing with the interview was awkward. They had too little information to address the questions or form an opinion. Only 26 members of this sample were asked questions 14b - 19.

Response	Frequency of Response	Result
Yes	24 (48%)	Skip to Question 20
No	26 (52%)	Continue with Q. 14b
Total	50 (100%)	



**Entrance Question 14b:****Does the San Francisco Zoo play a role in helping lemurs or Madagascar?**

Four members of this sample, 8%, said with certainty that the Zoo plays a role in helping lemurs or Madagascar. As these are infrequent Zoo visitors, we would expect this number to be low.

Response	Frequency of Response	% of Whole Sample of 50
Yes	4	8%
No they do not	4	8%
I suppose so	16	32%
I don't know	2	4%
Excluded per Question 14a	24	48%
Total	50	100%

**Entrance Question 15:****If Yes: What sorts of things do they do (do you think they might do) ?**

Many visitors responded to this question with logical guesses. We would expect members of a sample like this (infrequent zoo visitors) not to be well informed about this aspect of the Zoo's activities.

Response Category	Frequency of Response	Comments
Provide a Home	8	care for, study and protect them here at SF Zoo
Breeding	6	
Financial reference	4	in combination with application such as education, research and release programs
Education	4	

**Entrance Question 16 & 17:****Are you aware of ways that people like you and me can protect the lemurs?****If Yes: How can a person help?**

Many visitors responded to this question with logical guesses.

Response Category	Frequency of Response	Comments
Contribute - general	17	non-specific reference to making donations; Zoo proceeds
General Eco-friendly	7	reference to generic behaviors such as recycling, changing what we buy; use less paper; and the like; not buy products that use lemurs
Contribute - specific	3	reference to providing financial support to related organizations: Rain Forest Action Network; zoos
Treatment of lemurs	2	don't hunt them, observe and don't bother them
Gathering information	3	reference to how to learn about helping: check the web; the Zoo will tell us
Other	2	Knowledge; Volunteering
I don't know	10	

**Entrance Question 18:  
How do you feel about protecting lemurs and their homeland?**

A majority of respondents to this question have an affirmative response.

Response Category	Frequency of Response	Comments
Good, but don't know how	2	
Good, people should always help animals	13	Good - as I do about all conservation efforts
Good, general	5	we should, we need to, I would like to
No Comment	3	never thought about it; no feeling
Good - Enthusiastic	5	Enormously important to protect any living thing to keep the world spinning basically; If I can't advocate I should support those who can be advocates. Protect rainforests as well; It's our responsibility as humans; very strongly; and the like
Broaden focus to include habitat	1	Emphasis on habitat not just the lemur
Affective	1	Is important but not sure what they look like; look at map photo they're so cute need to save them.

**Entrance Question 19:  
How important is protecting lemurs and their homeland to you?**

Not one respondent to this question had a negative response, closely paralleling reactions to Question 18 above.

Response	Frequency of Response	% of Sample
1 - Very important	16	32%
2 - Somewhat important	8	16%
3 -	2	4%
4 - Not very important	0	0%
5 - Not at all important	0	0%
Excluded per Question 14a	24	48%
Total	50	100%

**Entrance Questions 20 - 23  
Sample Demographics**

Please see Appendix B

## Appendix A

### Entrance Question 3 & 4 What can you tell me about lemurs? How do they live?

#### Appearance

What they look like  
long tail, big eyes  
They look like this - holds up picture on the S.F. Zoo  
map  
big eyes  
adorable Ringtails same; cute, big eyes, little heads  
Ringtailed, long tail  
Monkeys, a type of monkey  
Monkey looking  
cute  
Look like monkeys, small faces  
Look like monkeys, large tails, beautiful colors  
Long tail, big eyes, cute,  
long tails, soft, cute, noisy, friendly, like cats  
Little monkey type things, big red eyes

Little  
Like monkeys, look like they fly because extra skin  
looks like wings  
Like monkeys  
Like monkeys  
Like marsupials, stand up  
Like cats that live [in] trees  
Like a small cat  
Like a monkey  
Like a monkey  
Like cats and monkeys  
Four legged, small  
Either like weasels or monkeys; long striped tails, big  
eyes  
Big eyes

#### Animal "facts"

Related to monkeys; really loud at sunset  
Related to monkeys, make noise  
Related to monkey family  
Primate, prehensile tail  
Old world primates  
Monkey family  
Type of monkey,  
Monkey category  
They leap, primates?  
a primate,  
Tail use like a monkey,  
Some kind of monkey,  
prehensile tail  
Different species

like people 'cause of social structure that avoids fights  
Little monkeys  
member of cat family  
Mammals,  
Marsupial  
Drown in water  
Nocturnal;  
Probably social  
Live in holes  
Live in the ground  
Jump,  
Nocturnal  
Nocturnal

#### Diet

Eat bugs  
Eat fruit?  
Eat leaves  
Fruit, bird eggs and vegetation  
eat fruit  
eat fruit  
eat fruit  
Vegetarians

## Appendix B Entrance Sample Demographics

Gender of Respondent	Frequency of Response	% of Sample
Female	28	56%
Male	22	44%
Total	50	100%

Zoo Member?	Frequency of Response	% of Sample
No	47	94%
Yes	3	6%
Total	50	100%

Age Range of Respondent	Frequency of Response	% of Sample
18 - 21	6	12%
22 - 29	11	22%
30 - 39	10	20%
40 - 49	17	32%
50 - 59	7	14%
60+	4	8%
Total	50	100%

Number of people in group	Frequency of Response	% of Sample
2	16	32%
3	15	30%
4	11	22%
5	4	8%
6	2	4%
7	2	4%
Total	50	100%

Number of Adults in group	Frequency of Response	% of Sample
1	9	18%
2	26	52%
3	9	18%
4	6	12%
Total	50	100%

Number of Children in group	Frequency of Response	% of Sample
0	19	38%
1	11	22%
2	16	32%
3	4	8%
Total	50	100%

Children		% of Sample
age range	1 - 15	n/a
groups with children	31	62%



**Summary of Key Findings - Exit Survey**

**Length of Visit for Cued Visitors in the Exit Survey**

Predictably, those visitors who watched and/or participated in a Keeper Talk spent more time in the exhibit.

Visit Length in Minutes	Whole Exit Sample (83)	With Keeper Talk (38)	No Keeper Talk (45)
Average	9.43	12.23	7
Range	2 - 24	4 - 24	2 - 20
Median	8	11	7
Mode	8 and 5 minutes (11 visitors each, 13.25%)	8, 11, 13 minutes (5 visitors each, 13.5% or 37)	5 (9 visitors, 19.6%)

**Do Visitors Understand the Main Messages of the Exhibit?**

The big idea of this exhibit includes these main points:

- lemurs come from Madagascar
- lemurs are endangered because of habitat loss
- San Francisco Zoo is part of a network which is helping to protect lemurs and Madagascar

This exhibit appears to be very successful at communicating these points to visitors. While they may not hit on each of these points when asked “what do you think visitors will get from this exhibit?” respondents do show a great deal of awareness about them in responses throughout the questionnaire.

In describing what people will get from the exhibit (Exit Question 10) respondent comments most frequently mention that visitors will learn about lemurs (35% of visitors cite this). Reference to experiential aspects, such as “getting a peek into the lemur’s world” appear in comments from 22% of respondents. Conservation messages are cited in comments by 16% of visitors. Comments by 13% of visitors describe gaining appreciation for lemurs, such as loving them or seeing how “cool and laid back” they are.

Fully 72% of visitors know upon leaving the exhibit that lemurs come only from Madagascar (Exit Question 17). This represents a statistically significant increase of 60% over respondents to the Entrance Survey. Over half of visitors, 55%, are certain that lemurs are endangered (Exit Question 16). This is an increase of 62% compared to respondents to the Entrance Survey. That lemurs are endangered due to habitat loss or deforestation is clear to almost all of the visitors who chose to respond to this item: 24 respondents; 29% of the whole Exit Survey sample (Exit Question 16 Part 2). This is a statistically significant increase of 23% over pre-visit respondents.

A very large majority of the sample, 81%, leave the exhibit knowing that the San Francisco Zoo participates in conservation efforts around lemurs and/or Madagascar. This represents a statistically significant increase of 73% over Entrance Survey participants. How the Zoo helps is primarily understood to be by keeping and caring for lemurs, educating the public and conducting breed and release programs. Pre-visit survey participants could only guess that the Zoo must participate in conservation efforts in some way.

## Evidence of Affective Impact of the Exhibit

Many visitor comments on the Exit Survey reveal an appreciation for, or emotional connection to lemurs. See below for a list of affective language used to identify that perspective and the number of respondents who used affective language on their questionnaires.

Affective language appears through the questionnaire. It most frequently appears in Questions 11, 12 and 31. By far the most commonly used word from this list was *cute* with 16 references. *Beautiful* was the second most common word with seven references.

