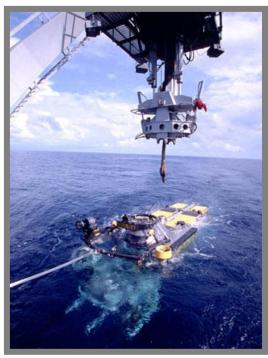
# Results from the 2009-10 National Museum of Natural History Visitor Survey



# Nature, Science and Culture on Display



Smithsonian Institution
Office of Policy and Analysis
July 2010



#### **P**REFACE

The Office of Policy and Analysis (OP&A) was pleased to undertake this study of visitors to the National Museum of Natural History (NMNH), in the Summer of 2009 and Winter of 2010. This is the first study of visitors to the museum— as opposed to visitors to specific exhibitions— conducted since 1994-95.

The data for this study came from questionnaires completed by visitors entering and exiting NMNH. We appreciate visitors' willing participation. The time they provided, in the midst of a busy museum visit, is evidence of their affection for NMNH and interest in improving the visitor experience.

I would like to thank staff of the NMNH for their assistance and guidance in the course of developing this study. Rena Selim, former Assistant Director of the Office of Exhibitions, Jerald Sachs, recently retired Director of Guest Services, Bill Watson, Chief of Onsite Learning, and Michael Mason, then Chief of Exhibit Development and Project Management and now Assistant Director for Exhibitions served as our liaisons.

Special thanks are extended to staff and interns of both NMNH and OP&A. Invaluable assistance with the logistics, questionnaire distribution and collection, and data processing was provided, amidst their other duties, by the following colleagues: Hal Banks, Travis Blalock, Sarah Block, Amy Bolton, Charlotte Brown, Lisa Burkoski, Leah Collins, Elio Cruz, Claire Eckert, Jarrid Green, Crystal Hahn, Gary Hevel, Will Hix, Dawoon Jung, Pow Kadian, Givi Khidesheli, Eliza Kleintop, Teresa Kwon, Annie Lefebure, Eleanor Levine, Sherry Martin, Heather Mauger, Lisa Mayorga, Anuja Mehta, Aditya Krishuna Murdhi, Berna Onat, Kristin Rector, Gale Robertson, Debbie Rothberg, Elizabeth Ruebush, Christyna Solhan, Sorena Sorensen, Siobhan Starrs, Abby Telfer, Lauren Tuzzolino, Megan Wall, Eric Wenzel, Whitney Watriss, and Cyrell Williams.

Within OP&A, Zahava D. Doering and Andrew Pekarik had overall responsibility for the study. This survey and report would not have been possible without the extraordinary dedication and work of Ikuko Uetani who helped with questionnaire design, interviewing, and data processing, served as manager for the data collection, and wrote major portions of this report.

Carole M. P. Neves Director, Office of Policy and Analysis

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#### INTRODUCTION

The National Museum of Natural History (NMNH) is "dedicated to inspiring curiosity, discovery, and learning about the natural world through its unparalleled research, collections, exhibitions, and education outreach programs." The collections that are now part of the NMNH have their origins with specimens collected by the United States Exploring Expedition, 1838-1842, and transferred to the Smithsonian Institution in 1858. Originally housed in the Smithsonian Institution Building (the "Castle"), they were moved to the National Museum Building (now the closed Arts and Industries Building), when it was completed in 1881. In 1910, they were moved to the present green-domed museum on the National Mall built specifically to house natural history and anthropology. The building has had several changes, including the addition of wings to the east and west sides, and the renovation of the interior.

As noted on the NMNH web site<sup>1</sup>, "the main building on the National Mall contains 1.5 million square feet of space overall and 325,000 square feet of exhibition and public space; altogether the Museum is the size of 18 football fields, and houses over 1000 employees."

Studies of visitors to NMNH have been conducted for decades. The first "all-museum" study was conducted between October 1968 and October 1969. In that study, interviewing was conducted at both the National Museum of Natural History and National Museum of History and Technology (MHT), (the former name of the National Museum of American History), and no distinction was made between the two locations in the results that were reported. About fifteen years ago, yearlong studies were conducted at the major Smithsonian museums, including NMNH<sup>2</sup>. NMNH was also included in a 2004 survey of all Smithsonian museums.<sup>3</sup>

In the Spring of 2009, NMNH staff suggested that an "all-museum" study be conducted again. Limited resources prevented a yearlong study, however, two studies were planned to study the visitors in the summer and winter seasons. This report presents findings from a dataset that combines Summer and Winter results; the overall results are followed by seasonal differences, associations, and comparisons with two earlier surveys at NMNH, in 2004 and 1994-1995, where applicable.

<sup>&</sup>lt;sup>1</sup> http://www.mnh.si.edu/about.html, accessed May 14, 2010.

<sup>&</sup>lt;sup>2</sup> A report based on the 1994-95 study, *Beyond the Elephant*, is available at http://www.si.edu/opanda/sov\_museums.html

<sup>&</sup>lt;sup>3</sup> A report based on the 2004 study, *Results of the 2004 Smithsonian-wide Survey of Visitors*, is available at <a href="http://www.si.edu/opanda/sov\_smithsonianwide.html">http://www.si.edu/opanda/sov\_smithsonianwide.html</a>

#### **METHOD**

The OP&A study team conducted two surveys of visitors: in the summer of 2009 data were collected from July 9 through 21, and in the winter of 2010 from January 28 through February 4, 2010. Self-administered questionnaires were distributed to randomly selected visitors. In the Summer survey, because of the large number of questions that NMNH wanted to ask, two versions of each questionnaire were administered; i.e., two Entrance forms and two Exit forms. In the Winter survey, based on the analysis of the Summer data, the number of questions was reduced<sup>4</sup>; i.e., one Entrance form and one Exit form were administered. Appendix A contains the wording of all the questions and the resultant frequency distributions<sup>5</sup> followed by the all six questionnaires in Appendix B.

Data for both surveys were collected in an identical manner. During each survey session, trained OP&A and NMNH staff and interns, working in teams, intercepted entering or exiting visitors at either the Mall or Constitution Avenue doors and distributed questionnaires. Thus entering visitors and exiting visitors who were surveyed were different, but were chosen using the same selection system, so that they were representative of all visitors. Smithsonian staff and contractors, members of formal tour and school groups, and people ineligible for the study because they were not making a museum visit (e.g., in the building to ask directions or to use the bathrooms) were not interviewed. Thus, only 'voluntary' visitors, age 12 or older, were included in the survey. When a visitor declined to participate, the team member who had intercepted the visitor recorded a few basic facts by observation and asked the visitor only for their residence.<sup>6</sup>

During the two surveys, 1852 entering visitors were intercepted. From these, 1633 individuals were eligible for the study and 1094 completed the questionnaires, an overall cooperation rate of 67.0 percent. Similarly, 2526 exiting visitors were intercepted; 1950 were eligible and 1055 completed the questionnaires, a cooperation rate of 54.1 percent. Overall, the cooperation rate was 60.0 percent. Appendix C shows the results of the data collection for both Summer and Winter surveys.

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<sup>&</sup>lt;sup>4</sup> Some revisions were also made in the structure or the wording in the questions. These changes are shown in the frequency table presented in Appendix A.

<sup>&</sup>lt;sup>5</sup> Note that based on the size of the sample, we can be 95% certain that a percentage in the sample is no more than 5% higher or lower than the actual percentage in the population.

<sup>&</sup>lt;sup>6</sup> These facts were age, group composition, gender and residence. A comparison showed significant differences in the age distribution and group composition, between visitors who completed questionnaires and those who refused to participate. The weights were adjusted to reflect the characteristics of all intercepted visitors.

#### ANALYSIS APPROACH

In the final analyses, presented in this report, the OP&A researchers studied the entire dataset in two phases. First, they looked at characteristics of visitors to NMNH, and examined expected and actual experiences in the museum. The Findings section presents an overview of visitors, seasonal differences, findings from previous studies, and associations and response patterns. In associations, the study team looked for subgroups of visitors who were more likely to have marked a particular item, compared to other visitors<sup>7</sup>. In the case of identifying response patterns, they explored patterns of responses to questions where visitors could make multiple choices. These patterns are more suggestive and interpretive than associations.

Second, the study team conducted additional analyses to further explore specific items that the findings in the first analysis suggest link to higher satisfaction or visitors' needs. The Further Analysis section reports these results.

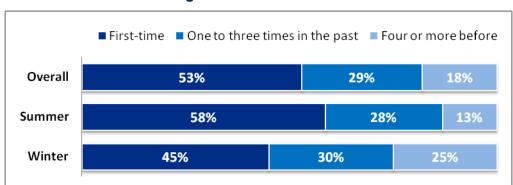
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<sup>&</sup>lt;sup>7</sup> Associations addressed in this report have statistical probabilities less than 0.01. In other words, there is less than a one in a hundred chance that these associations are accidents of the sample.

#### **FINDINGS**

#### > THE AUDIENCE OVERALL

- US Tourists. A vast majority of visitors were United States residents (86%), including 13 percent who were residents of Metropolitan Washington. Visitors from outside the United States make up the rest (14%).
  - More local<sup>8</sup> visitors in Winter. Winter visitors were almost three times more likely than Summer visitors to be residents of Metropolitan Washington (22% of Winter vs. 8% of Summer), while the ratio between US residents and foreign visitors is essentially the same in both seasons.
  - On the weekend, local visitors were more prevalent (17% vs. 11% on weekdays).
  - ♣ In the 1994-95 study there was also a higher percentage of local visitors in winter.
- o **First-time visitors in majority.** The majority of visitors to NMNH were making an initial visit (53%). Three in ten had visited 1-3 times in the past (29%), while nearly two in five had made four or more previous visits (18%). (Figure 1)
  - Repeat visitors in majority in Winter. The majority of Winter visitors were repeat visitors (55%); while the majority of Summer visitors were first-time visitors (58%).



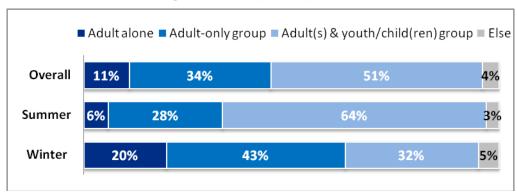
**Figure 1: Previous Visits** 

Source: Appendix A, Q. 8.

