



Smithsonian
National Museum of Natural History



Visitor Experience Summary Report

Year One

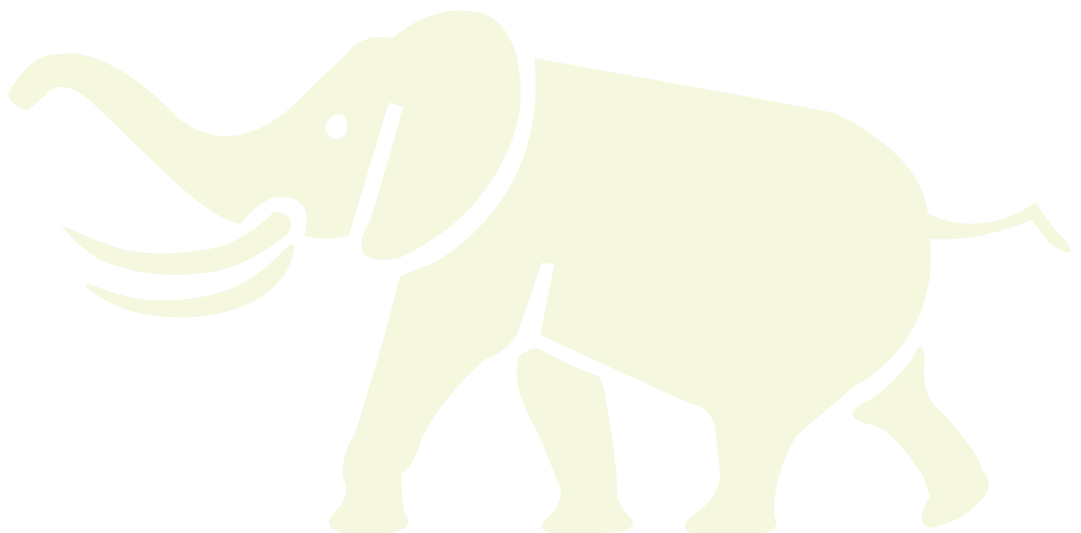
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Visitor Experience Summary Report, Year One 2013

*Smithsonian Institution
National Museum of Natural History*

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*Conducted by: Natural History's Office of Education and Outreach, Office of Policy and
Analysis in Partnership with the Office of Visitor Services*



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OVERVIEW

THE STUDY

The primary source for this report is data gathered over the past year through an entrance-exit survey of National Museum of Natural History (NMNH) visitors. Separate samples of visitors entering and exiting the museum were surveyed in each season: November 2012, January 2013, May 2013, and August 2013. Altogether 2,830 visitors (63%) completed surveys. For a more robust study and holistic understanding of the visitor experience, the results of four other contemporaneous studies were reviewed and relevant findings are included here. Survey respondents who provided emails (500) to the primary entrance-exit study between Fall 2012 and Spring 2013 were sent a follow-up online survey, of which 44 (9%) completed the survey. This information was further supplemented by an online pre-visit survey completed by 6,580 individuals who used the “Plan Your Visit” page on the museum’s website between October 2011 and August 2013. Additional data was provided from two other studies: (1) Fall 2013 South Mall Campus Survey by 343 individuals who reported visiting NMNH, and (2) 2012 NZP Awareness and Use study by 489 local residents who reported that they are familiar with NMNH.

NMNH AUDIENCES

As with previous visitor studies, only voluntary visitors were included in the entrance-exit samples (i.e., the study did not include organized groups). Females slightly outnumbered males (52%-47%). While the average age across the entire dataset is 36.6 years (median=35), there is seasonal variation; visitors are older in the fall (median=38) while visitors are younger in the spring (median=31.7). Most (84%) are US residents, and 16% live in the Washington, DC, Metropolitan Area. One in six visitors (16%) are from other countries.¹

Three out of four of the museum’s voluntary visitors were adults. One in seven visitors (14%) were adults visiting alone; over half (51%) of the visitors were adults visiting with one or more other adults; one in three visitors (34%) came in a group that included both adult(s) and youth(s). One in 100 Museum visitors is a youth visiting the museum alone without an adult chaperone.

¹ 2% of respondents are from an unspecified location within the United States.