- beautiful (7)
- colorful
- cool (3)
- cute (16)
- fun
- grace
- interesting (3)
- laid back
- special
- unique (2)
- wonderful

Just over one third of the Exit Survey sample, 36%, used positive affective language at least once in their responses. Entrance Survey participants were less likely to use affective language in their responses; about 16% of them did so. A 20% increase in the number of visitors using such language pre- and post-visit is statistically significant at the 99.9% confidence level. These data indicate a positive influence of the exhibit. Though fewer visitors who attended a Keeper Talk used positive affective language, the difference is not statistically significant.

Used Affective Language ≥ Once	Entrance Sample (% of 50)	Whole Exit Sample (% of 83)	Keeper Talk (% of 38)	No Keeper Talk (% of 45)
Yes	8 (16%)	30 (36%)	12 (32%)	18 (40%)
No	42 (84%)	53 (64%)	26 (68%)	27 (60%)
Total	50 (100%)	83 (100%)	38 (100%)	45 (100%)

## Do visitors have a satisfying viewing experience?

The Lemur Forest provides viewers with a superb viewing opportunity and the climbing structure plays a big role in that. Over three-quarters of this sample remembered seeing lemurs on it (Exit Question 8). When asked what they thought visitors “will get out of this exhibit,” 22% emphasized the experience of seeing the lemurs (Exit Question 10).

## Evidence of the Impact of Firsthand Observation

That the Lemur Forest exhibit offers exceptional viewing opportunities is evidenced in visitor affect and knowledge gain. From their own observations visitors describe the following.

- their opinion that the thing visitors will “get from” the exhibit is an opportunity to view the lemurs (Exit Question 10)
- clear memories of lemur appearance (Exit Question 11)
- clear memories of certain lemur behaviors (Exit Questions 11, 14)
- strong affective impression of lemurs “how cute they are” (Exit Question 11)
- a high regard for the San Francisco Zoo as an effective steward of these lemurs (Exit Question 15)
- positive word-of-mouth messages to their friends (Exit Question 31)

## Evidence of the Impact of Exhibit Elements

This study was commissioned, among other reasons, to look at the impact of the Lemur Forest exhibit as a whole and to identify any special impact that the Keeper Talk might have. As we review the data with an eye towards comparing the overall Exhibit impact with that of the Keeper Talks, we can see a few instances in which exhibit elements are particularly effective.

Exhibit elements include informational panels, labels, banners, feeding stations, and the like. How can exhibit elements have much of an impact when subjects observed in the Tracking and Timing Study stop at an average of only 2.25 elements? Two things account for this apparent discrepancy: first, visitors may be taking in element messages without actually stopping at them; and second, cueing visitors, as we did for the Exit Survey, heightens visitor attention to an exhibit resulting in higher use of exhibit elements.

Responses to questions in the Exit Survey that appear to be influenced by exhibit elements include the following. Note that some visitors also evidence knowledge gain in these areas from the Keeper Talk as well.

- knowledge that lemurs come from Madagascar only (Exit Questions 14, 17)
- awareness that lemurs are endangered (Exit Questions 16)
- awareness that lemurs are endangered due to habitat destruction (Exit Question 16 Part 2)
- awareness that Madagascar is in some sort of trouble (Exit Question 18)
- knowledge of things that individuals can do to help lemurs (Exit Question 19)
- knowledge that the Zoo plays a role in lemur conservation (Exit Question 23)

## Evidence of the Impact of Keeper Talk Attendance

Experiencing a Keeper Talk appears to have a positive impact on the points listed below. Exit Survey participants who saw a Keeper Talk were more likely to exhibit significant knowledge gain or other clear impacts in these areas than those who did not see the Keeper Talk.

- details about lemur behaviors (Exit Questions 11, 12)
- knowledge that lemurs come from Madagascar only (Exit Questions 14, 17)
- the importance of protecting lemurs and Madagascar in the opinion of the visitor (Exit Question 21)
- an increase in how strongly visitors feel about the need to protect lemurs and Madagascar post-visit (this item is on the verge of statistical significance) (Exit Question 22)
- the likelihood that a person thinks they will contribute to a lemur-related conservation organization (Exit Question 29)
- how much the respondent enjoyed his/her visit to the Lemur Forest (this item is on the verge of statistical significance) (Exit Question 30)

Though not statistically significant, some data also suggest that attending the Keeper Talk negatively impacts visitor knowledge of the lemur's endangered status, the reason for it and how one can help prevent it (Exit Questions 16, 18 and 19). If there is a true impact, it could be because visitors focus their time and attention on the keeper and disregard the exhibit elements. This would suggest that either the Keeper Talks are not addressing conservation or that attendees are not remembering it.

The Keeper Talk is clearly an effective tool, but by its nature, the verbal content of it can vary. Just as many visitors can parrot the idea of female dominance among lemurs after seeing a Keeper Talk, they could probably parrot specifics about endangerment as well. We can expect a docent with a biofact cart to have a positive impact as well. The content of the messages from keepers and docents deserves special attention.

## Exit Survey Results: Tally Tables and Narrative by Question

### Exit Question 1: Is this your first visit to the Lemur Forest?

Participants were screened in advance to ensure that only first-time visitors would be included. This question was used to filter repeat visitors out of the sample. One respondent questionnaire was excluded from the sample based on this question.

Response	Frequency of Response	% of Sample
Yes	83	100%
No	0	0

### Exit Question 2: Did you see a presentation by the keeper today or in the past?

Three respondents indicated that they had seen a docent but not a keeper. Because no docents were present during data collection, their docent-related responses are being included with keeper-related questions.

Response	Frequency of Response	% of Sample
Yes	38	46%
No	45	54%
Total	83	100%

### Exit Question 3: If “yes” to Question 2: Did you ask the keeper questions?

Response	Frequency of Response	% of 38 visitors who saw keeper	% of 83 Whole Sample
Yes	13	34%	16%
No	25	66%	84%
Total	38	100%	100%

### Exit Question 4: Did you or someone in your group help the keeper:

Response	Frequency of “Yes” Response	% of 38 visitors who saw keeper	% of Sample
feed the lemurs	11	29%	13%
weigh a lemur	0	0%	0%
give them a branch on the bamboo pole	1	<3%	<2%



### Exit Question 5:

#### If you did help the keeper, how did it feel to help with the lemurs like that?

Only five of the 12 visitors who helped the Keeper chose to respond to this question.

- Good
- It was fun.
- The children enjoyed it.
- Found it exciting to feed the lemurs
- Made the visit/observation more personal.

### Exit Question 6:

#### Did you see a docent (an explainer with a cart) at the Lemur Forest today or in the past? If yes: Did you or someone in your group also visit with that person?

The intent had been to include in the research a test of visitor experience of lemur docents with biofact carts. Logistics and staffing made this impossible. This analysis does not address the impact of docents.

### Exit Question 7:

#### Where else have you seen or heard about lemurs?

Forty-four respondents made at least one television reference. This represents 53% of the sample. Ten individuals, 12% of the sample, had not previously been exposed to lemurs in any way. As should be expected because of the research design, this breakdown is similar to that found in the Entrance Survey sample.

Response	Frequency of Response	Comments
Any sort of TV reference	44	This represents 53% of the sample. Percentages are not provided below because multiple answers were accepted.
Discovery Channel	20	
Other Zoos	19	Other zoos (6); Happy Hollow Zoo in San Jose (3); San Diego Zoo/Animal Park (3); Old San Francisco Zoo (2); Bronx Zoo; Children's Kelly Park; Fresno Zoo; Lincoln Park Zoo in Chicago; London Zoo; Memphis Zoo; Sacramento Zoo
Zaboomafoo	12	
This is the first time I've heard of lemurs	10	Ten individuals had not previously been exposed to lemurs in any way. They represent 12% of the sample.
Animal Planet	10	
Books	10	
Television (no show or channel specified)	8	
SF Zoo web site	6	
Other Television	5	Documentaries; Jeff Corwin, Steve & Terry Brown; National Geographic (Explorer) Channel; Nature shows The Learning Channel
National Geo. Mag.	4	
School	4	
Internet	3	
PBS	3	
magazines	2	
Newspaper	2	no specification or reference to New Zoo opening press
Reading	2	
Other	1	not specified

**Exit Questions 8 & 9:**  
**Where in the exhibit did you see the lemurs?**  
**What were they doing?**

These two questions were included to assess the level of lemur activity during data collection. The data indicate a typical range and level of activity.

Response	Frequency of Response	Comments
Up in the trees	61	
On the climbing structure	64	
On the ground	77	
In enclosed cage areas	8	
Other	4	In the boxes; On a box type thing; On a perch; Under the heating lamp

Response	Frequency of Response	Comments
Lying around	72	
Climbing	61	
Sitting close together	56	
Sleeping	53	
Eating	37	
Leaping	32	
Making loud noises	27	
Hanging upside down	14	
Other	4	chasing; rubbing "scent" on structures; sitting under heat lamp; sunning self
Grooming	3	"picking at each other" (1)
Walking	3	
Fighting	2	fighting for food, for heat lamp

**Exit Question 10:  
What do you think visitors will get from this exhibit?**

Please see comments under Summary of Key Findings on page 1 of this document.