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 $<sup>^{\</sup>rm 8}$  Local refers to those who live in Washington, DC, Metropolitan area.

- ❖ Local residents were more common among repeat visitors (23% of repeat visitors vs. 5% of first-time visitors).
- ♣ In the 1994-95 study, first-time visitors and repeat visitors were equal in Summer and repeat visitors were in the majority in Winter.
- Multi-generational groups. Roughly half of visitors to NMNH came in a group of adult(s) with youth/child(ren) (51%). One in three was visiting in an adult-only group (34%) and one in ten was an adult visiting alone (11%). (Figure 2)
  - Family groups in Summer. In Summer, adult(s) with youth/child(ren) were the predominant visitor configuration (64%). Summer visitors were twice as likely as Winter visitors to be in a group of one or more adults with one or more youth/child(ren) (64% in Summer vs. 32% in Winter).
  - Solo & adult in Winter. Conversely, in Winter, adults were the predominant visitor configuration (63%); over two in five were in adult-only groups (43%) and one in five was an adult visiting alone (20%). Winter visitors were three times more likely to be visiting the museum alone (20% in Winter vs. 6% in Summer). Almost all of them were adults.



**Figure 2: Group Composition** 

Source: Appendix A, Q. 19.

- On the weekend, adult groups were more prevalent (38% vs. 30% on weekdays).
- ❖ Solo visitors were more likely than group visitors to be local (22% vs. 12% of group visitors), and those visiting in a group of adult(s) with youth/children were more likely than other visitors to live in the US more than 20 miles from the Mall (75% vs. 67% of others).

<sup>&</sup>lt;sup>9</sup> Else in Figure 2 consists of Youth (age 12-17) alone, Youth/child-only group and Unknown.

- ❖ Those in an adult group were more likely than other visitors to be making their initial visit to NMNH (58% vs. 50% of other visitors).
- ♣ The 2004 and the 1994-95 studies showed similar results; family groups were predominant in summer and adult visitors were the major visitor configuration in winter.
- Women and men equally. Women and men were present almost equally in the museum (51% women, 49% men).
  - International visitors were more likely than US visitors to be male (58% vs. 48% of US visitors), and those who live in the US within 20 miles of the Mall were more likely than other visitors to be female (58% vs. 50% of others).
- Average age 37. The mean age of the visitors<sup>10</sup> was 37, as was the median.
   Visitors can be divided into three approximately equal age clusters: ages 12 to 29 (35%), ages 30 to 44 (32%) and over the age of 44 (33%).
  - Slightly younger in Summer. The mean age in Summer was 36 and 38 in Winter.
  - ❖ Older visitors<sup>11</sup> were more likely than younger visitors to:
    - live in the US more than 20 miles from the Mall (74% vs. 68% of younger visitors)
    - have had four or more previous visits (22% vs. 14%)
    - be visiting the museum on a weekday (59% vs. 52%)
  - ❖ Those aged between 12 and 29 were more likely than other visitors to be visiting the museum in an adult-only group (38% vs. 32% of others), and less likely to be in a group of adults and youth/children (47% vs. 54% of others).
  - ❖ Those aged between 30 and 44 were more likely than other visitors to be visiting the museum in a group of adults and youth/children (64% vs. 46% of others) and less likely to be in an adult-only group (25% vs. 38% of others).
  - ❖ Those aged 45 and older were more likely than other visitors to be visiting the museum alone (16% vs. 10% of others) or in an adult-only group (39%

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<sup>&</sup>lt;sup>10</sup> Only visitors age 12 or older were interviewed.

<sup>&</sup>lt;sup>11</sup> Older visitors refer to those over the average age of 37 and younger visitors refer to those aged 37 and under.

vs. 32% of others), and less likely to be in a group of adults and youth/children (45% vs. 55% of others).

- Mostly Caucasian. Eighty percent of U. S. visitors considered themselves Caucasian. One in ten U.S. residents indicated that they were of Latino or Hispanic origin (10%). Among U. S. residents, African Americans (8%) and Asian Americans (7%) were the largest minority groups.
  - Among US residents, younger visitors more often said that they were of Latino/Hispanic origin (13% vs. 7% of older visitors), African American/Black (11% vs. 5% of older visitors) or Asian American (10% vs. 3% of older visitors) ethnicity, while older visitors more often said that they were Caucasian (86% vs. 74% of younger visitors).
- Very well educated. Visitors were very well educated, with one third of those over age 25, when most are considered to have completed their education, reporting graduate/professional degrees (35%). And about four-tenths reported a bachelor's degree (38%).<sup>12</sup>

#### REASONS FOR THE VISIT

- Nature and animals. Multiple reasons brought visitors to NMNH. Not surprisingly, the primary reasons were exhibitions about nature and animals (73%), science (39%) and art and culture of various peoples (33%).
   Programmatic activities such as IMAX films, tours, or hands-on-activities are secondary reasons, trailing far behind. (Figure 3, next page)
- Three categories of reasons. Analysis of the choices that entering visitors made when asked about the important reasons for the visit suggests three patterns of motivation:<sup>13</sup>
  - 1. Science and People (exhibitions about global issues, science, and the art and culture of various peoples)
  - 2. Nature and Animals (exhibitions about nature and animals)
  - 3. Other offerings (see a live program, see an IMAX film, do hands-on activities and take a tour)

<sup>&</sup>lt;sup>12</sup> Educational attainment was only asked of Summer visitors.

<sup>&</sup>lt;sup>13</sup> This analysis is based on the Ward's-method clustering of eight variables in the 6-dimension MDS space representing the proximity matrix of these choices.

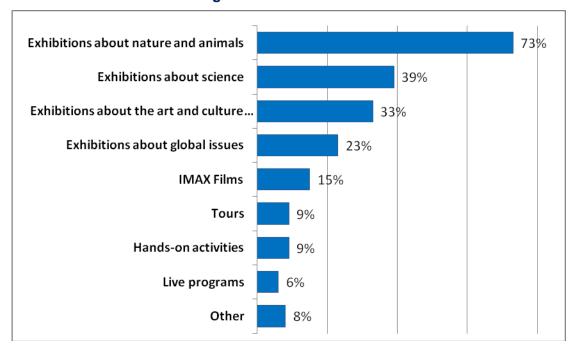


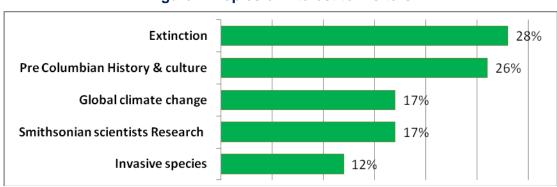
Figure 3: Reason for Visit

Source: Appendix A, Q. 14. Wording shortened in figure.

- Particular reasons were associated with specific visitor characteristics:
  - Seeing exhibitions about nature and animals
    - Those in a group of adults with youth/children
    - US residents more than 20 miles from the Mall
  - Seeing exhibitions about science
    - US residents more than 20 miles from the Mall
  - Seeing exhibitions about global issues
    - Solo visitors
  - Taking a tour
    - First-time visitors
    - Younger visitors
  - Doing hands-on activities
    - Those in a group of adults with youth/children
- No predominant motivator. Visitors had no strong preference, among items in a list of seven reasons that described motivations for visiting NMNH. Seventeen percent indicated that "I can't select just one of these choices," and about an

equal number marked "Museums are exciting" (16%) or "The museum's reputation" (16%). The other responses were: 14

- My companion(s) —14%
- Personal fulfillment—12%
- A break from my daily routine—10%
- The subject matter—9%
- Visiting museums is valuable—7%
- ❖ Those motivated by the museum's reputation were more likely to be making their first visit (80% vs. 57% of repeat visitors).
- Leading topics: Extinction and Pre-Columbian Americas. Asked to select one topic among five, visitors selected "Extinction" and "History and culture of the Americas before Christopher Columbus," about equally (28% and 26%). The other topics ranked lower, as shown in Figure 4: 15



**Figure 4: Topics of Interest to Visitors** 

Source: Appendix A, Q. 15. Wording shortened in figure.

#### **EXPECTATION OF VISIT AIDS**

Expect to get maps. When entering the museum, visitors had expectations for aids that would help them navigate the space. Slightly more than two-thirds (70%) indicated that maps of the museum would be helpful. About a fourth (25%-20%) indicated, respectively, that printed guides for visitors with limited time, printed guides for children of different ages and in-depth brochures about exhibits would be helpful. An orientation video (13%) or guided tours of specific exhibits (14%) or the whole museum (11%) were least noted.

<sup>15</sup> Topics of interest were only asked of Summer visitors.

<sup>&</sup>lt;sup>14</sup> Motivation was only asked of Summer visitors.

- Media aids not expected. In Winter several items were added and the whole series of options for visit assistance was also asked at Exit. (See Q 16, Appendix A.) At entry, media aids were not viewed as especially helpful; audio/video stations at relevant locations (16%), downloads to portable media devices (MP3, iPhone, etc.) (13%) and tours and/or object information using cell phones (6%).
- Type of visitors. The question on aids that entering visitors would find helpful (i.e., orientation video, maps of the museum, printed guides for children of different ages, printed guides for visitors with limited time, in-depth brochures about exhibits, guided tours of specific exhibits, guided tours of the whole museum<sup>16</sup>) exhibits response patterns that allow researchers to identify three types of visitor:
  - 1. Explorers (those more likely to select maps)
  - 2. Self-guided (more likely to select a combination of time guides and child guides)
  - 3. Other-guided (more likely to select a combination of video, brochures, exhibit tours and museum tours)

Using this classification OP&A staff illustratee the distribution of these three types of visitors as shown in Figure 5:

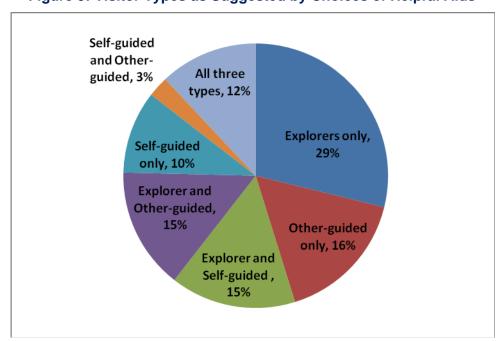


Figure 5: Visitor Types as Suggested by Choices of Helpful Aids

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<sup>&</sup>lt;sup>16</sup> Winter-only variables were excluded from this analysis.