FIGURE 1. DISTRIBUTION OF MUSEUM VISITATION

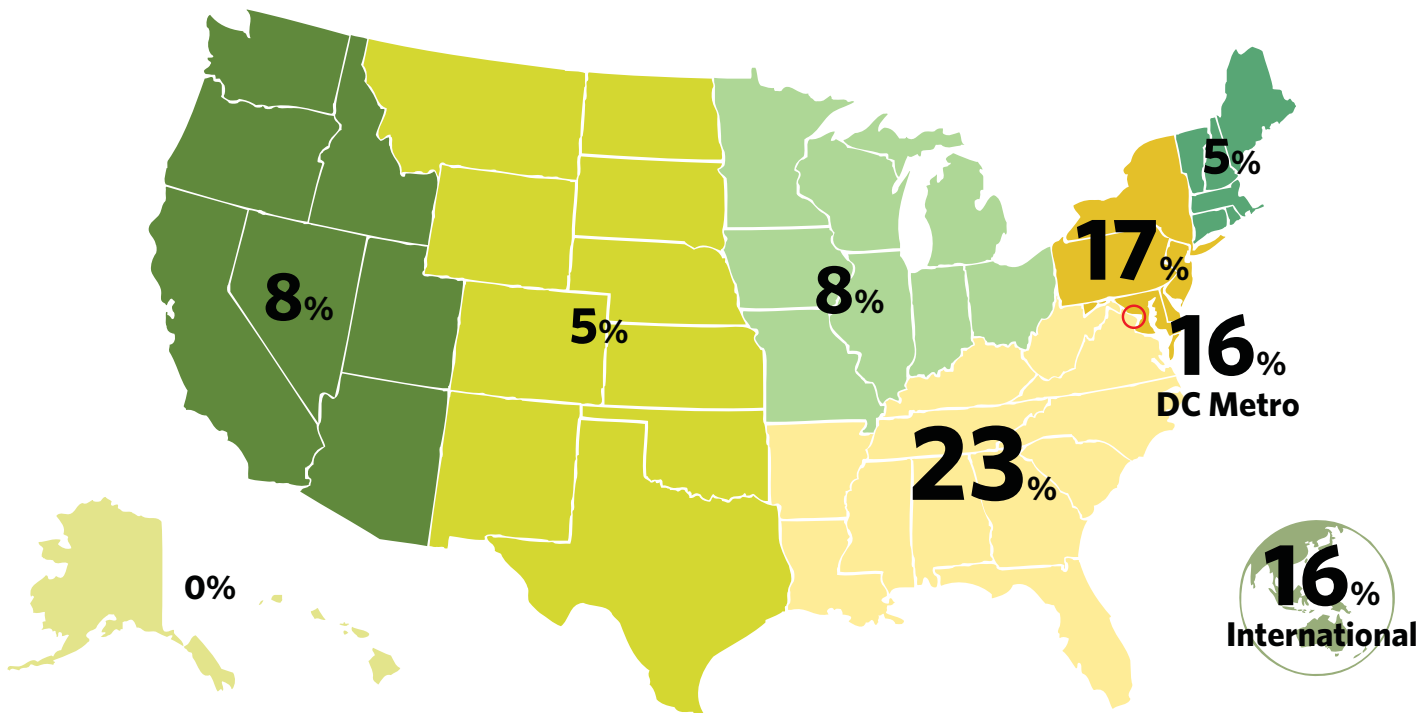


FIGURE 2. AGE DISTRIBUTION OF VISITORS

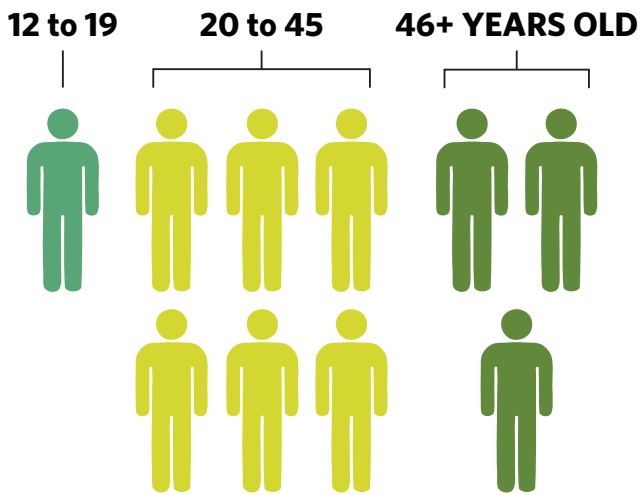


FIGURE 3. AUDIENCES ARE OLDER IN FALL

| | Median | Average |
|--------|--------|---------|
| Fall | 39 | 38 |
| Winter | 36 | 33 |
| Spring | 36 | 32 |
| Summer | 36 | 36 |

EXPECTED TOPICS

Dinosaurs & Early Life was the topic most anticipated by arriving visitors, followed by Plants & Animals, and Earth Sciences. Two out of five expressed an interest in making or seeing art inspired by the natural world.