<b>Response Category</b>	<b>Frequency of Response (% of 83)</b>	<b>Comments</b>
Education - General	22 (27%)	references to learning about lemurs or just "education"
Education - Specific	7 (8%)	references to specific lemur information such as "they need heat"
Experiential	18 (22%)	comments that emphasize the visitor experience such as "a peek into the lemur's world," or "they get to see..."
Conservation	13 (16%)	references to conservation and/or the lemur's endangered status
Appreciation	11 (13%)	references to appreciating or loving animals, or other comments that reveal same, such as, "How cool and laid back they can be..."
Experiential - Fun	3 (<4%)	experiential comments that somehow specify "fun"
Other	2	
Don't Know	2	don't know, nothing

For a complete list of respondents' verbatim comments, please see Appendix A.

Several comments overlap more than one response category. In the above table, those comments are included in the more specific category. For instance, "information and enthusiasm" has been included in the Appreciation category rather than the Education - General category.

## Exit Question 11:

### What will you remember about lemurs from this exhibit?

The most common type of response to this question is affective, or emotional, in nature. People readily comment on “how cute they are,” and the like. After that, the most common type of comments refer to lemur behaviors and lemur appearance.

These results attest to the effectiveness of the exhibit in 1) giving visitors an opportunity to make an emotional connection with the animal and 2) providing excellent viewing opportunities.

All of the respondents who commented on the fact that females are dominant had seen a Keeper Talk. Those visitors are also the ones to cite very specific information about keeping the animals, such as the use of Depo-Provera. Other types of observations are found among all visitors regardless of Keeper Talk attendance.

Response Category	Frequency of Response	Comments
Affective	20	statements about lemurs that use affective language such as “cute,” “incredible,” “beautiful,” and the like
Other behaviors	16	references to movement, sleeping, co-habiting, and the like
Appearance	15	references to lemur appearance without affective language
Variety of species	9	reference to existence of different types
Endangered	8	references to endangered status or habitat
Keeping	7	references to the habitat, e.g., “heat lamps,” or to animal management at the Zoo
From Madagascar	6	reference to lemur place of origin
Females dominate	6	All respondents in this category had seen a keeper talk.
Vocalizing	6	reference to noise, sounds, talking to each other, and the like
Other comments	3	
Other facts	2	
Behavioral impact	1	one visitor specified that they intend to research lemurs further

For a complete list of respondents’ verbatim comments, please see Appendix B.

Because respondents wrote lists rather than sentences (as in Question 10 above) most of the comments could be broken out into appropriate categories. Those few comments that still overlap more than one response category are included in the categories prioritized by Zoo Staff. Because staff is interested in visitor awareness of the endangered status of lemurs, for example, a comment such as “They are from Madagascar and they are endangered” is included in “Endangered” rather than “From Madagascar” in the above table.

### Exit Question 12:

#### Did you see or learn anything about lemurs that surprised you? If so, please describe...

Here again, visitors who saw a Keeper Talk cite female dominance and specific information about breeding. Other types of comments are found among all visitors.

Response Category	Frequency of Response	Comments
No	21	
Behaviors	12	reference to how they adapt, sleep, move, etc.
Females dominate	6	four of these six cited same in Question 11
Variety of species	6	
Animal facts	5	animal facts not represented in other categories
Appearance	5	reference to appearance without affective language
Keeping	3	references to the habitat, e.g., "heat lamps," or to animal management at the Zoo
From Madagascar	2	reference to Madagascar as homeland
No - first time	2	these respondents had no prior experience
Vocalizations	2	
Affective impact	1	"how sweet"
Other	1	

For a complete list of respondents' verbatim comments, please see Appendix C.

### Exit Question 13:

#### Does this exhibit have more than one species of lemur?

A large majority, 89% of visitors to the exhibit, understand that more than one lemur species is present. Attending a Keeper Talk does not have a statistically significant impact on this.

Even among visitors who did not see a Keeper Talk, 84% left knowing that more than one species is present. Either they observed this themselves, or they learned it from exhibit elements such as the identification labels.

Response	Whole Exit Sample (% of 83)	Keeper Talk (% of 38)	No Keeper Talk (% of 45)
Yes	74 (89%)	36 (95%)	38 (84%)
No	0	0	0
I'm not sure	7 (8%)	1 (<3%)	6 (13%)
No response	2 (<3%)	1 (<3%)	1 (<3%)
Total	83	38	45

**Exit Question 14:  
Did the exhibit tell you about how lemurs live?**

Over half of visitors, 59%, felt as though they had learned about how lemurs live. Attending a Keeper Talk does not have a statistically significant impact on this point.

That 53% of visitors who did not see a Keeper Talk still felt that they learned about lemurs is a positive finding as regards the exhibit and viewing opportunities. Please see below for comment on the sorts of things that visitors learned.

Response	Whole Exit Sample (% of 83)	Keeper Talk (% of 38)	No Keeper Talk (% of 45)
Yes	49 (59%)	25 (66%)	24 (53%)
No	5 (6%)	1 (<3%)	4 (9%)
I'm not sure	25 (30%)	10 (26%)	15 (33%)
No response	4 (5%)	2 (<3%)	3 (7%)
Total	83 (100%)	38 (100%)	45 (100%)

**Exit Question 14 Part 2:  
Did the exhibit tell you about how lemurs live? Yes, I learned that lemurs...**

As with previous questions, more specific information about lemur behaviors, such as female dominance, comes from visitors who saw a Keeper Talk.

Responses to this question, and to Exit Questions 8, 9, 11 and 12 reveal that information picked up by visitors who did not attend a Keeper Talk comes both from their own observations of lemurs and from exhibit elements. Visitors rely on their own observations for information about lemur appearance and some behaviors ("sleep in groups"). From labels they learned that lemurs only come from Madagascar and that lemurs are endangered.

Response Category	Frequency of Response	Comments
Behavioral	18	Are nocturnal; Are social; don't mind the presence of observers; Can be aggressive with each other; Eat twice a day; are mostly vegetarians; Jump; Live in groups; Live in trees; Play a lot; Sleep in groups; Some are social, some shy, they [can be] scare[d] of stuff & howl when startled, etc.; Stay in groups (2); They pair off; can co-habitate
Animal facts	3	Are not very intelligent; could crossbreed; live in Madagascar
Females Dominate	2	Females dominate; Follow the "girls"
Did not read	2	I didn't read many of the written info - just looked; We went through too fast.;
Affective impact	1	Were very special

### Exit Question 15:

#### How would you describe the way that the Zoo is caring for these lemurs?

A large majority of the sample, 72% feel that the Zoo is caring for the lemurs *very well*. Fully 91% of Exit Survey respondents feel that the lemurs are *very well* or *pretty well* cared for. Not one respondent felt that the lemurs were not well cared for. Attending a Keeper Talk does not have a statistically significant impact on visitor responses to this question.

The verbal content of Keeper Talks does vary. A Keeper Talk offers more than lecture, however, as the keeper is also a physical demonstration of care for the lemurs, i.e., how they move about and what they do as they feed and weigh the animals. At the very least, we can say that the Keeper Talks have the potential to be an effective tool in communicating this aspect of the Zoo's mission to visitors.

Response	Whole Sample (% of 83)	Keeper Talk (% of 38)	No Keeper Talk (% of 45)
1 - Very well	60 (72%)	29 (76%)	31 (68%)
2 - Pretty well	16 (19%)	5 (13%)	11 (24%)
3 - OK	5 (6%)	3 (8%)	2 (4%)
4 - Not well	0	0	0
5 - Not at all well	0	0	0
No Response	2	1	1
Total	83 (100%)	38 (100%)	45 (100%)

### Exit Question 15 Part 2:

#### Your comments about animal treatment are very valuable:

These responses are evenly distributed among visitors who did and did not see a Keeper Talk. Almost every comment results from firsthand observation rather than labels or the Talk.

Response Category	Frequency of Response	Comments
Habitat-specific positive reactions	10	Like natural habitat appearance; I was very impressed by the size of their enclosure; Natural habitat; I'm impressed with the habitat created; Looked fine; The new enclosure is fantastic; Excellent work; Great space for them!; They seem to have a very nice habitat.; Very well
Animals appear satisfied & well cared for (not habitat focussed)	6	Animals seemed very relaxed & well looked after; they seem happy; Look like they're happy; They are comfortable; They seem happy & well-cared for it my observation; They seemed relaxed, happy & well-fed
Other reactions	5	Not being an expert, I'm not sure if they have enough tree "cover"; Fair; The yard they play in looks big but the moat makes it smaller; Their well being; I like that they are released back
Exhibit-specific	1	Very knowledgeable exhibit

**Exit Question 16:  
Are lemurs endangered?**

Two-thirds of the Exit Survey sample responded with certainty that lemurs are indeed endangered, a statistically significant increase of 52% over respondents to the Entrance Survey. Based on data in the Entrance survey, we know that a few visitors will enter the Exhibit with prior knowledge (14% in the Entrance Survey sample).

Nearly three-quarters (71%) of visitors who did not see the Keeper Talk responded to this question correctly. Apart from those few individuals that we expect to have prior knowledge, we know that these visitors had to have learned about lemurs endangerment status from exhibit elements.