"Explorers only" describes respondents who selected only maps. "Explorer and Self-guided" describes those who chose maps and one or more of time guide and child guide. "Explorer and Other-guided" includes those who chose maps and one or more of video, brochure. exhibit tours, or museum tours. "All three" identifies respondents who picked at least one item from each of the three categories.

As this graph demonstrates, the majority of the entering visitors want maps (i.e., are Explorers to some degree), and almost half of the Explorers also want brochures and/or printed guides. At the other extreme, about half (46%) are looking to be led by videos and/or tours (i.e., are Other-guided), and about two-thirds of these Other-guided visitors are also interested in maps and/or printed guides.

#### ➤ THE VISIT — EXHIBITIONS AND ACTIVITIES

- Ocean, Dinosaurs, Mammals, and Geology. Visitors attended the major exhibitions in a pattern consistent with their expectations. On average, visitors marked visiting at least three<sup>17</sup> of the following exhibitions, listed in order of frequency, as shown in Figure 6 (from 71% to 19%)<sup>18</sup>. The large permanent exhibitions drew the most visitors. (Figure 6, next page)
- o Particular exhibitions drew more of those with specific visitor characteristics:
  - Ocean Hall
    - First-time visitors
    - Those with adults and children/youth
  - Dinosaur Hall
  - Mammal Hall
    - First-time visitors
    - Those visiting with others
  - Geology, Gems and Minerals
    - Those in an adult-only group
  - African Voices:
    - Those who said that they were African American/black

<sup>&</sup>lt;sup>17</sup> Mean number of exhibitions marked are 3.5 out of 8 in Summer and 3.3 out of 7 in Winter.

<sup>&</sup>lt;sup>18</sup> Dig It! The Secrets of Soils was on display in Summer but closed in Winter.

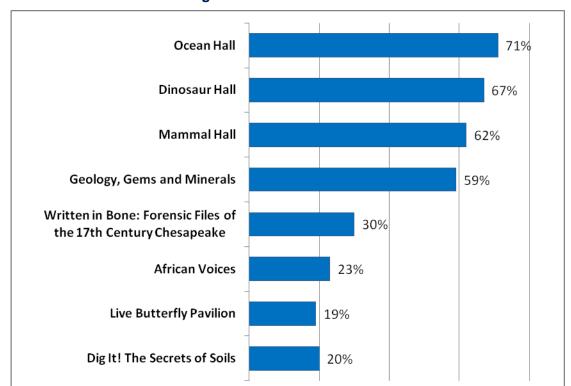


Figure 6: Exhibitions Visited

Source: Appendix A, Q. 17.

- Physical space. Which exhibitions visitors saw suggest that physical location was a key factor. The data indicate two patterns:<sup>19</sup>
  - 1. First floor exhibits (Ocean Hall, Mammals Hall, Dinosaurs, African Voices)
  - 2. Second floor exhibits (Geology, Gems and Minerals, Butterflies Pavilion, Written in Bone)
- Films and hands-on. Visitors took part in many of the museum's offerings. Slightly less than half indicated that they watched a short, free film in a theater or exhibition (46%) and nearly one-third of visitors did hands-on activities (36%). Talking to an expert or a volunteer in an exhibition (18%), going to the Forensic Anthropology Lab (18%) or the Discovery room (17%), or using a computer in an exhibit (16%) were less popular activities. On average, visitors reported two activities.<sup>20</sup>

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<sup>&</sup>lt;sup>19</sup> Based on factor analysis.

<sup>&</sup>lt;sup>20</sup> Mean number of activities marked are 2.6 out of 9 in Summer and 2.1 out of 8 in Winter.

Four activities showed differences between Summer and Winter as indicated in the following and Figure 7.

- Summer visitors more often than Winter visitors indicated that they:
  - did hands-on activities (45% in Summer vs. 31% in Winter),
  - went to the Discovery room (24% in Summer vs. 13% in Winter) or
  - went to the Forensic Anthropology Lab (23% in Summer vs. 15% in Winter).
- Winter visitors more often than Summer visitors indicated that they talked to an expert or a volunteer in an exhibition (21% in Winter vs. 12% in Summer).

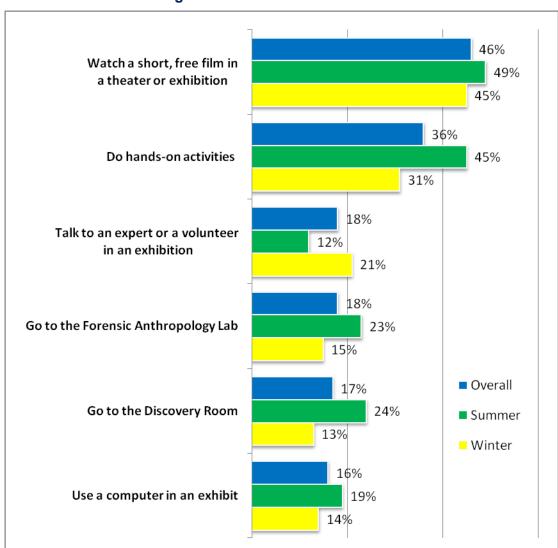


Figure 7: Activities in the museum

Source: Appendix A, Q. 19. Wording from Winter questionnaire.

- Particular activities were associated with specific visitor characteristics or other activities:
  - Watched a short, free film
    - Used a computer in an exhibit
  - Did hands-on activities
    - In NMNH with adults and children/youth
    - Used a computer in an exhibit
    - Went to the Forensic Anthropology Lab
    - Went to the Discovery room
  - Went to the Forensic Anthropology Lab
    - Visited Written in Bone
    - Went to the Discovery room
  - Went to the Discovery Room
    - Visited African Voices
- More time. Visitors spent somewhat more time in the museum than originally planned. When they entered, about one-third (34%) estimated a 2-4 hour visit. When they exited two in five (40%) said they had been at NMNH for 2-4 hours.
  - Those who spent 2 or more hours in the museum more often than others marked that they:
    - visited the Dinosaur Hall (74% vs. 58% of other visitors)
    - watched a short, free film (54% vs. 38% of others)
    - talked to an expert or a volunteer(22% vs. 13% of others)
    - went to the Forensic Anthropology Lab (26% vs. 11% of others)
    - went to the Discovery room (23% vs. 10% of others)
- Tour deficit? Visitors appear to have had a problem with tours especially in Summer. When asked about their interest in tours upon entering, 10% of visitors in Summer and 9% in Winter said that taking a tour was an important reason for their visit. However, according to the Exit surveys, only 1% of visitors actually took a tour during their Summer visit, but 6% took one during their Winter visit. Presumably tours are more available or accessible in Winter than in Summer.
- Active buyers. The commercial activities<sup>21</sup> attracted visitors, with 59 percent reporting that they bought something to eat or drink and three-fourths (74%) entering a shop. Of those that entered a shop, almost half made a purchase (34%). A fifth report seeing an IMAX film (19%).

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<sup>&</sup>lt;sup>21</sup> Commercial activity was only asked of Summer visitors.

#### VISIT AIDS

- Information desks and maps. Either when they entered or during the visit, two
  in five visitors stopped at an information desk (40%) or used materials available
  at the desk (39%). The vast majority of visitors reported that they used maps of
  the museum (80%).<sup>22</sup>
- **Visit aides helped** While one-fourth (23%) reported no problems in navigating the museum, the available aids assisted the rest when needed; half to one-third used a map in the *Go Smithsonian* brochure (49%) or a printed map (35%)<sup>23</sup>, about one-third read the printed signs (37%), or a map on a wall (35%), or asked museum staff (28%). Reading the electronic signs (13%) was least popular.
  - Summer visitors were more likely than Winter visitors to;
     use a map on a wall (43% in Summer vs. 30% in Winter) or
     read the electronic signs (18% in Summer vs. 11% in Winter).
  - Summer visitors were more likely than Winter visitors to use materials available at the desk (47% in Summer vs. 34% in Winter).

The results showed the following associations:

- Had no problems finding places
  - Residents within 20 miles from the Mall
- Used a map on a wall
  - Spent more than four hours in the museum
  - Did hands-on activities
  - Went to Discovery room
  - Went to Forensic Anthropology Lab
  - Used electric signs for wayfinding
- Read the printed signs
  - Did hands-on activities
  - Used electric signs for wayfinding
- Asked museum staff
  - Older visitors (i. e., above the average age of 37)
  - Stopped at the information desk
  - Visited Butterfly Pavilion

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<sup>&</sup>lt;sup>22</sup> Only asked of Winter visitors.

<sup>&</sup>lt;sup>23</sup> "Used a map in the *Go Smithsonian* brochure" in Summer was rephrased into "Used a printed map" in Winter. *Go Smithsonian* was provided free of charge at the time of the Summer survey. Starting February1, 2010, in the midst of the Winter data collection, *Go Smithsonian* began to be charged and free printed maps of the museum were made available at the information desks as an alternative.

- o **Guides for visitors with limited time would have helped.** Visitors were asked to reassess visit assistance in the museum after the visit.<sup>24</sup> Upon leaving, one-third of visitors indicated that printed guides for visitors with limited time (34%) would have been helpful if they had been available, followed by in-depth brochures about exhibits (24%), downloads to portable media devices (22%), printed guides for children of different ages (21%), guided tours of specific exhibits (20%), and an orientation video (17%). One in ten indicated that a guided tour of the whole museum (10%) or tours and/or object information using cell phones (8%) would have been helpful.
- Special exhibition tours. The demand for tours of special exhibitions was greater than for tours in general. In addition to the 14% of visitors who knew when they entered that they would like to take a tour of specific exhibits, there was an additional 6% who realized the need for a tour only in the course of their visit. The interest in tours of the museum as a visit aid did not change between entrance and exit, and roughly equals the percentage of those who felt that a tour was an important reason to visit.