EXPECTED ACTIVITIES

A substantial percentage of visitors were expecting hands-on experiences. About half of the visitors were interested in touching real plants and animals, and two in five visitors were interested in holding an object from the collections. Two out of five expected to talk to an expert.

TIME AND ACTIVITIES

Half of the visitors spent 1-2 hours in the museum, and one-third spent 2-4 hours. Three out of four visitors saw dinosaurs, two out of three visited Ocean Hall, and two out of three saw the Mammals Hall. Three out of five went to Geology, Gems, and Minerals, and half went to Human Origins. Half took photos; one-third stopped at the information desk; and two out of five did something hands-on, watched a short, free film, or used a touchscreen. While two out of five expected to talk to an expert (as noted above), only 1 out of 7 (15%) were able to.

OUTCOMES IN GENERAL

The overall experience of visitors leaving the museum was better than arriving visitors had expected (Superior ratings jumped by 5% from 21% to 26%). This change was a shift from **expected** Excellent ratings to **actual** Superior ratings.

Overall experience ratings have continued to improve since the last study in 2010. Although 2012-2013 Superior ratings are unchanged from 2010 (21% on entrance and 26% on exit), exit ratings below Excellent have decreased significantly (from 21% on exit 2010 to 17% in 2012-2013). In other words, the museum is still providing visitors with a better experience than they expected, but it has also lowered the levels of **dissatisfaction** over the past three years.



VISITATION REPORT

INTRODUCTION

In 2010 NMNH established its first visitor experience team. Three years on, the museum seeks to measure the work of this branch and its ability to enable meaningful experiences for the more than 7 million people who visit the museum each year. This summary, midway through the two-year entrance-exit study project, uses the framework of the visitor journey, from pre- to post-visit, to elucidate for the reader both the pathway through which visitors engage with the museum and the touch points along this path that should be consistently tracked and measured.²

The goal of the entrance-exit study is to identify strengths and weaknesses in the visit lifecycle (pre-visit, arrival, experience, and post-visit) so that the museum understands how to improve the experience of its visitors.

THE STUDY

VISITOR PERSPECTIVE: WHY GO TO NMNH

Among adults visiting with children (34%), mostly it was the adults who encouraged the visit; two in five (40%) were prompted by the child(ren) to visit to the museum, and once on-site two in five of these adults visiting with youth (44%) allowed the child(ren) to decide what to do/see during their visit.

Among adult visitors we have found that there are four dominant reasons why individuals visit NMNH³:

- **Self-expansion.** Visitors look forward to enlarging their world in some way. The specific possibilities include learning, increased awareness, wider perspective, new emotional connections, sharpened observation, new visual and somatic experiences, etc.

² The data in this year-one summary was collected in November of 2012 and January, February, May, and August of 2013. Altogether 4,500 visitors were intercepted as they entered or left the museum and 2,830 of them completed surveys (63%). It is supplemented with data from 6,580 responses to an online survey offered to those who clicked on the “Plan Your Visit” page of the NMNH website between October 2011 and August 2013, as well as with 44 responses to an online survey sent to the 500 visitors who provided email addresses during the on-site surveys administered between November 2012 and May 2013. Additional data is provided by the 343 visitors in the 2013 South Mall Campus Survey who visited NMNH, and by the 489 local D.C. Metropolitan Area residents in the 2012 NZP Awareness & Use Study who reported that they are familiar with NMNH.

³ Quotations are taken from the “Plan Your Visit” online survey in response to the question of what respondents expect at NMNH.

Visiting in this sense is expected to be a life-enhancing experience.

I am eager to learn more in-depth information about human cultures and plants and animals.

[I expect] great storytelling.

A lot of fun and interesting things!

[I expect] to experience what it's like in the ocean.