Though it appears on the table below that witnessing a Keeper Talk reduces the visitor's likelihood of learning this fact, the difference is not statistically significant.

Response	Entrance Sample (% of 50)	Whole Exit Sample (% of 83)	Keeper Talk (% of 38)	No Keeper Talk (% of 45)
Yes	7 (14%)	55 (66%)	23 (60%)	32 (71%)
No	4 (8%)	2 (<3%)	1 (<3%)	1 (<3%)
I'm not sure	18 (36%)	24 (29%)	13 (34%)	11 (24%)
No response/Other	21* (42%)	2	1	1
Total	50 (100%)	83 (100%)	38 (100%)	45 (100%)

\*This includes respondents to the Entrance Survey who were guessing at the answer and/or had never heard of lemurs before and so were not asked the question.

**Exit Question 16 Part 2:  
Yes, I think they are endangered because:**

In the first part of this question we see that two-thirds of visitors knew upon exiting the exhibit that lemurs are indeed endangered. Of those 55 respondents, 32 opted to answer the second part of this question.

Twenty-four people (29% of the Exit Sample) accurately identified some aspect of habitat destruction, a statistically significant increase of 23% over Entrance Survey respondents. Twelve visitors in the Exit Sample who had not seen the Keeper Talk correctly identified habitat loss issues in response to this question. Again, those who did not have prior knowledge must have learned this from Exhibit labels. This is corroborated by findings in the Tracking and Timing study that indicate the most commonly attended elements include the burned poles Focus Complex (elements 18-23).

I think lemurs are endangered because...	Entrance Sample (% of 50)	Exit Sample (% of 83)	Change in % of visitor knowledge
Correctly identify some aspect of habitat destruction	3 (6%)	24 (29%)	+ 23% (+++)

Response Category	Exit Survey: Frequency of Response	Comments
Habitat Destruction or Loss	24 (29% of Exit Sample)	reference to habitat loss, shrinkage, destruction without explanation of the mechanism (16); specified burning or fires (4); specified "deforestation" (2); reference to encroachment (2)
Other habitat related	3	
Zoo related	3	reference to having read it in the exhibit or the fact that lemurs are at the zoo
Other	2	
Chose not to respond	51	
Total	83	

For a complete list of respondents' verbatim comments, please see Appendix D.



**Exit Question 17:****What country or part of the world do lemurs come from?**

Nearly three quarters of the whole sample (72%) accurately identified lemurs' land of origin as Madagascar only. This represents a statistically significant increase of 60% over respondents to the Entrance Survey.

These data indicate that the Exhibit experience with or without the Keeper Talk is equally effective at communicating this point to visitors.

Response	Entrance Sample (% of 50)	Whole Exit Sample (% of 83)	Keeper Talk (% of 38)	No Keeper Talk (% of 45)
Madagascar only	6 (12%)	60 (72%)	28 (74%)	32 (71%)
Africa	--	5	3	2
Australia	--	3	1	2
Madagascar & other	--	3	2	1
Other	--	2	0	2
Don't Know	--	2	1	1
Asia	--	1	0	1
South America	--	1	0	1
No answer	--	6	3	3
Total	--	83	38	45

**Exit Question 18:****Is that area [Madagascar] in any sort of danger?**

Overall, 70% of these visitors know that Madagascar is in danger, a statistically significant increase of 24% over respondents to the Entrance Survey.

The data in the table below suggest that visitors who do not attend a Keeper Talk might be more likely to learn this information than those who do attend a Talk, however, a difference of 12% is not statistically significant. If there is an impact, it may be a function of visitors spending their time and attention on the Keeper to the exclusion of exhibit elements.

Experience with conducting the Entrance Survey suggests that some respondents will answer a question like this in the affirmative simply because posing the question suggests that there is a problem.

Response	Entrance Sample (% of 50)	Whole Exit Sample (% of 83)	Keeper Talk (% of 38)	No Keeper Talk (% of 45)
Yes	23 (46%)	58 (70%)	24 (63%)	34 (75%)
No	--	4 (5%)	3 (8%)	1 <3%
I'm not sure	--	19 (23%)	10 (26%)	9 (20%)
No response	--	2	1	1
Total	--	83 (100%)	38 (100%)	45 (100%)

Continued...

### Exit Question 18 Part 2:

#### Is that area [Madagascar] in any sort of danger? Yes, I think it is in danger because...

While 58 respondents (70%) knew that Madagascar is in some type of trouble, only 36 volunteered reasons as to why. All of the 36 answers are correct. While only 25 offered environmentally-specific responses, the socially oriented ones are naturally related to environmental impacts. Viewers and non-viewers of the Keeper Talk are represented in the majority Response Categories in the table below.

Response Category	Frequency of Response	Comments
Habitat / Environment	25	reference to environmental issue, habitat destruction, burning, farming, and the like
Social	9	references to social ills without mention of their environmental impact: Human populations; Of economic hardship; Of poverty; Of the economy; Over population (human); People; Poverty, continuing bad water; Uprising of people; Economic poverty
Other	2	fresh water; poachers

### Exit Question 19:

#### Did you find out about ways that you can help lemurs or their homeland?

Overall, just under half of Exit Survey respondents (42%) report that they found out ways to help lemurs and/or Madagascar during their visit to the exhibit.

On the table below we can see that of the 35 visitors who report having found out about ways to help lemurs, 13 saw a keeper talk, 30 saw the Writing Table (Question 25) and 27 saw the Donation Station (Question 24). Of the 30 visitors who did not find out about ways to help, 17 saw the Keeper Talk, 20 the Writing Table and 8 the Donation Station.

As with Exit Question 18 above, these data suggest that visitors who do *not* attend a Keeper Talk might be more likely to learn this information than those who do attend a Talk, however, the difference is not statistically significant. If there is an impact, it may be a function of visitors spending their time and attention on the Keeper to the exclusion of exhibit elements. Thus if the Keeper Talk does not address this content, Talk attendees would be less likely to encounter it while at the Exhibit.

Noticing the Donation Station in the Exhibit does have a statistically significant impact (99.9% confidence level) on visitor awareness of ways to help lemurs. While eight visitors who saw the Donation Station did not report learning ways to help lemurs, 27 who saw it did report learning ways to help lemurs.

Find out about ways to help lemurs?	Whole Sample (% of 83)	Keeper Talk (% of 38)	No Keeper Talk (% of 45)	Saw the table (% of 63)	Saw the Donation Station (% of 43)
Yes	35 (42%)	13 (34%)	22 (49%)	30 (48%)	27 (63%)
No	30 (36%)	17 (45%)	13 (29%)	20 (31%)	8 (19%)
I'm not sure	17 (20%)	8 (21%)	9 (20%)		
No response	1 (<2%)	3	1		
Total	83 (100%)	38 (100%)	45 (100%)	63	43

## Exit Question 19 Part 2:

### Did you find out about ways that you can help lemurs or their homeland?

#### If Yes: How can a person help?

Of the 35 visitors who report finding out about ways to help lemurs, only 29 chose to respond to this part of the Question. Thus any trends suggested in it cannot be considered certain.

All but one of the eight very specific responses in the table below came from visitors who had seen the Writing Table (Exit Question 25). Two had seen the Keeper Talk; six had noticed the Donation Station (Exit Question 24). All but one of the 17 *donate money* responders had also seen the Writing Table.

These data suggest that the Writing Table can reach visitors with specific information about how people can help conservation efforts around lemurs.

Response Category	Frequency of Response	Comments
Donate Money	17	general reference to making a financial contribution without specification of project/use
Increase awareness	4	
Other	4	Money for collecting rain water (techniques); Pastureland; Should be protected there; conservation efforts
Buy organic vanilla from Madagascar	2	
Eco-tours	2	
No answer	53	
I'm not sure	1	

Several visitors offered the thoughtful responses shown below. They are also included in the tally table above.

- To learn more about them and visit zoo often
- By donating to build zoo on Madagascar & educate locals
- Donate money and time to telling others about lemurs.
- Donate money to help and make people more aware.

**Exit Question 20:  
How do you feel about protecting lemurs and their homeland?**

This question was posed to elicit more detail about visitor feelings, rather than a simple Likert scale type of response as in Exit Question 21 below. Of the 61 visitors who chose to comment on this question, 54 clearly demonstrate that they feel positive or supportive of efforts to protect lemurs and Madagascar. One should not read into this that these visitors feel more strongly than those who opted not to comment, because other variables, such as feeling rushed, could have influenced the respondent. We cannot be certain about the influence of attending a Keeper Talk.

Response Category	Frequency of Response	Comments
Affirmation - General	42	good, positive, strongly, it's important, and the like
Affirmation - All Animals	6	agree that protecting all animals is important
Affirmation - for future generations	3	It's important. I want my grandkids to know what they are!; I want to keep nature around for my children.; Very important for our children especially
Affirmation - focus on lemur home land	2	They should be in their own environment; I feel that we should be trying to get more in their homeland.
Affirmation - other	1	I think that it is important because biodiversity is important
Other	1	Their zoo membership only; Hard sell to get the local people to stop hunting
Not interested	2	I don't care; Not interested
I don't know	2	
Other	2	Money; It's interesting
No Answer	22	
Total	83	

**Exit Question 21:  
How important is protecting lemurs and their homeland to you?**

In total, 87% of visitors who have seen the exhibit feel that protecting lemurs is *Somewhat* or *Very Important*. This represents a statistically significant increase of 39% over Entrance Survey respondents.