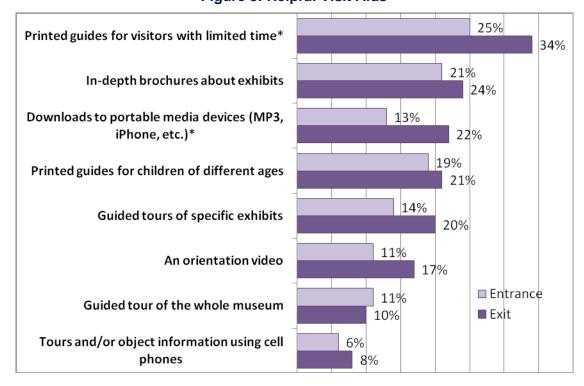


Figure 8: Helpful Visit Aids

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<sup>\*</sup>Significant difference between Entrance and Exit. Source: Appendix A, Q. 17.

<sup>&</sup>lt;sup>24</sup> This question was added to Winter Exit questionnaire to further analyze visitors' needs for visit assistance by comparing Entrance and Exit.

Needs for more aids? In comparing Winter 2010 Entrance and Exit, exiting visitors were more inclined to mark printed guides for visitors with limited time and downloads to portable media devices than they did on Entrance implying that some visitors felt the need for more visit assistance of this kind than they had anticipated at entry. (Figure 8) Additional findings are reported in Further Analysis section below.

In Summer of 2009 visitors were asked which types of information aids they expected would be available in the museum today. The options for these aids were all electronic:

- Audio/video stations at relevant locations
- Downloads to portable media devices (MP3, iPhone, etc.)
- Tours and/or object information using cell phones
- O Unsatisfied with Audio/Video stations? Three out of four entering visitors in Summer 2009 (73%) expected at least one of these electronic aids. The two that were most expected by entering visitors were audio/video stations at relevant locations and tour/object information using cellphones. (51% and 26% respectively). After visiting the galleries, however, three out of four exiting visitors (75%) were not aware that these aids were missing, since they marked "none of these," when asked "Which of these information aids did you expect, but were not available in the museum today." The only aid that exiting visitors noticed was missing to a significant degree was audio/video stations at relevant locations (15%).

#### **EXPERIENCES IN NMNH**

Aside from specific activities or subject matter, visitors have personal preferences for different types of experiences in a museum. Visitors were shown a list of ten experiences. Entering visitors were asked to mark which of these items they were especially looking forward to; exiting visitors were asked to indicate which ones they had found especially satisfying. The items on the list have been developed over time at the Smithsonian through interviews with visitors and suggestions from museum staff. Prior Smithsonian surveys using experience lists like this one have shown that visitors tend to find the experiences they are looking for. Even though the entrance and exit samples are different, the distributions of anticipated and actual experiences are generally the same. The results are shown in figure 9.

o **Expectations were generally met.** Visitors found the experiences they sought. At the Entrance, the three most expected experiences were *Gaining information*,

Seeing rare, valuable, or uncommon things, and Appreciating the natural world and our place in it. This was also true at the Exit. Both on Entrance and Exit, on average, visitors marked 3.4 experiences as especially satisfying out of a list of 10 experiences.

More aesthetic experiences than expected. There were two experiences that showed significant increases between the percentage of visitors who anticipated them upon entrance and the percentage who reported them satisfying on exit: Being moved by beauty, and Feeling awe and wonder. Being moved by beauty increased from 18% on entrance to 30% on exit while Feeling awe and wonder increased from 29% to 36%. None of the other eight experiences showed statistically significant differences between entrance and exit. (Figure 9)

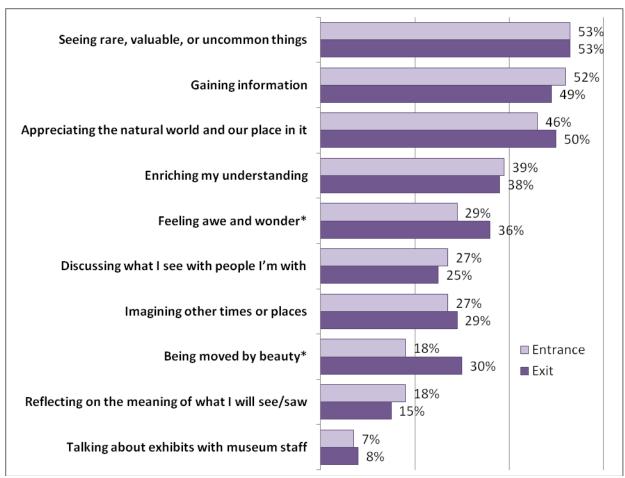


Figure 9: Expected and Actual Experiences

\*Significant difference between Entrance and Exit. Source: Appendix A, Q. 10.

 New visitors felt wonder. Looking at this result more closely, we find that the increase in aesthetic experiences between entrance and exit is true for both firsttime and repeat visitors (from 17% to 25% for first-time visitors; from 20% to 35% for repeat visitors). However, the increase in feelings of wonder between entrance and exit is only true for first-time visitors (from 30% to 38%).

O Unanticipated experiences linked to more satisfaction among new visitors. Moreover both of these experiences are associated with higher exit ratings among new visitors. In other words, first-time visitors find more aesthetic and wonder experiences than they anticipated and first-time visitors who report these experiences give the museum higher exit ratings than those who do not (40% of first-time visitors who report wonder rate the museum Superior, compared to 22% of other first-time visitors; 42% of those who report beauty rate the museum Superior, compared to 25% of other visitors).

There are exhibitions associated with these unanticipated experiences:

- ❖ Being moved by beauty is significantly associated with repeat visitors who went to Geology, Gems and Minerals (among repeat visitors 42% of those who went to GGM marked beauty, compared to 27% of repeat visitors who did not go to GGM);
- ❖ Feeling awe and wonder is significantly associated with first-time visitors who saw Dinosaurs (among first-time visitors, 41% of those who went to Dinosaurs marked awe and wonder, compared to 26% of first-time visitors who did not go to Dinosaurs).

#### > RATING THE VISIT

Entering visitors were asked how they thought they would rate their experience in NMNH when they left. Exiting visitors were asked how they rated their actual experiences. The scale for the rating was: Poor, Fair, Good, Excellent, and Superior. Those who are critical of the museum to some degree choose Good, Fair, or Poor. Excellent is a rating that indicates that the visitor is very satisfied and has no criticisms. Those who feel that the visit at the museum is so special that Excellent is not adequate as a rating select the Superior rating.

One in four rated their visit Superior. As shown in Figure 10 (next page), it is apparent that the visits to NMNH exceeds visitor expectations at the high end. On entrance 21% of visitors expect to rate their visit Superior, but on exit 26% give that rating. However, there is also some increase at the lower end of the scale: 19% of entering visitors expect the visit to be Poor, Fair, or Good, and 22% give the museum one of those lower ratings on exit. Another way to view this shift is to note that the Excellent rating decreases from 59% on entrance to

53% on exit. Most of this change shifts upward towards Superior, and the rest of it moves downward to Fair. In other words this reflects some polarization among a small percentage of visitors.

- In Winter, visits surpassed visitor expectations more strongly than in Summer; when Entrance and Exit are compared, Superior increased 21% to 29% in Winter, and from 21% to 23% in Summer.
- Rating higher than SI average. Overall the Exit rating is significantly better than the Smithsonian average for museum Exit ratings. The museum is rated above the Smithsonian average at the high end, and it is even more successful at the low end. The NMNH Superior rating of 26% is 8% above the Smithsonian average of 18%, and the Poor+Fair+Good rating of 22% is 12% below the average of 34%.<sup>25</sup> In other words the museum is not only more exciting than average, it is also less disappointing.

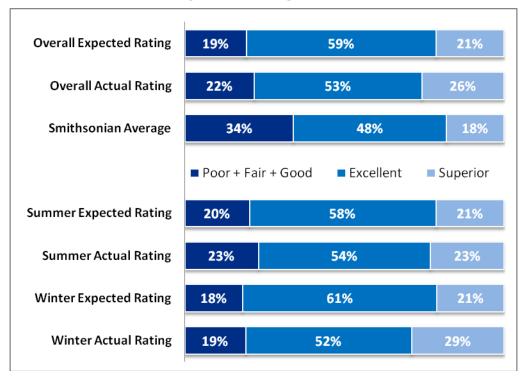


Figure 10: Rating of Overall Visit

Source: Appendix A, Q. 9

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<sup>&</sup>lt;sup>25</sup> This Smithsonian average is the average from 43 museum exit studies done at ten Smithsonian museums since 2006 (not including NMNH).

- Fuller experiences and higher satisfaction. Certain experiences in the museum were associated with higher satisfaction. Those who rated their experience Superior were more likely to report the following:
  - Spent over four hours in the museum
  - Appreciating the natural world and our place in it
  - Being moved by beauty
  - Feeling awe and wonder
  - Talking about exhibits with museum staff
  - Engaged/Experienced<sup>26</sup>
- o **Relatively unsatisfied visitors** (i.e., those who rated their museum experience Poor, Fair or Good upon leaving) were more likely to report the following:
  - Spent less than one hour
  - Unengaged/Inexperienced<sup>27</sup>
- Room for personnel improvements. Excluding those who reported no contact with information desks, security officers or non-security staff in exhibits, a fifth of visitors rated these personnel as "Superior" (from 18% to 21%), although about one third chose Poor, Fair, or Good (from 34% to 42%). (Figure 11)

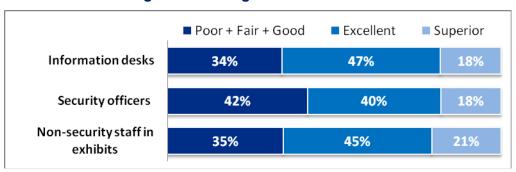


Figure 11: Rating of Selected Personnel

Source: Appendix A, Q. 21

Rating patterns. Visitors who rated their experiences in the museum Poor, Fair or Good were more likely than others to also rate Information desks, Security officers or Non-security staff in exhibits as Poor, Fair or Good. Visitors who rated their experiences in the museum Excellent were more likely than others to also rate Information desks, Security officers or Non-security staff in exhibits Excellent. The same pattern was true for the Superior rating.