- **Children's welfare.** One in three visit groups in the past year was composed of adults visiting with children. Adults bring children to the museum to enlarge the worlds of the children generally and to aid their education more specifically

I just want my child to learn and experience something new.

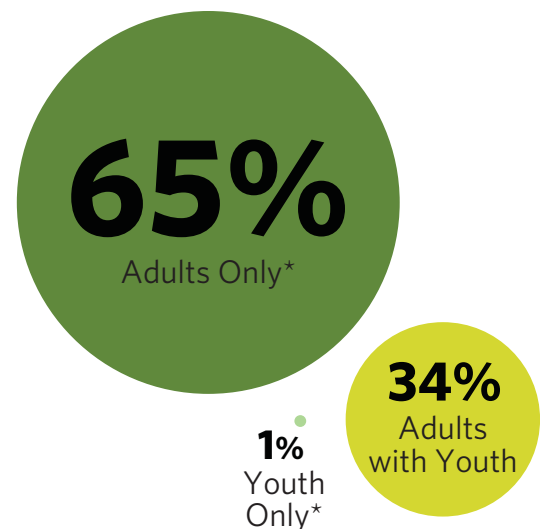
A learning experience like no other for my children, that's so fun they don't know they are learning.

I want my children to be amazed by science history.

Anything that will put a smile on my kid's faces.

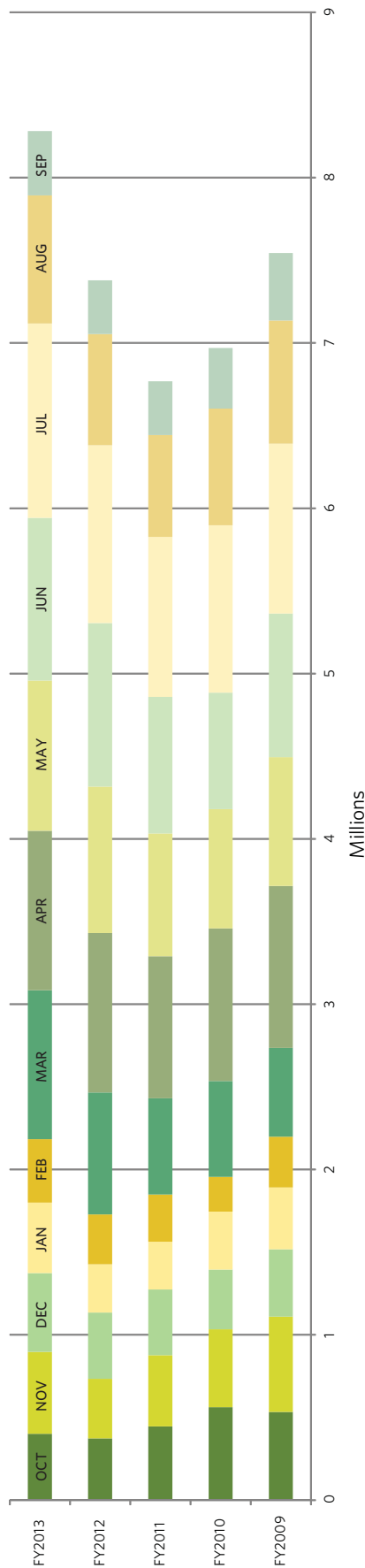
- **Social bonding.** Within families and among friends and acquaintances, a visit to the museum is an opportunity to engage with one another in an enriching way.

FIGURE 4. VISITATION PATTERNS



* Includes groups and visitors visiting alone.

FIGURE 5. ANNUAL VISITATION, 5 YEAR TREND



*A really fun time with my family
 Bringing grandsons for their first visit. Can't wait to see their expressions!
 It will be a fun date with my boyfriend and I hope it is memorable!
 Quality time with my kids exposing them to the wonders of science and the world*

- **Identity confirmation.** The visit is a way to express and emphasize, both to oneself and to others, one's values and interests. Visiting a museum is the activity of a cultured person, who is presumed to be curious and engaged. Visiting a natural history museum, in particular, indicates a concern for nature, life, and science.