When we combine visitors who responded *Very Important* with those who responded *Somewhat Important*, we see 94% of visitors who heard a Keeper Talk visitors and only 80% of the visitors who saw the exhibit without a Keeper Talk. This presents a statistically significant spread of 14% (95% confidence level) indicating that attending a Keeper Talk does enhance this outcome.

Response	Entrance Sample (% of 50)	Whole Exit Sample (% of 83)	Keeper Talk (% of 38)	No Keeper Talk (% of 45)
1 - Very important	16 (32%)	38 (46%)	22 (57%)	16 (36%)
2 - Somewhat Important	8 (16%)	34 (41%)	14 (37%)	20 (44%)
3 -	2 (4%)	6 (7%)	1 (<3%)	5 (11%)
4 - Not very important	0	4 (5%)	1 (<3%)	3 (7%)
5 - Not at all important	0	1 (<2%)	0	1 (<3%)
No Answer	24*	--	--	--
Total	50 (100%)	83 (100%)	38 (100%)	45 (100%)

\*These Entrance Survey respondents were not asked this question. Please see Entrance Survey Results for more information.

**Exit Question 22:****Is that different from how you felt about them before your visit today?**

This question was included to identify what sort of impact the visitor felt from the exhibit on his/her opinions regarding lemur conservation. Most significant is that 49% of the sample left the exhibit feeling more strongly about lemur conservation than they had felt previously.

A positive impact of seeing a Keeper Talk is suggested by this data, but not definitively. The percentage difference between those visitors who did and did not see the Keeper Talk (15%) is almost significant at the 95% confidence level.

Response	Whole Exit Sample (% of 83)	Keeper Talk (% of 38)	No Keeper Talk (% of 45)
Yes, it seems more important to me now	41 (49%)	23 (60%)	18 (45%)
No, I feel about the same now as before	38 (45%)	13 (34%)	25 (56%)
Yes, it seems less important to me now	3 (<4%)	2 (5%)	1 (<3%)
No answer	1	0	1
Total	83 (100%)	38 100%	45 (100%)

**Exit Question 23:****Does the San Francisco Zoo play a role in helping lemurs?**

That 81% of visitors leave the Exhibit knowing that the San Francisco Zoo plays a role in helping lemurs represents a statistically significant difference of 73% over respondents to the Entrance Survey. The exhibit is equally effective at communicating this point to visitors with or without a Keeper Talk.

Experience with conducting the entrance survey suggests that some respondents will answer a question like this in the affirmative simply because posing the question suggests the answer and because zoos are understood to help with conservation generally. That this behavior can occur in both sample populations precludes a false result.

Response	Entrance Sample (% of 50)	Whole Exit Sample (% of 83)	Keeper Talk (% of 38)	No Keeper Talk (% of 45)
Yes	4 (8%)	67 (81%)	30 (79%)	37 (82%)
No	4 (8%)	1 (<2%)	0	1 (<3%)
I'm not sure	18 (36%)	15 (18%)	8 (21%)	7 (16%)
No Answer	24 (48%)	--	--	--
Total	50 (100%)	83 (100%)	38 100%	45 (100%)

\*These Entrance Survey respondents were not asked this question. Please see Entrance Survey Results for more information.

**Exit Question 23 Part 2:**

**Does the San Francisco Zoo play a role in helping lemurs?**

**If Yes: What sorts of things do they do?**

The data suggest that those who saw a Keeper Talk might be more likely to cite that the Zoo helps by keeping the lemurs and those who did not see the Talk might be more likely to cite some aspect of breed/release programming. This would follow the logic that visitors who are exposed to the Talk are made more aware of the act of caring for the animals, while those who attend the labels would be exposed to the panel about breed/release programs.

Response Category	Frequency of Response	Comments
Breed & release	25	Breed and release (11); Breed (4); Release (4); Conservation (6)
Educate public; Expose people to lemurs	18	educate the public (14); references to exposing people to lemurs with an experiential bent rather than simply "educating" the public (4)
Keep	15	reference to providing home and care at the Zoo
Financial support	4	Zoo provides financial support to conservation efforts
Other	3	study them at the Zoo; It looks like they are helping to keep the lemurs in existence; By giving them names & letting them mate

**Exit Question 24:**

**Did you notice the Donation Station? (That tube where visitors can contribute money.)**

Response	Frequency of Response	% of Sample
Yes	43	52%
No	40	48%
Total	83	100%

**Exit Question 24 Part 2:**

**If Yes: How do those contributions help?**

Response Category	Frequency of Response	Comments
Conservation	5	non-specific reference to conservation and/or helping lemurs
Research	3	Providing a habitat to study their lifestyles; Fund research; Helps to be able to afford to do more studies
Financial support	3	no reference to application
Build Zoos	3	one reference to building a zoo in Madagascar
education	2	one reference to education people in Madagascar
Breed and Release	1	
Other	4	Other Responses: Too greet them; Yes; Better; Couldn't tell; they are confusing; [sic]

**Exit Question 25:****Did you see the table with cards and things on it?**

Response	Frequency of Response	% of Sample
Yes	63	76%
No	20	24%
Total	83	100%

If yes, continue with Questions 25 - 29; If no, skip to Question 30.

**Exit Question 26:****Did you or someone in your group write or draw on the cards?**

Response	Frequency of Response	% of 63 (those who saw table)	% of Whole Sample of 83
Yes	24	38%	29%
No	37	59%	45%
No answer	2	3%	<3%
Total	61	100%	76%

**Exit Question 27:****Did you take an envelope from the table?**

Of the 63 visitors who saw the Writing Table, 30 (48%) did not see the donation envelopes. While 52% of the visitors who saw the Table saw the envelopes, only 6% claim to have taken one with them.

Response	Frequency of Response	% of 63 (those who saw table)	% of Whole Sample of 83
Yes	4	6%	5%
No, did see them	29	46%	35%
No, did not see them	30	48%	36%
Total	63	100%	76%

**Exit Question 28:****Did you take a list of organizations that receive donations to help protect lemurs and Madagascar?**

Of the 63 visitors who saw the Writing Table, 40 (63%) did not see the list. While 35% of the visitors who saw the Table saw the list of organizations, only 13% claim to have taken one with them.

Response	Frequency of Response	% of 63 (those who saw table)	% of Whole Sample of 83
Yes	8	13%	10%
No, did see them	14	22%	17%
No, did not see them	40	63%	48%
No answer	1	<2%	<2%
Total	63	100%	76%

### Exit Question 29:

#### How likely do you think you might be to contribute to one of those organizations?

Under half of the sample group who saw the Writing Table, 42%, are *Very likely* or *Somewhat likely* to contribute to a lemur-related conservation organization. When we combine *Very likely* and *Somewhat likely*, we see a spread of 15% between visitors who did and did not see a Keeper Talk. This is statistically significant (95% confidence level) and would indicate a positive impact of the Keeper Talk. Because many people did not respond to this question, these findings should be considered suggestive, but not definitive. This question was asked only of those people who reported seeing the Writing Table so a comparison cannot be made on this point with the whole Exit sample.

One real value of the Writing Table, according to this research, is it's apparent ability to communicate specific actions that visitors can take to help protect lemurs (Exit Question 19 Part 2).

Response	Those Who Saw the Table (% of 63)	Keeper Talk & Saw Table (% of 25)	No Keeper Talk & Saw Table (% of 38)
1 - Very likely	6 (10%)	3 (12%)	3 (8%)
2 - Somewhat likely	20 (32%)	12 (48%)	8 (21%)
3 -	16 (25%)	6 (24%)	10 (26%)
4 - Not very likely	12 (19%)	3 (12%)	9 (24%)
5 - Not at all likely	8 (13%)	1 (4%)	7 (18%)
No Answer	1	--	1
Total	63 (100%)	25 (100%)	38 (100%)

### Exit Question 30:

#### Overall, how did you enjoy your visit to the Lemur Forest?

Almost all respondents (96%) enjoyed their visit to the Lemur Forest *Very much* or *Somewhat*. Visitors who attended a Keeper Talk appear more likely to respond *Very much* than *Somewhat*. This impact is very nearly statistically significant at the 95% confidence level.

Response	Whole Sample (% of 83)	Keeper Talk (% of 38)	No Keeper Talk (% of 45)
1 - Very much	63 (76%)	32 (84%)	31 (69%)
2 - Somewhat	17 (20%)	5 (13%)	12 (27%)
3 -	2 (<3%)	1 (<3%)	1 (<3%)
4 - Not very much	1 (<2%)	0	1 (<3%)
5 - Not at all	0	0	0
Total	83	100%	



### Exit Question 31:

#### What do you think you'll tell your friends about lemurs and your visit to the Lemur Forest?

These comments reveal a high level of appreciation, enthusiasm and inclination to spread the word about the exhibit. No respondent offered a negative comment. As with Exit Question 11, these results attest to the effectiveness of the exhibit in giving visitors an opportunity to make an emotional connection with the animals.