<sup>&</sup>lt;sup>26</sup> Marked more than four experiences as especially satisfying, i.e., over the mean number of experiences.

<sup>&</sup>lt;sup>27</sup> Marked three or fewer experiences as especially satisfying, i.e., under the mean number of experiences

#### **FURTHER ANALYSIS**

#### > VISIT HISTORY AND SATISFACTION

A closer examination of the ratings reveals some interesting differences among sub-groups. In particular, the ratings of new visitors do not show a statistically significant difference between Entrance and Exit.<sup>28</sup> While the ratings of repeat visitors do show a statistically significant difference between Entrance and Exit, that difference is due to a 7% increase in ratings of Poor, Fair, and Good (from 16% to 23%) and a 9% drop in Excellent ratings (from 63% to 54%).

In other words, repeat visitors came into the museum with higher expectations than new visitors. Only a relatively small percentage (16%) of repeat visitors expected to give their visit a rating below Excellent, while 23% of first-time visitors expected to give a below-Excellent rating. Upon exit, however, the two groups came closer together: 23% of repeat visitors now rated their visit below Excellent, as did 20% of first-time visitors. At the high end, nearly all of the increase in Superior ratings from entrance to exit was due to new visitors.

Overall it is apparent that most visitors are valuing their NMNH experiences at the levels that they expected, and those levels are above the Smithsonian average. However, there is a small percentage of first-time visitors (about 9%) who find the museum better than they expected, and a small percentage of repeat visitors (about 7%) who are disappointed to some degree.

#### **EXPERIENCE ORIENTATIONS**

On average visitors marked slightly more than three items on the ten-item experience list both on Entrance and Exit. By examining the combinations of choices we identified the degree to which they are linked in visitors' thinking. Analysis of Entrance and Exit data both separately and together revealed a consistent pattern of four categories:<sup>29</sup>

- 1. Those who selected Gaining information and/or Enriching my understanding
- 2. Those who selected Seeing rare, valuable, or uncommon things
- 3. Those who selected Appreciating the natural world and our place in it

<sup>28</sup> While the ratings of first-time visitors do increase from entrance to exit, the increase is too small relative to the number of cases to be statistically significant at the .01 level..

<sup>&</sup>lt;sup>29</sup> This analysis is based on the Ward's-method clustering of the experience variables in the 9-dimension MDS space representing the proximity matrix of these choices.

#### 4. Any combination of the other six items

The first two categories are commonly encountered in analysis of experience choices in Smithsonian museums and can be considered to represent visitors with Idea interest and those with Object interest. The third type has not been identified elsewhere and will be referred to here as Appreciation.

Among exiting visitors Idea interests and Appreciation interest are associated with higher ratings among repeat visitors. Repeat visitors who indicated on exit that they had either *Gained information* or *Enriched their understanding* were more likely than other visitors to rate the museum superior (27% vs. 18%). Repeat visitors who marked *Appreciating the natural world* on exit similarly were more likely to rate the museum Superior (26% vs. 21%). There was no relationship however between ratings and these experiences for new visitors, who were just as likely as repeat visitors to report these experiences. And those with Object interest rated the museum the same as other visitors, whether they were new or repeat visitors.

This suggests that Idea and Appreciation experiences had a positive impact on repeat visitors, comparable to the effect that Beauty and Wonder experiences had on new visitors.

The three interest groups—Ideas (64% of all visitors), Objects (53%), and Appreciation (48%)—have considerable overlap. Nonetheless, when each variable is comparatively examined against the other variables in the study they reveal interesting differences. This is shown graphically in Figure 12 below.

Visitors with the Appreciation interest were most likely to express a preference for exhibitions on nature and animals, and on global issues, followed by those with the Idea interest, who had a preference for exhibitions on science.

New visitors and Repeat visitors with Object or Appreciation orientations showed some interest in visit aids, with the Object visitors favoring tours and guides and the Appreciation visitors seeking video, audio, and specific brochures.

Among the exhibitions, Idea visitors were most drawn to Written in Bone, Object visitors to Geology, Gems and Minerals (GGM), and Appreciation visitors to Dinosaurs. New visitors with Idea interest were also strongly drawn to GGM.

Those with Idea interests engaged the activities to a marked degree, including films, computers, hands-on, and maps. And Idea people stayed longer in the museum overall.

wanting science exhibits wanting issues exhibits wanting nature exhibits spent two hours or more 4.5 wanting people exhibits 4 3.5 used a wall map wanting IMAX used a printed map watched a free film wanting timed guides 1 0.5 did hands-on wanting exhibit tours wanting children guides used computers wanting orientation video visited Mammals wanting exhibit brochures visited African Voices wanting media downloads visited Dinosaurs visited Written in Bone visited Forensic Lab visited Ocean Hall Idea visitors Idea New visitors Idea Rpt visitors Object visitors Object New visitors Object Rpt visitors ■—Appreciation visitors Appr. New Visitors

Figure 12:Need and Usage Patterns for Three Key Visitor Experience Orientations

Note: Scale values represent the adjusted standardized chi-square residuals for the relevant cell in the 2x2 cross-tabulation. Higher values indicate stronger association. All indicated associations are statistically significant with probability less than .05.

#### GUIDES AND AIDS

The guides or aids proposed in this survey would affect visitors differently depending on their needs. While the overall percentages are a clue to which ones are most needed by the entire audience, consideration should also be given to the different sub-groups who would be affected. The following list is based on correlations in the complete dataset.

#### **Orientation Video**

Age 45 and over

- Motivated by subject matter<sup>30</sup>
- Visited Ocean Hall

#### Maps

- Came to see exhibitions about science
- Came to see exhibitions about the art and culture of various peoples
- Reflecting on the meaning of what I will see/saw

#### **Child Guides**

- Visiting in a group of 3 or more
- Visiting in a group of adults and youth/children
- Female
- Aged between 30 and 44
- Had four or more previous visits to the museum
- Spent more than 2 hours in the museum
- Went to Discovery Room

#### **Time Guides**

- Came to see exhibitions about the art and culture of various peoples
- Discussing what I see with people I'm with
- Feeling awe and wonder
- Seeing rare, valuable, or uncommon things
- Engaged/Experienced
- Visited Mammal Hall
- Talked to an expert or a volunteer in an exhibition

#### **Brochures**

- Came to see exhibitions about global issues
- Came to see exhibitions about science
- Came to see exhibitions about the art and culture of various peoples
- Enriching my understanding
- Feel awe and wonder
- Reflecting on the meaning of what I will see /saw
- Engaged/experienced
- Aged 50 or older
- Excellent or Superior rating

#### **Exhibition Tours**

- Reflecting on the meaning of what I will see /saw
- Would find museum tours helpful

<sup>&</sup>lt;sup>30</sup> Motivation was only asked of Summer visitors.

- Talked to an expert or a volunteer in an exhibition
- Watched a short, free film in a theater or exhibition

#### **Museum Tours**

- In a group of six or more
- Came for a program
- Came for an IMAX film
- Came for a tour
- Engaged/experienced
- Watched a short, free film in a theater or exhibition
- Would find specific exhibition tours helpful
- Would find downloadable audio files to portable media devices helpful

#### **Audio/Video Stations**

- First-time visitor
- Gaining information
- Reflecting on the meaning of what I will see /saw
- Came to see exhibitions about global issues
- Came to see exhibitions about the art and culture of various peoples
- Came for a program
- Would find cellphone tours helpful

#### **Downloadable Audio Files**

- Local residents
- Enriching my understanding
- Reflecting on the meaning of what I will see /saw
- Came for a program
- Visited Written in Bone
- Used a computer
- Active users<sup>31</sup>
- Would find specific museum tours helpful
- Would find cellphone tours helpful

#### **Cellphone Tours**

- In a group of six or more
- Would find audio/video stations helpful
- Would find downloadable audio files to portable media devices helpful

<sup>&</sup>lt;sup>31</sup> Those who reported more than three activities, over the mean number of activities, in the museum.

#### **OBSERVATIONS**

Overall, visitors to NMNH come away quite satisfied. The level of satisfaction is higher than the Smithsonian average. Visitors to NMNH have many fewer complaints (i.e., much lower percentages rate NMNH as Poor, Fair, or Good).

The comparison between the Entrance and Exit ratings indicates that visitors' expectations are generally met. When anticipated and actual experiences were compared, the results show that visitors find aesthetic and wonder experiences unexpectedly and the surprise appears to contribute to their satisfaction. The finding that repeat visitors come to the museum with higher expectations than new visitors and that some of them—though the number is small—leave somewhat disappointed may suggest a lack of unanticipated experiences for returning visitors.

Most of the seasonal differences, associations, or patterns reported here are consistent with the general understanding of visitors to the Smithsonian museums and are unsurprising. Even so, these unsurprising connections can collectively help to clarify the expectations, needs, and reactions of NMNH visitors.

Several points stand out from the findings:

- Not surprisingly, many visitors come to the museum to see exhibitions about nature and animals or science. However, the findings reveal that visitors' interest in anthropology, an area not especially featured at NMNH, is also high. It would be interesting to explore the potential of exhibiting anthropological collections.
- The patterns of exhibitions visitors see imply that visitors tend to stay on the same floor during the visit rather than exploring the entire museum. In addition, the findings pertaining to tours and visit aids suggest visitors' needs for more aids for navigating the museum. Although needs vary among different audience sub-groups, providing adequate aids or guides would likely be appreciated. For instance, portable media devices might be useful as an alternative to human-led tours.
- Apparently, personal touch has an impact on the visitor's experience. The results show that there is some room for personnel improvement and that interaction with museum personnel has connections to overall satisfaction. Even though more visit aids might enhance visitors' experiences, information desks will continue to play an important role in distributing information about the museum offerings including such aids.

# Appendix A Frequency Distributions

#### Notes:

2009-10 questionnaires were unnumbered, question numbers assigned for ease of reference to report. Items marked with an asterisk (\*) indicate data recorded by interviewer, from observation, for refusals. For selected items, averages are shown.