*I always come for the Dinosaur and Animal Science Exhibits.
 I have an open mind. We love our museums in Milwaukee and look forward to seeing this one.
 I'm a gem and rock/chemistry person - most of the bio and physical sciences.
 My interest is in Space exploration and Prehistoric Dinosaurs.*

MUSEUM PERSPECTIVE

- what** can visitors expect to find at NMNH
- how** to help visitors plan for their visit
- where** can they learn what's available

There are three principal ways through which the museum can assist prospective visitors:

BRANDING

By establishing a clear brand the museum communicates a general sense of what it provides and how those offerings differ from those of similar museums.

Perceived NMNH brand features are:

- Exhibits of fossils, dinosaurs, the hope diamond, gems, and butterflies⁴
- Variety/scope – “something for everyone”

⁴ This first item is based on the frequencies of words in responses to the question in the pre-visit online survey of what to expect in the museum. The other items on this list are based on an analysis of the follow-up online survey responses to the question “Imagine you were talking to a friend who asked, ‘Why should I go to NMNH?’ What would you say?”



- Objects of all kinds
- Perspective/learning – “to see splendid nature without going around the world”

TOOLS

Four out of five visitors request and use planning tools throughout their journey to the museum. Before arrival the most commonly used planning tool is the website. One in three visitors used a Smithsonian website to help plan their visit. A website was typically used the week of a visit (41%).

After the website’s main page, and the volcano pages, the “plan your visit” pages are the most visited pages on the nmnh website. During the two-year period of the pre-visit survey the NMNH “plan your visit” page was viewed nearly 1.2 Million times.

INFORMATION

Information from friends and family was the second most common source for pre-visit planning (31%). Friends and family, in turn, presumably learned about the museum’s offerings either through their own prior experience as visitors or through available media, such as Smithsonian Magazine, Smithsonian Channel, traditional media, social media, advertisements, and marketing programs.

UPON ARRIVAL

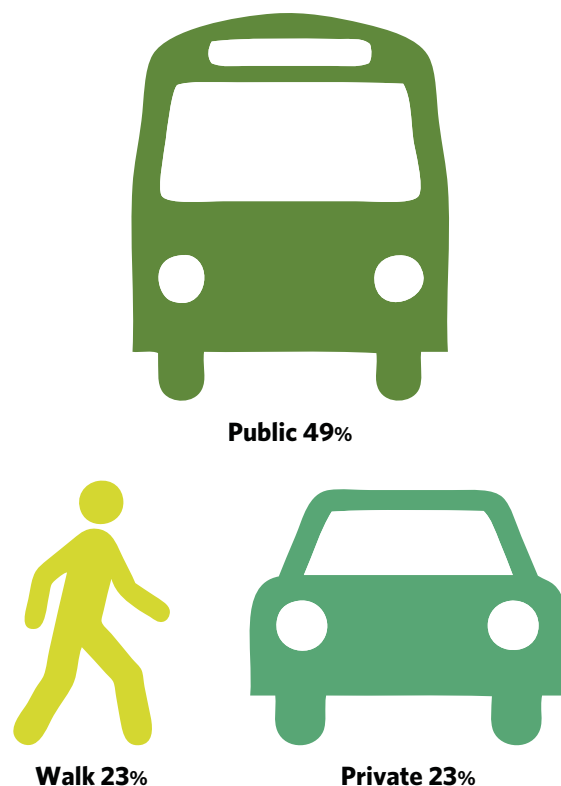
In general, visitors arrive with different experience preferences. Some are more interested in ideas and learning, others more interested in emotional connections, others in seeing and studying objects, and others in somatic experiences.⁵

- These experience preferences influence the decision of which museum to visit and which exhibitions to enter in NMNH.⁶

⁵ This theory of visitor experience preference, known as IPOP (Ideas, People, Objects, Physical), was developed at the Smithsonian and has been shown to predict expectation, behavior, and response. For the first use of this theory see Pekarik, Andrew J., and B. Mogel. 2010. Ideas, Objects, or People? A Smithsonian Exhibition Team views visitors anew. *Curator: The Museum Journal* 53(4): 465-482. For a more recent use outside the Smithsonian, see Leger, Jean-Francois. 2014. Shaping a richer visitors’ experience: The IPO interpretive approach in a Canadian museum. *Curator: The Museum Journal* 57(1). In Press.