Response Category	Frequency of Response	Comments
Affective	13	statements about lemurs and/or the exhibit that use affective language such as "cute," "cool," "beautiful," and the like. Two of these mentioned endangered status of lemurs.
Recommend Exhibit	13	they will recommend that people see the exhibit, e.g.: I'll show them the brochure and come to the exhibit again and again; I am working in school and will spread the word; I'm sure it's a highlight of the zoo -- start there!
Interesting/Educational	11	reference to the exhibit being interesting, educational and/or informative
Good/Great Exhibit	10	
Fun	8	visiting the exhibit was fun, exciting, enjoyable
Habitat-specific	7	reference to how nice, realistic and/or natural the habitat is
"yes," other "non-answers"	7	simply yes or other uninformative response
Animal fact	5	reference to specific animal fact such as variety of species, and tail markings
Recommend the Keeper Talk	3	One mentioned Dave by name.
I don't know	2	
I saw them	2	simply that the visitor saw the exhibit/lemurs with no other information or affect

For a complete list of respondents' verbatim comments, please see Appendix E.

Seventy-three visitors chose to answer this question. Because respondents wrote lists rather than sentences most of the comments could be broken out into appropriate categories. Those few comments that still overlap more than one response category are included in the categories prioritized by Zoo Staff. Because staff is interested in visitor awareness of the endangered status of lemurs, for example, a comment such as "They are from Madagascar and they are endangered" is included in "Endangered" rather than "From Madagascar" in the above table.

### Exit Question 32:

#### Is there anything else that you'd like to tell the people who planned and created the Lemur Forest exhibit?

Response Category	Frequency of Response	Comments
Good Job!	21	pats on the back for staff
Animal reference	4	observations about the animals
Thank you!	3	
Other comments	3	
Sign-related	2	one did not like the signs, the other wants more of them
Negative reaction	1	

For a complete list of respondents' verbatim comments, please see Appendix F.

### Exit Questions 33 - 37: Sample Demographics

Please see Appendix G.

## Appendix A

### Exit Question 10: What do you think visitors will get from this exhibit?

#### Education - General

A good idea about lemurs  
A good learning experience  
Education (2)  
Education about lemurs  
Info about the animal  
Information about lemurs  
Information and education  
Knowledge (3)  
Knowledge about animals

Knowledge about lemurs  
Knowledge of lemurs  
Learn about lemurs (2)  
Learn about those animals  
Learning about an animal they may not have seen before.  
Learning experience  
More knowledge (2)  
They will learn about lemurs.

#### Education - Specific

That lemurs need heat.  
The behaviors of the lemurs  
The diversity of lemur types great!  
They will learn about a little known animal and about their home in Madagascar.  
Learn about where they come from  
A better understanding about lemurs' lifestyles  
Knowledge of lemur scenery

#### Appreciation - Comments that touch on an appreciation and/or respect for Lemurs

An appreciation of how unique and beautiful lemurs are.  
An appreciation at seeing animals that appear content  
Appreciating lemurs  
respect for animals  
How cool & laid back they can be and they seem super relaxed and happy.  
Introduction to a unique animal  
Learn more about this interesting animal  
Love of animals  
More appreciation of primates.  
They will learn to appreciate the lemurs.  
Information and enthusiasm

#### Conservation - Comments that touch on conservation and/or the endangered status of lemurs

A lot of info about lemurs, conservation and breeding  
Appreciation of dependence of lemurs on the habitat  
Good education re plight  
Info about conservation efforts; more info about lemurs; info on lemur habitat  
Learn about ecosystems; how lemurs live  
Learn about how their loss of habitat is affecting them.  
Learn about the endangerment and variety of lemurs  
Lemurs are at risk.  
That lemurs are getting instinct [sic]  
The importance of conservation  
The importance of conservation and preservation of this species  
Their habitat is endangered. They are cute.  
Understand of Madagascar, more info about lemurs

Continued...

**Experiential - Comments that suggest respondent's focus on the human experience of the exhibit**

A fairly close look at the lemurs  
A peek into the lemur's world  
A view of lemurs' natural setting  
Able to observe lemur behaviors  
Being able to say that they got really close to them  
Great info and close up viewing  
Great to see lemurs in natural environment  
Great visibility, enjoyment, education  
It is a great opportunity to see lemurs in a natural setting.  
They get to see how lemurs live.

They're fun to watch. They're more active than some of the other animals.  
To find out a new animal  
See lemurs and watching them interact  
See lemurs in natural setting  
See the lemurs  
Seeing lemurs and learning!  
The ability to easily see so many of the animals doing all the different things they do.  
Seeing lemurs in natural looking habitat

**Fun - Experiential comments that specify fun and/or enjoyment**

Enjoyment - education  
Fun to see them so free.  
Info; enjoyment - they're amusing

**Other Comments**

Great view of the boardwalk  
When they are active entertainment signs are educational.

**Don't know**

I don't know.  
Nothing

## Appendix B

### Exit Question 11: What will you remember about lemurs from this exhibit?

#### Affective or Appreciation - comments that reveal appreciation about appearance and/or behaviors

Acrobatic - cute	Lemurs are very cute
Beauty	Natural beauty
Cute creatures	Their beautiful ringed tails
Cute little tails, eyes, cute	Their wonderful tails, the new plants
Cute, fuzzy	They are a beautiful animal
cute!	They're cool looking
How beautiful and rare they are	They're pretty & colorful
How cute they are (4)	the incredible patterns of fur color
Interesting animal	

#### Appearance - comment about lemur appearance that do not include affective language

What they look like (3)	Colors, fuzzy-looking
The variety of types/appearance	long tails.
Markings	That they have long tails
colors	Some look like raccoons.
different colors	They are like monkeys
Their colors	They look a lot like monkeys
The different coloring	

#### Endangered - comments about endangered status of lemurs

endangered (2)  
endangered species  
Endangered habitat  
Madagascar's ecosystem  
That they are endangered and only found in Madagascar.  
They are endangered, but efforts to help are under way.  
They are from Madagascar and they are endangered.

#### Keeping - comments about care for lemurs and/or this zoo habitat

Depo-Provera to control types of breeding  
Great habitat!  
heat lamps  
Openness of exhibit  
Shaved tail I.D.s  
The tail markings  
They look happy here!

#### Variety of Species

How many kinds there are  
That there are different varieties  
Different kinds  
More varieties than I know about  
Several different kinds  
The different types  
The variety and how rare they are  
Variety (2)

#### From Madagascar

From Madagascar  
Original habitat  
Place of origin  
origin  
They are from Madagascar;  
They only live in Madagascar.

Continued...

## **Females are Dominant**

Females in charge.  
Females eat all of food  
Females rule!  
Girls rule!  
That females are dominant  
the dominance of the females

## **Vocalizing**

"Talking" to each other.  
Sound  
The chorus  
The loud noises  
the vocal communication.  
They communicate loudly

## **Other Behaviors**

Feeding  
How much each species keeps to their own kind.  
how slow they amble around  
Seeing how they "dog pile" to keep warm  
Sleeping  
habits  
Sub-groups co-habiting  
Territorial

That they aren't very loud and noisy  
The way they climb the tree  
Their behavior and background  
their behaviors  
Their composure  
their various behaviors  
They sleep a lot.  
They stay in groups.

## **Other Facts**

that they are least evolved of the primates.  
That they can't swim

## **Behavioral Impact - comments that suggest action to be taken by respondent**

will check more about them in TV or library

## **Other Comments**

culture in Madagascar  
They are like humans but different in many ways.  
The ring-tailed lemurs

## Appendix C

### Exit Question 12: Did you see or learn anything about lemurs that surprised you? If so, please describe...

#### Behaviors

Their demeanor and able to adapt  
ability to adapt  
Many different sub-species together  
Yes, that so many can live together  
Style of eating  
That the noises they make are not aggressive but  
maybe just for spacing

They aren't noisy  
They can jump high and far.  
They can leap pretty high.  
Were not leaping!  
Yeah, that they are lazy and you guys make them wash to get  
food  
Yes, how they sleep

#### Animal Facts

Didn't know they were not as intelligent as monkeys  
I thought they were widespread in the world.  
lesser-evolved nature of lemurs  
They are primates.  
They just like monkey  
They only live in Madagascar.  
Yes that they don't have good use of their hands.

#### Females Dominate

female dominance;  
Females are dominant  
Females are dominant.  
Social structure - females in charge  
That females are in charge  
Yes, that the "girls" dominate

#### Variety of Species

All the different types  
Diversity of lemurs  
How many kids there are  
I didn't know they had so many varieties.  
So many different types  
The variety was interesting

#### Appearance

Bright colors  
Colors  
Didn't know they were different colors  
How their appearance differs between sexes  
They come in different colors.

#### Keeping - comments about care for lemurs and/or this habitat

Heat lamps  
How to control breeding within the diversity  
The zoo makes them work for their food.