						2009-10					2004	199	4-95
	Domographics	S	ummer 0	9	1	Winter 10			All		Summer	Summer	Winter
	Demographics	All	Ent	Exit	All	Ent	Exit	All	Ent	Exit	Exit	Exit	Exit
1a	*With whom are you visiting this museum too With whom are you visiting? [2004], Who are												
1b	*If with others, how many people other than How many OTHER people are here with you in				NUMBER o	of people]	[2009-10]						
	I am alone	6%	6%	6%	20%	20%	21%	12%	11%	12%	13%	11%	249
	I am with others	94%	94%	94%	80%	80%	79%	88%	89%	88%		89%	76%
	Group Size												
	Alone	6%	6%	6%	20%	20%	21%	12%	11%	12%		11%	249
	Two	18%	18%	19%	32%	28%	37%	24%	22%	26%		28%	329
	Three to five	52%	52%	52%	35%	39%	31%	45%	47%	44%		43%	329
	Six or more	24%	25%	23%	13%	14%	11%	19%	20%	18%		18%	129
	Group Composition												
	Adult alone	6%	6%	6%	20%	20%	20%	11%	11%	12%	13%	11%	249
	Adult-only group	28%	26%	29%	43%	43%	43%	34%	33%	34%	33%	34%	429
	Youth/child(ren)-only group	1%	1%	1%	2%	2%	2%	1%	1%	1%	n/a	5%	59
	Adult(s) & youth/child(ren) group	64%	65%	62%	32%	33%	31%	51%	52%	50%	45%	43%	26%
	Unknown/Other	2%	3%	1%	3%	2%	4%	3%	3%	3%	9%	6%	49
2	*Where do you live?												
	United States	87%	86%	88%	85%	84%	87%	86%	85%	87%	91%	89%	92%
	Other country	13%	14%	13%	15%	16%	14%	14%	15%	13%	7%	12%	89
	(Washington DC Metropolian Area)	8%	8%	8%	22%	19%	25%	13%	12%	15%	11%	16%	33%

						2009-10					2004	4-95	
	Dama ayan bira	Sı	ummer 0	9	V	Vinter 10			All		Summer	Summer	Winter
	Demographics	All	Ent	Exit	All	Ent	Exit	All	Ent	Exit	Exit	Exit	Exit
3	*What is your age?												T
	Mean	36.4	36.5	36.4	38.4	38.6	38.1	37.2	37.3	37.1	34.9		
	Median	37.0	37.0	38.0	36.1	37.0	36.0	37.0	37.0	37.0			
<u> </u>	121.20	260/			220/			250/					
<u> </u>	12 to 29	36%			33%			35%					
<u> </u>	30 to 44	32%			33%			32%					
l-	45 or older	32%			33%			33%					
	12 to 19	20%	20%	20%	9%	10%	9%	16%	16%	16%		15%	10%
	20 to 29	16%	17%	16%	24%	25%	23%	19%	20%	19%			
	30 to 39	20%	21%	19%	23%	21%	25%	21%	21%	22%			
	40 to 49	22%	22%	23%	18%	17%	19%	21%	20%	21%			
	50 to 64	16%	16%	17%	20%	21%	19%	18%	18%	18%			
	65 or older	5%	6%	4%	6%	7%	5%	5%	6%	5%		5%	5%
	12 to 19	20%	20%	20%	9%	10%	9%	16%	16%	16%		15%	
	20 to 24	9%	10%	8%	12%	13%	10%	10%	11%	9%		9%	8%
	25 to 34	15%	14%	16%	15%	22%	28%	19%	17%	21%		17%	28%
	35 to 44	24%	25%	23%	21%	21%	21%	23%	24%	22%		29%	23%
	45 to 54	19%	18%	20%	15%	15%	15%	18%	17%	18%		18%	18%
	55 to 64	8%	7%	9%	12%	13%	12%	10%	9%	10%		7%	9%
	65 or older	5%	6%	4%	6%	7%	5%	5%	6%	5%		5%	5%
_													
	*What is your sex? [2009-2010]												
4	What is your gender [2004]												
	Data recorded by interviewer from observation												
_	Female	52%	55%	48%	50%	53%	46%	51%	54%	48%		50%	
<u> </u>	Male	48%	45%	52%	50%	47%	54%	49%	46%	52%	50%	50%	59%
<u> </u>													
5	Are you of Hispanic descent?	П		П	Т		II II		1			T 1	Т
<u> </u>	(US residents only)												
<u> </u>	Yes	9%	10%	7%		11%		10%	11%		10%		
<u> </u>	No	91%	90%	93%		89%		91%	89%		90%		

		2009-10									2004	1994	4-95
	Domographics	S	ummer 0	9	'	Winter 10	)		All		Summer	Summer	Winter
	Demographics	All	Ent	Exit	All	Ent	Exit	All	Ent	Exit	Exit	Exit	Exit
6	What race do you consider yourself to be? [M	ark one or	more] [As	ked Form	A in Sum	mer, only	on Entran	ice in Wint	er][2009-	10 and 20	004]		
6	What is your cultural/racial/ethnic identity? [1	.994-95]											
	(US residents only)												
	African American/Black	9%	9%	8%		8%		8%	8%		8%		
	American Indian/Native American	2%	2%	2%		2%		2%	2%		2%		
	Asian (Chinese, Indian, Japanese, etc.)	7%	9%	6%		5%		7%	7%		8%		
	Native Hawaiian/Pacific Islander	1%	1%	1%		1%		1%	1%		0%		
	White	80%	78%	82%		79%		80%	79%		83%	82%	84%
7	What is the highest degree or level of school y	ou have co	ompleted?	Mark or	nly ONE][A	Asked Forn	n B in Sun	nmer, rem	oved in W	inter][200	09-10 and 2	.004]	
Ľ	What is the highest level of education you have	e complet	ed? [1994	-95]									
	(Age over 25)											(Age25 o	or older)
	High school graduate or less	9%	8%	10%							6%	18%	12%
	One or more years of college, no degree	12%	14%	10%							16%	21%	19%
	Associate degree	6%	11%	3%							6%	21/0	15/6
	Bachelor's degree	38%	37%	39%							32%	31%	34%
	Graduate or professional degree	35%	31%	38%							39%	31%	35%

						2009-10					2004   1994		4-95
	e	Sı	ummer 0	9	\	Winter 10	)		All		Summer	Summer	Winter
	Expectations and Experiences	All	Ent	Exit	All	Ent	Exit	All	Ent	Exit	Exit	Exit	Exit
8	Is this your first visit to this museum, the Natio	nal Muse	um of Nat	ural Histoı	y? [2009-	10]							
_	Is today your first visit to the Smithsonian? & N						- 1				II	1	ı
	Yes	58%	60%	57%	45%	46%	43%	53%	55%	51%			
	No	42%	40%	44%	56%	54%	57%	47%	45%	49%	48%	50.2%	65.1
	First Visit	F00/	C00/	F 70/	450/	4.00/	420/	F20/	FF0/	F10/			
	First Visit	$\vdash$	60%	57%	45%	46%	43%	53%	55% 30%	51% 28%			
	One to three times in the past Four or more before	13%	28% 12%	28% 15%	30% 25%	33% 21%	28% 29%	29% 18%	15%	28% 21%			
_	Four or more before	15%	1270	15%	25%	2170	29%	1070	15%	2170			
_	How do you think you will rate your overall ex	orionco a	t this mus	oum who	2 1/21/ 1/22/	o2 [Entrar	scal Bacad	l on vour v	vicit today	nloaco ra	ato vour ov	rall ovnori	onco at
9	this museum: [Exit][2009-10] Wording unknow		t tills illus	eum whei	i you leav	er (Entrar	icej baseu	on your v	isit today	, piease ra	ate your ove	eran experi	ence at
	Poor	/11 [2004]	0%	0%		0%	0%		0%	0%	0%		
	Fair		0%	3%		1%	2%		1%	2%			
	Good		20%	20%		17%	18%		19%	19%	27%		
	Excellent		58%	54%		61%	52%		59%	53%			
	Superior		21%	23%		21%	29%		21%	26%	21%		
	Superior		21/0	2370		21/0	2570		2170	2070	2170		
	Poor + Fair + Good		20%	23%		18%	19%		19%	22%	29%		
	Excellent		58%	54%		61%	52%		59%	53%	51%		
	Superior		21%	23%		21%	29%		21%	26%	21%		
10	Which of these experiences are you especially	looking fo	rward to i	n the Nati	onal Muse	eum of Na	tural Histo	ory today?	Mark or	e or more	e] [Entrance	e]	
10	Which of these experiences were especially sa	tisfying to	you in the	National	Museum	of Natura	History to	oday? [Ma	rk one or	more] [Ex	kit]		
	Seeing rare, valuable, or uncommon things		51%	53%		55%	53%		53%	53%			
	Gaining information		52%	48%		52%	49%		52%	49%			
	Appreciating the natural world and our place		45%	50%		46%	50%		46%	50%			
	in it Enriching my understanding		35%	35%		43%	40%		39%	38%			
	Feeling awe and wonder		29%	37%		30%	35%		29%	36%			
_	Discussing what I see with people I'm with		26%	28%		29%	23%		27%	25%			
_	Imagining other times or places		26%	29%		27%	29%		27%	29%			
	Being moved by beauty		18%	28%		19%	32%		18%	30%			<u> </u>
R	eflecting on the meaning of what I will see/saw	$\vdash$	18%	12%		18%	18%		18%	15%			
- ' '	Talking about exhibits with museum staff		8%	7%		6%	9%		7%	8%			<u> </u>
	g about children with madeum stan		370	, , ,		370	370		, , , 0	370			
	Mean number of experiences			3.3	-								