⁶ For example, Race drew more visitors with Idea and People preferences compared to Against All Odds (inside Geology Gems and Minerals) which drew more visitors with People and Object preferences. For the specific data and an analysis of IPOP in Against All Odds see Pekarik, Andrew J., J.B. Schreiber, N. Hanemann, K. Richmond, and B. Mogel. 2014. IPOP: A Theory of Experience Preference. *Curator: The Museum Journal* 57(1). In Press. For more on the Race exhibition, see

FIGURE 6. TRANSPORTATION USED TO ARRIVE AT MUSEUM



- In the past year visitors arrived with different opinions regarding the quality of their expected experience.
- **21%** Anticipated a superior overall experience (i.e., better than excellent)
- **62%** Anticipated an excellent overall experience (i.e., no criticism)
- **17%** Anticipated a good overall experience (i.e., less than excellent)

Half of the visitors (49%) arrived at the museum by public transportation. One quarter arrived by private transportation (23%).

Arriving visitors expected the museum to be technologically current.

- Nearly half of entering visitors expected audio/video stations (46%)
- One-third expected smartphone-accessible digital floor maps (34%)

Schreiber, J.B., A. Pekarik, N. Hanemann, Z.D. Doering, and A-J Lee. 2013 Understanding visitor behavior and engagement. *The Journal of Educational Research*. Accessed Oct. 2013 at <http://dx.doi.org/10.1080/00220671.2013.833011>.



- One-quarter expected apps for tours of the museum (23%)
- One-tenth expected QR codes (11%)

Arriving visitors expected customized support for their time at the museum.

- One in four visitors expected a staff person to help them plan their time at the museum (23%).
- One in four visitors expected guide materials written in a language other than English (24%).

EXPERIENCE

The museum continues to exceed visitors' expectations. Overall, exiting visitors had a higher quality experience than was expected on entrance. The shift was from Excellent to Superior.

- 26% Reported a superior overall experience (compared to 21% on entrance)
- 57% Reported an excellent overall experience (compared to 62% on entrance)
- 16% Reported a good overall experience

Since 2009-2010 the museum has improved by lowering its "negative" overall experience ratings. The current dataset does not allow us to conclusively determine the reason. For example, this study does not include evaluations of exhibitions, design, content, etc.

- 16% fair/good in 2012-2013 vs. 22% Fair/good in 2009-2010

But the museum has not yet raised its "most positive," Superior ratings.

- 26% in 2009-2010, and 26% in 2012-2013

FIGURE 7. EXPERIENCE RATINGS HAVE IMPROVED UPON EXIT, OVER NINE YEARS

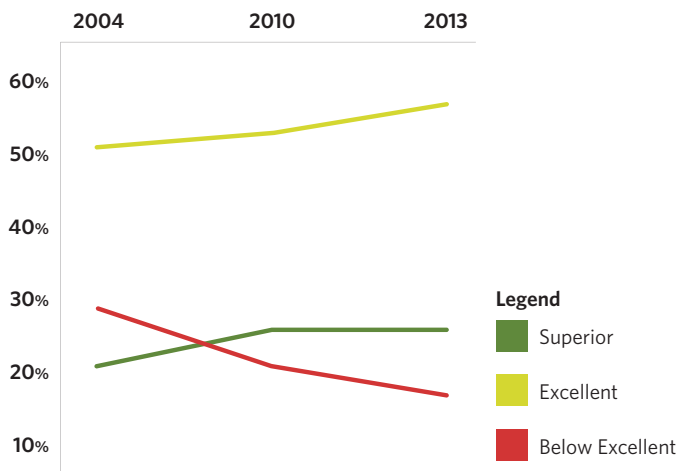


FIGURE 8. ARRIVING VISITORS EXPECTATIONS OF THEIR MUSEUM EXPERIENCE



Some subgroups rated their overall experience more highly than visitors as a whole.

- Those who took photos (29% superior), did something hands on (31% superior),
- Asked a staff person (33% superior), and talked to an expert/volunteer (37% superior)

This suggests that staff interaction has an important impact on the overall quality of the visit, but since only one in seven (15%) actually had an opportunity to talk with a staff person or volunteer, this positive influence was not common enough to change the overall experience rating of the audience as a whole.

What happens at the information desk is particularly important to the quality of overall experience and should be improved.

- Among those who stopped at the information desk, visitors who rated it less than excellent were six times more likely than other visitors to rate their overall experience in the museum as less than excellent.
- Although superior ratings for the information desk matched superior ratings for overall experience (25%), poor/fair/good ratings for the desk were higher than for overall experience in the museum (27% vs. 16%), Suggesting room for improvement.