#### No - I have not seen them before

Never seen the animal before  
Did not know much to begin with

#### Affective Impact

How sweet

#### Vocalizations

Their loud vocalizations  
Their noise

No: No (21)

Other Responses: Yes, always

**Appendix D**  
**Exit Question 16 Part 2: Are lemurs endangered?**  
**Yes, I think they are endangered because:**

**Reference to loss of habitat or habitat destruction**

Habitat destruction  
Habitat threatened  
Lack of habitats  
Loss of habitat  
Of the loss of their habitat.  
Of decreasing habitat in Madagascar  
Vanishing forests, farming, etc.  
That's what the sign said - they're losing their habitat.  
Of the conditions in Madagascar (forest).  
Shrinking habitat  
The Madagascar forest is diminishing.  
The forests are disappearing  
The forests in Madagascar are endangered  
Their habitat is being destroyed.

**Reference to burning the habitat**

Burning rainforest in Madagascar  
Burning their habitat  
Of the fires set in the woods of Madagascar  
fires

**“Deforestation”**

Deforestation (2)

**“Encroachment”**

Encroaching development  
Encroachment

**Other habitat references**

Of small natural habitat.  
They don't have a habitat.  
Very special living environment

**Zoo related reference**

they are at the zoo.  
I read it on an exhibit  
Signs said so.

**Other**

Rare now  
The people don't know how to care for them in Madagascar.

## Appendix E

### Exit Question 31: What do you think you'll tell your friends about lemurs and your visit to the Lemur Forest?

#### Appreciation for the lemurs

How beautiful they are  
It's really cool.  
How cute they were  
Cute!  
How cute they are  
That they are cool animals that we should protect from becoming endangered and they should come see them here at the zoo.  
How beautiful they are and of their endangerment  
They're cute! & it's unfortunate how close they are to extinction. Important to support conservation efforts.  
It's neat  
cute animals too;  
The closeness - visibility - variety - beauty - grace - etc.  
That the forest is really cool & the lemurs are really cute.  
Their behavior is interesting. They are beautiful to look at.

#### Good - it is a good or great exhibit

Good  
It's a great new exhibit. I would like to have seen them being fed.  
Great exhibit  
It was a nice exhibit.  
It's great  
Good exhibit  
Good for kids  
That it's a great place to observe them  
New exhibit  
It was really nice and clean

#### Recommend it to them ("don't miss it")

I am working in school and will spread the word.  
They should all come to see the animal.  
I'm sure it's a highlight of the zoo -- start there!  
I see it.  
It's there; they should see it.  
To visit  
We'll tell them & visit.  
Go there!  
To go and take the kids.  
I will tell them to come to the new exhibit.  
Recommend it.  
See them!  
Don't miss it.  
I'll show them the brochure and come to the exhibit again and again.

#### Recommend the Keeper Talk

Go see Dave [at the] exhibit -- very informative and interesting.  
To stop by and watch the feeding  
Tell them to try & see the feeding.



### **Is interesting, educational, informative**

It is interesting (5)  
Very interesting  
How interesting, informative  
It's new and informative.  
What a great learning experience for us and our children.  
informative  
very interesting exhibit.

### **Habitat - reference to some aspect of the habitat**

how nice the habitat is  
There are a lot of lemurs with a lot of space.  
The new exhibit is great.  
They have a nice living space  
Provides a home (trees) similar to actual conditions in wild.  
Very realistic  
A great place to see a natural setting;

### **Fun - reference to fun experience**

It was fun.  
They're fun to watch, very active.  
Kaitlyn (5): It was fun.  
Exciting  
how easy and enjoyable it is to observe them  
I enjoyed the exhibit.  
fun  
Excellent, fun!

### **I don't know**

I'm not sure.  
Not sure that this is what I will tell about my visit to the S.F. Zoo

### **Reference to animal fact; variety of species present**

Several types  
The variety of different lemur I didn't know about.  
I saw them tugging on each others' tails.  
How many lemurs there are  
Also to pay attention to their tail marks

### **"Yes" or other "non-answer"**

Yes, we will tell our family.  
Sure  
Yes  
Yes  
I will.  
Somewhat  
Nothing

### **I saw them**

Saw them  
That I saw them

## Appendix F

### Exit Question 32: Is there anything else that you'd like to tell the people who planned and created the Lemur Forest exhibit?

#### Good Job!

Good job! (8)  
Very good!  
Good work!  
Looks great!  
Good job at making the display & animals easy to see from many angles/positions on the platform.  
Great job!  
Great exhibit, nice habitat  
It's a beautifully-created habitat.  
Good job, great viewing exhibit.  
Nice job! It looks like a comfortable place to live!  
It looks like they did a good job.  
Great job, excellent work  
This is awesome.  
Well done.

#### Animal content

Interesting animal  
How they take care of one another  
They aren't loud.  
The lemurs look very happy.

#### Thank you!

Thank you! (3)

#### Sign-related comments

Did not like 95% of the signs posted.  
More explanations on exhibit signs

#### Negative

You do not have people saying much. We just walked through, saw very little.

#### Other Comments

I am working in a school and will spread the word  
More of a variety of plants, but I'm a plant type person.  
It's very natural.

## Appendix G Exit Sample Demographics

### Exit Question 33:

**Do you have any special knowledge of lemurs, wildlife biology or a related field?**

**If Yes, please describe:**

One respondent claimed to have special knowledge of lemurs. He had done a research report on them for school.

### Exit Questions 34 - 37:

Gender of Respondent	Frequency of Response	% of Sample
Female	62	75%
Male	21	25%
Total	83	100%

Zoo Member?	Frequency of Response	% of Sample
No	71	85%
Yes	12	15%
Total	83	100%

Age Range of Respondent	Frequency of Response	% of Sample
18 - 21	16	19%
22 - 29	5	6%
30 - 39	14	17%
40 - 49	27	33%
50 - 59	13	16%
60+	8	10%
Total	83	100%

Number of people in group	Frequency of Response	% of Sample
1	2	
2	25	
3	20	
4	24	
5	6	
6	2	
7	2	
9	1	
11	1	
Total	83	100%

Number of Adults in group	Frequency of Response	% of Sample
1	19	
2	42	
3	13	
4	7	
6	1	
9	1	
Total	83	100%

Number of Children in group	Frequency of Response	% of Sample
0	32	39%
1	16	19%
2	24	29%
3	9	11%
5	2	<3%
Total	83	100%

Children's Ages	Frequency of Response
2	2
3	1
4	4
5 - 16	94



**Tracking and Timing Study Sample Size: 44**

**Visit Length**

Subjects in the Tracking and Timing Study were not cued and were not aware that they were being observed. Tracking and Timing data were collected in the absence of Keeper Talks.

Un-cued visitors are expected to have shorter exhibit visits than cued visitors. In this case un-cued visitors in the Tracking and Timing Study spent an average of 7.25 minutes in the absence of a Keeper Talk. Surprisingly, *cued* visitors who did not see a Keeper Talk spent about the same amount of time in the exhibit on average (7 minutes). This finding is counterintuitive.

	<b>Visit Length in Minutes</b>	
Mean	7.25	
Range	2 - 21	
Median	6	
Mode	4 minutes	11 visitors, 25% of sample

<b>Visit Length in minutes</b>	<b>No. Visitors (out of 44)</b>
2	2
4	11
5	8
6	5
7	1
8	3
9	4
10	3
11	1
14	3
15	2
21	1
Total	44

<b>Visit Length in minutes</b>	<b>No. Visitors (% of Sample)</b>
up to 5	21 (48%)
6 - 10	16 (36%)
11 - 15	6 (14%)
over 20	1 (<3%)
--	44 (100%)

## Visitor Stops at Exhibit Elements

Exhibit elements include informational panels, labels, banners, feeding stations, and the like. Because visitors' main focus when attending the zoo is to see the animals, we expect a lower rate of attention to exhibit elements than is found in museums. Indeed, un-cued visitors to the Lemur Forest stop at an average of only 2.25 exhibit elements.

Responses from cued visitors to the Exit Survey reveal significant knowledge gain from exhibit elements. How can exhibit elements have much of an impact when subjects observed in the Tracking and Timing Study stop at an average of only 2.25 elements? Two things account for this apparent discrepancy: first, visitors may be taking in element messages without actually stopping at them; and second, cueing visitors, as we did for the Exit Survey, heightens visitor attention to an exhibit resulting in higher use of exhibit elements.

That visitors can take messages in from elements, sometimes without stopping at them, attests to their effective design. Large type, short lines and single ideas on each element make them most accessible and easily understood.