						2009-10					2004	1994	4-95
		Sı	ımmer 0	9	,	Winter 10			All		Summer	Summer	Winter
	Expectations and Experiences	All	Ent	Exit	All	Ent	Exit	All	Ent	Exit	Exit	Exit	Exit
11	Which of these information aids do you expect	to be avai	ilable in t	his museu	m today?	[Mark one	e or more]	 Entranc	e]				
11	Which of these information aids did you expect	t, but were	e not avai	lable in th	is museui	m today? [	Mark one	or more]	[Exit]				
	Audio/video stations at relevant locations		51%	15%									
	Downloads to portable media devices (MP3, iPhone, etc.)		12%	6%									
	Tours and/or object information using cell phones		26%	6%									
	Other		2%	4%									
	None		27%	75%									
12	How much time do you plan to spend in this m				v much ti	me did yοι	ı spend in	this muse	eum todayî	? [Exit][20	009-10]		
	What time did you enter this museum? & the t	ime of inte	erview [1										
	Less than one hour		11%	9%		10%	13%		10%	11%		32%	33%
	1 – 2 hours		51%	45%		49%	42%		50%	43%		45%	479
	2 – 4 hours		31%	38%		35%	42%		34%	40%		21%	19%
	More than 4 hours		7%	9%		6%	3%		7%	5%		3%	29
16	Which of these aids would you find helpful in v [Entrance Form B in Summer, answer options a Which of these aids would you have found help [Exit, asked only in Winter]	idded in W	/inter]	, -		_	re]						
	Maps of this museum		67%			71%	n/a		70%				
	Printed guides for children of different ages		26%			19%	21%		22%				
	Printed guides for visitors with limited time		26%			25%	34%		25%				
	In-depth brochures about exhibits		20%			21%	24%		20%				
	An orientation video		16%			11%	17%		13%				
	Guided tours of specific exhibits		14%			14%	20%		14%				
	Guided tour of the whole museum		11%			11%	10%		11%				
	Audio/video stations at relevant locations		n/a			16%	n/a						
	Downloads to portable media devices (MP3, iPhone, etc.)		n/a			13%	22%						
	Tours and/or object information using cell phones		n/a			6%	8%						

		2009-10										
	Franciscus and Franciscus	S	Summer 0	9	1	Winter 10	)		All			
	Expectations and Experiences	All	Ent	Exit	All	Ent	Exit	All	Ent	Exit		
13	Which ONE of these comes closest to describing	ng your pr	imary mot	ivation fo	or visiting t	his museu	m today?	[Mark on	ly ONE]			
13	[Form A in Summer, removed in Winter]]											
	Museums are exciting		16%			n/a						
	The museum's reputation		16%			n/a						
	My companion(s)		14%			n/a						
	Personal fulfillment		12%			n/a						
	A break from my daily routine		10%			n/a						
	The subject matter		9%			n/a						
	Visiting museums is valuable		7%			n/a						
	I can't select just one of these choices		17%			n/a						
	None of the above		2%			n/a						
14	Which of these were important reasons for to	day's visit	1	e or mor	e] [Form B	in Summe	r]					
	See exhibitions about nature and animals		75%			72%			73%			
	See exhibitions about science		42%			38%			39%			
	See exhibitions about the art and culture of		36%			31%			33%			
	various peoples											
	See exhibitions about global issues		25%			21%			23%			
_	See an IMAX Film		14%			15%			15%			
_	Do hands-on activities		12%			8%			9%			
	Take a tour		10%			9%			9%			
	See a live program		5%			7%			6%			
	Other		9%			8%			8%			
_	Mean number of reasons		2.3		-	2.1			2.1			
	Weath Humber of reasons		2.3		1	2.1			2.1			
15	In which ONE of these topics are you MOST in	terested?	[Mark only	ONE] [F	orm B in Su	ımmer, re	moved in	Winter]				
	Extinction		28%			n/a						
	Global climate change		17%			n/a						
	History and culture of the Americas before		200/			n /a						
	Christopher Columbus		26%			n/a						
	Invasive species		12%			n/a						
	Research done by Smithsonian scientists		17%			n/a						

						2009-10				
	Functions and Functions	9	Summer 0	9	'	Winter 1	0		All	
	Expectations and Experiences	All	Ent	Exit	All	Ent	Exit	All	Ent	Exit
17	On your visit today, which of these exhibitions	did you v	isit? [Marl	cone or m	ore] [Fori	m A in Sur	nmer]			
	Ocean Hall			72%			71%			71%
	Dinosaur Hall			68%			66%			67%
	Mammal Hall			60%			64%			62%
	Geology, Gems and Minerals			58%			60%			59%
	Written in Bone: Forensic Files of the 17th			29%			30%			30%
Щ	Century Chesapeake			23/0			30%			30%
Ш	African Voices			21%			24%			23%
	Live Butterfly Pavilion			20%			19%			19%
	Dig It! The Secrets of Soils			20%			n/a			
	Mean number of exhibitions			3.5			3.3			n/a
Ш										
18	On your visit today, did you? [Mark one or me	ore] [For	m A in Sun		oved in V	/inter]				
	Buy something to eat or drink			59%			n/a			
	Enter a shop, but did not make a purchase			40%			n/a			
Ш	Make a purchase in a shop			34%			n/a			
Ш	Watch a film in the IMAX Theater			19%			n/a			
Ш										
19	On your visit today, did you? [Mark one or me	ore] [For	m B in Sun	nmer]						
	Watch a short, free film in a theater or			49%			45%			46%
Ш	exhibition									
Ш	Use materials from the Information Desk			47%			34%			39%
	Do something hands-on, like manipulate an			,						
	object or a label in an exhibit[Summer]			45%			31%			36%
<u> </u>	Do hands-on activities [Winter]			2.524			100/			
Ш	Stop at the Information Desk			36%			43%			40%
Ш	Go to the Discovery Room			24%			13%			17%
$\vdash \vdash$	Go to the Forensic Anthropology Lab			23%			15%			18%
oxdot	Use a computer in an exhibit			19%			14%			16%
Ta	alk to an expert or a volunteer in an exhibition			12%			21%			18%
	Take a guided tour			1%			n/a			
$\vdash$				3.0			2.4			
	Mean number of activities			2.6			2.1			n/a
$\vdash \vdash$				out of 9			out of 8			

		2009-10										
	Francistations and Franciscos	S	ummer 0	)9	,	Winter 10	0		All			
	Expectations and Experiences	All	Ent	Exit	All	Ent	Exit	All	Ent	Exit		
20	When you needed to find out how to get some	where in	this muse	um, which	of these	did you de	o? [Mark o	ne or mo	re] [Form	B in		
20	Summer]											
	Used a map in the Go Smithsonian brochure			49%			n/a					
	Used a map on a wall			43%			30%			35%		
	Read the printed signs			37%			37%			37%		
	Asked museum staff			25%			30%			28%		
	I/we had no problems finding places			21%			25%			23%		
	Read the electronic signs			18%			11%			13%		
	Used a printed map			n/a			35%					
22	Which of these aids did you use in your visit to	day? [Ma	rk one or i	more][Add	ded in Wir	nter]						
	Maps of this museum			n/a			80%					
	Guided tour of the whole museum			n/a			6%					
	Audio/video stations at relevant locations			n/a			19%					

	Expectations and Experiences			2009	9-10		
	Expectations and Experiences			Ex	it		
21	Please rate the following in this museum today	/: [Form B Not	in Summe	r]			
		Applic-					
		able	Poor	Fair	Good	Excellent	Superior
	Summer 09	ubic	1 001	T UIII	Good	Execution	Superior
	Information desks	35%	0%	4%	18%	30%	12%
	Security officers	31%	0%	6%	25%		15%
	Non-security staff in exhibits	37%	0%	4%	22%		12%
	, ton occurry claim in crimicio	3770	0,0	.,,		2070	
	(excluding Not Applicable)						
	Information desks		0%	6%	28%	47%	19%
	Security officers		1%	8%	36%	35%	21%
	Non-security staff in exhibits		0%	7%	35%	40%	19%
	Winter 10						
	Information desks	34%	0%	2%	21%	32%	12%
	Security officers	27%	1%	4%	24%	32%	12%
	Non-security staff in exhibits	28%	0%	4%	18%	35%	16%
	(excluding Not Applicable)						
	Information desks		0%	3%	31%	48%	18%
	Security officers		1%	6%	33%	44%	17%
	Non-security staff in exhibits		0	5%	25%	48%	22%
	All						
	Information desks	34%	0%	3%	20%	31%	12%
	Security officers	28%	1%	5%	24%	29%	13%
	Non-security staff in exhibits	32%	0	4%	20%	31%	14%
	(excluding Not Applicable)						
	Information desks		0%	4%	30%	47%	18%
	Security officers		1%	7%	34%		18%
	Non-security staff in exhibits		0%	6%	29%	45%	21%

### 2009-10 National Museum of Natural History Visitor Survey

# Appendix B Questionnaires Administered Summer 2009

	tural History Summer 2009 Visitor Survey intrance Version A
Is this your first visit to this museum, t National Museum of Natural Histor	
How do you think you will rate your <u>over</u> experience at this museum when you leav	
Which of these experiences are y especially looking forward to in the Nation Museum of Natural History toda [Mark one or more	al ☐ Being moved by beauty ?? ☐ Discussing what I see with people I'm with
Which ONE of these comes closest describing your primary motivation to visiting this museum toda [Mark only ON	or
Which of these information aids do yo expect to be available in this museu today? [Mark one or mor	m ☐ Downloads to portable media devices
*With whom are you visiting this mused today? [Mark only ON	
*If with others, how many people other the yourself are with yo [Write NUMBER of peop	1? (18 and over) # of Children 2 to 11
*Where do you liv	United States. ZIP Code:  Other country. Please specify:
*What is your ag	9?
*What is your se	C? ☐ Female ☐ Male
Are you of Hispanic descer	t?
What race do you consider yourself to b [Mark one or mor	
Thank You for y	our time and assistance!
Int Ses Seg O	3 C R L I

•	al History Summer 2009 Visitor Survey rance Version B
Is this your first visit to this museum, the National Museum of Natural History?	□ Yes □ No, I have visited □ times before today
How do you think you will rate your <u>overall</u> experience at this museum when you leave?	□Poor □Fair □Good □Excellent □Superior
Which of these were important reasons for today's visit? [Mark one or more]	□ See exhibitions about nature and animals □ See exhibitions about global issues (e.g. climate change, extinction, etc.) □ See exhibitions about science □ See exhibitions about the art and culture of various peoples □ See a live program □ See an IMAX Film □ Take a tour □ Do hands-on activities □ Other. Please specify:
In which ONE of these topics are you MOST interested? [Mark only ONE]	□ Extinction □ Global climate change □ History and culture of the Americas before Christopher Columbus □ Invasive species □ Research done by Smithsonian scientists
Which of these aids would you find helpful in visiting this museum today? [Mark one or more]	□ An orientation video □ Maps of this museum □ Printed guides for children of different ages □ Printed guides for visitors with limited time □ In-depth brochures about exhibits □ Guided tours of specific exhibits □ Guided tour of the whole museum
*With whom are you visiting this museum today? [Mark only ONE]	□ I am with a school group/organized group □ I am alone □ I am with others
*If with others, how many people other than yourself are with you? [Write NUMBER of people]	# of Adults # of Children 2 to 11  # of Youth 12 to 17 # of Children Under 2
*Where do you live?	□ United States. ZIP Code: □ □ □ Other country. Please specify:
What is the highest degree or level of school you have completed? [Mark only ONE]	☐ High school graduate or less ☐ One or more years of college, no degree ☐ Associate degree ☐ Bachelor's degree ☐ Graduate or professional degree
*What is your age?	
*What is your sex?	□ Female □ Male
How much time do you plan to spend in this museum today?	□ Less than one hour □ 1 - 2 hours □ 2 - 4 hours □ More than 4 hours
Thank You for you	r time and assistance!
Int Ses Seg 1 2	O O O O O ID

6252275886 National Museum of Natural History Summer 2009 Visitor Survey Exit Version A							
Is this your first visit to this museum, the National Museum of Natural History?	☐ Yes ☐ No, I have visited times before today						
Based on your visit today, please rate your overall experience at this museum:	□Poor □Fair □Good □Excellent □Superior						
Which of these experiences were <u>especially</u> satisfying to you in the National Museum of Natural History today?  [Mark one or more]	□ Appreciating the natural world and our place in it □ Being moved by beauty □ Discussing what I saw with people I'm with □ Enriching my understanding □ Feeling awe and wonder □ Gaining information □ Imagining other times or places □ Reflecting on the meaning of what I saw □ Seeing rare, valuable, or uncommon things □ Talking about exhibits with museum staff						
On your visit today, which of these exhibitions did you visit? [Mark one or more]	□ African Voices □ Dig It! The Secrets of Soils □ Dinosaur Hall □ Geology, Gems and Minerals □ Live Butterfly Pavilion □ Mammal Hall □ Ocean Hall □ Written in Bone: Forensic Files of the 17th Century Chesapeake						
On your visit today, did you? [Mark one or more]	□ Buy something to eat or drink □ Enter a shop, but did not make a purchase □ Make a purchase in a shop □ Watch a film in the IMAX Theater						
Which of these information aids did you expect, but were not available in this museum today? [Mark one or more]	□ Audio/video stations at relevant locations □ Downloads to portable media devices (MP3, iPhone, etc.) □ Tours and/or object information using cell phones □ Other: □ None						
*With whom are you visiting this museum today? [Mark only ONE]	□ I am with a school group/organized group □ I am alone □ I am with others						
*If with others, how many people other than yourself are with you? [Write NUMBER of people]	# of Adults (18 and over) # of Children 2 to 11 # of Youth 12 to 17 # of Children Under 2						
*Where do you live?	□ United States. ZIP Code: □ □ Other country. Please specify:						
*What is your age?							
*What is your sex?	I Female □ Male						
What race do you consider yourself to be?  [Mark one or more]  Asian (Chinese, Indian, Japanese, etc.)  Native Hawaiian/Pacific Islander							
Thank You for your time and assistance!							
Int   Ses   Seg   O   O   1   2	3 C R L I						

7141209825 National Museum of Natural History Summer 2009 Visitor Survey Exit Version B								
Is this your first visit to this museum, the National Museum of Natural History?	□ Yes □ No, I have visited times before today							
Based on your visit today, please rate your overall experience at this museum:	□Poor □Fair □Good □Excellent □Superior							
On your visit today, did you? [Mark one or more]	□ Stop at the Information Desk □ Use materials from the Information Desk □ Take a guided tour □ Use a computer in an exhibit □ Do something hands-on, like manipulate an object or a label in an exhibit □ Go to the Discovery Room □ Go to the Forensic Anthropology Lab □ Talk to an expert or a volunteer in an exhibition □ Watch a short, free film in a theater or exhibition							
When you needed to find out how to get somewhere in this museum, which of these did you do? [Mark one or more]	□ Asked museum staff □ Used a map in the Go Smithsonian brochure □ Used a map on a wall □ Read the electronic signs □ Read the printed signs □ I/we had no problems finding places							
Please rate the following in this museum today:	Not Applicable Poor Fair Good Excellent Superior							
Information desks Security officers								
Non-security staff in exhibits								
*With whom are you visiting this museum today? [Mark only ONE]	0.17							
*If with others, how many people other than yourself are with you? [Write NUMBER of people]	(18 and over) # or Children 2 to 11							
*Where do you live?	United States. ZIP Code:							
What is the highest degree or level of school you have completed? [Mark only ONE]	One or more years of college, no degree							
*What is your age?								
*What is your sex?	□ Female □ Male							
How much time did you spend in this museum today?								
Thank You for your time and assistance!								
	ur time and assistance:							

### **Questionnaires Administered Winter 2010**

5210280716 National Museum of Nati	ural History Winter 2010 Visitor Survey - Entrance						
Is this your first visit to this museum, the National Museum of Natural History?							
How do you think you will rate your overall experience at this museum when you leave?	□Poor □Fair □Good □Excellent □Superior						
Which of these experiences are you especially looking forward to in the National Museum of Natural History today? [Mark one or more]	☐ Discussing what I see with people I'm with						
Which of these were important reasons for today's visit? [Mark one or more]							
Which of these aids would you find helpful in visiting this museum today? [Mark one or more]	Maps of this museum						
*With whom are you visiting this museum today? [Mark only ONE]	□ I am with a school group/organized group □ I am alone □ I am with others						
*If with others, how many people other than yourself are with you? [Write NUMBER of people]	# of Adults (18 and over) # of Children 2 to 11 # of Youth 12 to 17 # of Children Under 2						
*Where do you live?	☐ United States. ZIP Code: ☐ Other country. Please specify:						
*What is your age?							
*What is your sex?	Female Male						
How much time do you plan to spend in this museum today?	□ Less than one hour □ 2 - 4 hours □ 1 - 2 hours □ More than 4 hours						
Are you of Hispanic descent?	□Yes □No						
What race do you consider yourself to be? [Mark one or more]	□ African American/Black □ American Indian/Native American □ Asian (Chinese, Indian, Japanese, etc.) □ Native Hawaiian/Pacific Islander □ White						
	your time and assistance!						
Int Ses Seg O	0 0 0 0 0 0 m						

National Museum of Natural History Winter 2010 Visitor Survey - Exit							
Is this your first visit to this museum, the National Museum of Natural History?	☐ Yes ☐ No, I have visited ☐ times before today						
Based on your visit today, please rate your overall experience at this museum:	□Poor □Fair □Good □Excellent □Superior						
Which of these experiences were especially satisfying to you in the National Museum of Natural History today? [Mark one or more]	□ Appreciating the natural world and our place in it □ Being moved by beauty □ Discussing what I saw with people I'm with □ Enriching my understanding □ Feeling awe and wonder □ Gaining information □ Imagining other times or places □ Reflecting on the meaning of what I saw □ Seeing rare, valuable, or uncommon things □ Talking about exhibits with museum staff						
On your visit today, which of these exhibitions did you visit? [Mark one or more]	Coolegy Come and Minerals El Written in Bener Forencia Files						
On your visit today, did you? [Mark one or more]	□ Stop at the Information Desk □ Use materials from the Information Desk □ Use a computer in an exhibit □ Do hands-on activities □ Go to the Discovery Room □ Go to the Forensic Anthropology Lab □ Talk to an expert or a volunteer in an exhibition □ Watch a short, free film in a theater or exhibition						
When you needed to find out how to get somewhere in this museum, which of these did you do? [Mark one or more]	☐ Used a printed map ☐ Read the printed signs						
Which of these aids did you use in your visit today? [Mark one or more]	□ Maps of this museum □ Guided tour of the whole museum □ Audio/video stations at relevant locations						
Which of these aids would you have found helpful if they had been available? [Mark one or more]	□ An orientation video □ Printed guides for children of different ages □ Printed guides for visitors with limited time □ In-depth brochures about exhibits □ Guided tours of specific exhibits □ Guided tour of the whole museum □ Downloads to portable media devices (MP3, iPhone, etc.) □ Tours and/or object information using cell phones						
Please rate the following in this							
museum today: Information desks Security officers Non-security staff in exhibits	Applicable Poor Fair Good Excellent Superior						
How much time did you spend in this museum today?  Less than one hour 2 - 4 hours 1 - 2 hours More than 4 hours  *Where do you live? United States. ZIP Code: Other country. Specify:  *What is your age?  *What is your sex? Female Male	*With whom are you visiting this museum today? [Mark only ONE]    I am with a school group/organized group   I am alone   I am with others  *If with others, how many people other than yourself are with you? [Write NUMBER of people]						
Int Ses Seg O	, , , , , , , , , , , , , , , , , , ,						

## 2009-10 National Museum of Natural History Visitor Survey Results of Data collection

### Appendix C

						Total	Total	Response
			Complete	Refusal	Ineligible	intercepts	eligible	rate
SUMMER	ENTRANCE	Version A	429	237	103	769	666	64.4%
		Version B	240	116	79	435	356	67.4%
		Total	669	353	182	1204	1022	65.5%
	EXIT	Version A	397	350	190	937	747	53.1%
		Version B	244	190	215	649	434	56.2%
		Total	641	540	405	1586	1181	54.3%
	SUMMER Total		1310	893	587	2790	2203	59.5%
ENTRANCE			425	186	37	648	611	69.6%
WINTER	EXIT		414	355	171	940	769	53.8%
	WINTER Total		839	541	208	1588	1380	60.8%
ENTRANCE Total		1094	539	219	1852	1633	67.0%	
EXIT Total		1055	895	576	2526	1950	54.1%	
GRAND TOTAL		2149	1434	795	4378	3583	60.0%	