	<b>Number of Element Stops per Visitor</b>	
Mean	2.25	
Range	0 - 8	
Median	1	
Mode	1	(15 visitors; 34% of the sample)

<b>Number of Element Stops</b>	<b>Number of Visitors</b>	<b>% of 44</b>
0	9	20%
1	15	34%
2	6	14%
3	3	7%
4	3	7%
5	3	7%
6	1	<3%
7	2	<5%
8	2	<5%

Exhibit Element or Element Group		No. Stops ≥3 seconds (out of 44 Subjects)	Average Length of Stop (in seconds)	Range of Stop length (in seconds)	Activities While Stopped	No. Glances <3 Sec's
No.	Type: ID/Content:					
8	Banner – in (green)	0	--	--	--	3
10-13	Kiosk	2	12.5	5 - 20	r, ra	0
14	Banner/Panel Zone 3 Intro (yellow)	6	3.83	2 - 7	r, ra, p	1
15-16	Panel & Globe Where in the world?	13	24.69	3 - 96	r, ra, t, m	2
17	Panel Madagascar conservation hot spot	1	3	3	r	1
18-23	Focus Complex burned poles; slash/burn quote; photo of burning trees; more land burned quote; aerial photo of smoke; Malagasy proverb panel	6	11.71	3 - 25	r	2
24	Banner/Panel Zone 4 Intro (blue)	1	3	3	ra	0
25	Flip Book The Lemurs of Madagascar	6	28.33	15 - 18	r, ra, m	1
26-31	Panels Animal ID lemur types	1	8	8	r	1
32-34	Remote Feeder Crank, buttons, help us panel	5	4.8	3 - 8	m, r	1
35	Panel Natural behaviors quote by Dave	1	5	5	r	0
36-39	Panels Behaviors: social, acrobats, vocalizations, sunbathing	2	9.5	3 - 16	r	0
40-43	Interactive Heat lamp; sculpture; press the button panel; caution sign	9	15.44	5 - 22	r, t, m	0
44	Panel Mixed species quote by Eve	4	18.5	10 - 30	r	0
45	Note Panel Keeper Note	--	--	--	--	--
46	Docent Cart Not tested	1	5	5	s	0
47	Bench	1	5	5	r	0
48	Banner/Panel Zone 5 Intro (orange)	1	5	5	r	0
49	Panel How... save lemurs?	3	16.67	3 - 30	r	0
50	Panel Zoo-born lemurs quote by Dean	--	--	--	--	1
51	Flip Book Sarp's Story	1	90	90	r, m	1
52	Panel w/ collar Try finding a lemur	1	10	10	r	0
53	Panel Radio collar quote by Bernard	2	30	30	r	1
54	Panel Mixed species quote by Eve	2	11.5	8 - 15	r	2
55	Note Panel Keeper Note	1	19	19	wa	0
56	Bench	0	--	--	--	0
57	Panel Donors	0	--	--	--	0
58-63	Panels Animal ID lemur types	2	7	4 - 10	r	0
64-65	Browse Hoist Crank handle; Help us panel	0	--	--	--	2
66	Panel Browse quote by Dave	0	--	--	--	0
67-69	Donation Station Give a dollar panel; current project panel; donation tube	4	29	10 - 66	r, ra, p, co	0
70	Weighing Station	1	9	9	r	0
71	Banner/Panel Zone 6 Intro (green)	1	5	5	r	1
72	Panel Conservation... put people first - panel	1	6	6	r	2
73-77	Panels Quotes by Tokoa, Roger, Bernard, Charlie, Dave	1	31	31	r	2
78	Panel Madagascar's diversity quote by Russell	16	18.5	4 - 70	r, co, w	0
79	Note Panel Keeper Note	2	20.5	3 - 38	r, ra, p	1
80-81	Panels MFG member panels (3); Partners in conservation panel (1)	1	56	56	r	15
82-88	Writing Desk How can you help panel; visitor drawing postings; writing books; Want to help panel; card handout; envelope handout	7	13.13	6 - 32	w, wa	
Cage Cage 3	Southern most enclosure for occasional holding	5	14.43	6 - 33	w	2
Cage Cage 2	Center enclosure for occasional holding	6	17.5	7 - 45	w	1
Cage Cage 1	Northern most enclosure for occasional holding					

See Notes on next page.

## Notes to Accompany Exhibit Element Table on Previous Page

Note that because elements 78 and 79 are located closely, it was not always possible to distinguish which element was the focus of visitor attention (16 visitor stops). Thus, elements 15 and 16, which work together, are more likely to be the most visited elements at the exhibit (13 stops). Elements 15 and 16 are the "Where in the World" panel and globe. They are located along the boardwalk that approaches the animal viewing areas so animals are not yet easily visible by the visitor. The globe has a strong attraction in that it is nice looking and inviting to the touch.

While only one member of this sample actually stopped at the Writing Desk another 15 looked at it as they walked by it. Those visitors who saw, but did not stop at this element, may still be taking in the easily read panel about how a person can help lemurs which is located on the Writing Table.

The Heat Lamp and Sculpture elements were attended and manipulated by 9 members of this sample. Following that, several items were attended by 6 visitors:

- Zone 3 Introductory Banner/Panel (yellow)
- Focus Complex: burned poles; slash/burn quote; photo of burning trees; more land burned quote; aerial photo of smoke; Malagasy proverb panel
- Flip Book: The Lemurs of Madagascar

Staff asked data collectors to watch for visitors dropping things into the lemur enclosure because of their concern at finding various types of trash on the ground below the boardwalk. The one person observed to drop something appeared to do so accidentally. The item was an ice cream cup.

## Code for Human Activities While Stopped at Exhibit Elements:

<b>co:</b>	call over
<b>DR:</b>	dropping items into enclosure
<b>m:</b>	manipulate or touch the element
<b>p:</b>	point
<b>r:</b>	read
<b>ra:</b>	read aloud
<b>t:</b>	talk
<b>w:</b>	watch animals that aren't there (looking for lemurs the holding cages)
<b>wa:</b>	watching animals



## Number of Visitor Stops to View Animals

In addition to recorded stops to view animals, as seen on the tables below, visitors watch animals as they are walking along the boardwalk.

Viewing Stops	Number of Stops	
Mean	3.14	
Minimum	1	
Maximum	5	
Median	3	
Mode	3	19 visitors; 43% of the sample

Number of Viewing Stops	Number of Visitors (out of 44)	% of 44
0	0	0%
1	4	9%
2	6	14%
3	19	43%
4	10	23%
5	5	11%
Total	44	100%

## Length of Visitor Stops to View Animals

The table below shows the total length of time that visitors stopped to view animals regardless of which Zone they were in (see below for information about stops per Zone). In addition to recorded stops to view animals, as seen on the table below, visitors watch animals as they are walking along the boardwalk.

Viewing Stops	Length of Stops
Mean	3.85 minutes
Minimum	5 seconds
Maximum	11.22 minutes
Median	2.75 minutes

## Visitor Stops to View Animals by Zone

Zoo staff segments the boardwalk at this exhibit into Zones. Visitors are not meant to be aware of this demarcation. Please see the data collection sheet at Tab 6 for a map of the exhibit which includes Zones.

Zone 4 has the most stops, the longest average stop and the maximum recorded stop. Zones 4 and 5a have the best view of the lemurs' climbing structure. All but Zone 3 have excellent viewing of lemurs in the trees and on the ground.

Zone	No. of Visitors to Stop and watch Animals (out of 44)	No. of Visitors to Watch Anim's on the Climbing Structure	Average Length of viewing time while stopped (in seconds)	Range of time stopped (in seconds)	Human Activities
3	15	0	20.33	3 - 68	point, talk
4	40	20	110.95	12 - 604	point, talk, call over
5a	33	17	66.97	5 - 260	point, talk, call over
5b	31	16	77.03	9 - 256	point, talk
6	18	3	62.11	4 - 334	point, talk

## Visitor activity unrelated to viewing exhibit or animals

Structuring the target population for this research to exclude visitors with toddlers minimizes unrelated activity. The table below shows visitor stops for activity that was unrelated to the Lemur Forest exhibit.

Zone	No. of Visitors observed engaging in unrelated activity	Average Length of time spent on unrelated activity (in seconds)	Range of time stopped
3	2	37.00	29 - 45
4	2	79.00	105 - 53
5a	4	23.27	3 - 76
5b	1	3.00	--
6	1	20.00	--

## Visitor comments overheard by data collector

Data collection conditions do not always allow the researcher to overhear comments from visitors. Below is a list of those few visitor comments that were audible. They underscore the ability of this exhibit to give visitors a good view of, and emotional connection to the animals.

### Relating to human and/or personal experience

- "Brother and sister."
- "I'm like that sometimes."
- "Do you think they have a good life here? Are they bored?" Speculated on family and relations, who was dominant.

### Positive Affect

- "Cute."
- "They're so cute."

Continued...

### **Observations of appearance/species**

- Noticed notch on tail.
- "I think they have those slow nails ..." [for climbing trees]
- Compared types of lemurs in book (aloud) as companion flipped book.
- "Mom, here's a different one." Companion (mom) gave \$.

### **Excitement of viewing**

- "Oh, I can really see him."

### **Observing behaviors**

- "Oh, look, he's going into the shade - he got too warm!"
- "There's a sign there that tells come in, just so you can identify them."
- "They move like little ninjas."
- Point out behavior to companion
- Speculated on behavior: "I wonder [if] territorial?" "Why ..." "Cute!"

### **Disrespectful to lemurs**

- Yelled at lemurs, "Hey, you! Psst!" trying to catch their attention.