Visitors were disappointed that there were so few non-English language materials. This is a missed opportunity to engage a large and growing segment of the audience. (International visitors were 16% of all visitors, up from 10% in 1995). Four percent of all intercepted visitors were unable to respond to the survey due to poor English. Among those visitors who could respond:

- 14% Rated the availability of non-english language materials as poor
- 23% Rated it fair
- 22% Rated it good
- Added together this 59% "negative" rating is unusually high.



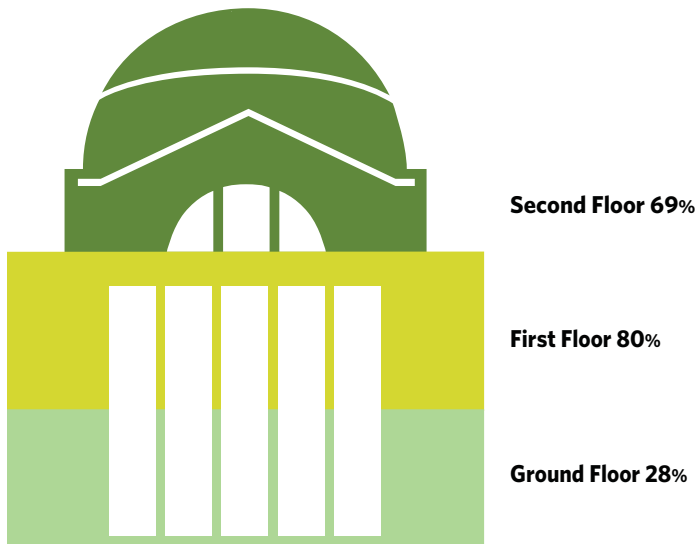


FIGURE 9. PERCENTAGE OF VISITORS WHO VISITED EACH FLOOR

The 2012 NZP Awareness & Use study asked respondents about experiences at NZP and NMNH.

- NMNH was prominently identified with learning experiences (47% NMNH vs. 19% NZP)
- NZP stood out for excellent visitor services (51% NZP vs. 13% NMNH)
- NZP was favored for introducing children to nature (42% NZP vs. 9% NMNH)
- NMNH was less likely to be seen as a fun experience (24% NZP vs. 7% NMNH)
- NMNH was not considered as good for children under 6 (35% NZP vs. 4% NMNH)
- NMNH was not considered as good for children over 6 (26% NZP vs. 9% NMNH)

Most NMNH visitors (77%) believe that science is very or extremely relevant to their daily lives, but the museum visit did not shift the beliefs of visitors ages 12-19 or those 20-45. For those over 45, there was a 15% increase in those who see science as very relevant to their lives.

- On entrance, 39% of those over 45 said that science was very relevant vs. 56% On exit

Not all visitors saw the entire museum during their visit. In fact, only three out of five visitors visited exhibitions on both the first and second floors of the museum.

- 57% Reported visiting both first- and second-floor exhibitions/displays
- 23% Reported visiting only first-floor exhibitions/displays
- 12% Reported visiting only second-floor exhibitions/

displays

- 8% Reported visiting only the café/IMAX

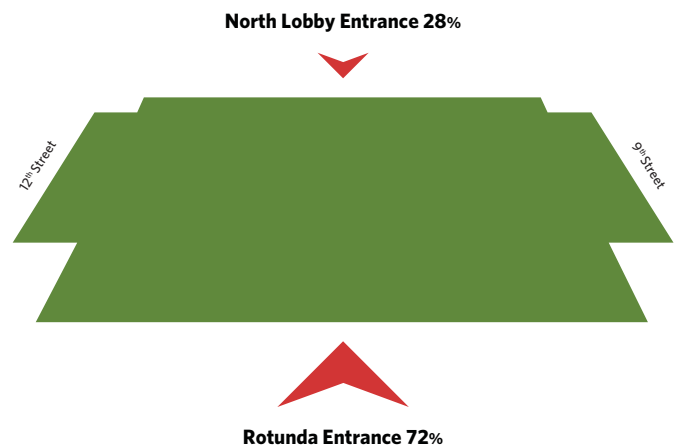
When the museum was crowded, repeat visitors had lower expectations for the quality of their experience, but their actual experience was much better than they anticipated. New visitors were unaffected.

When the museum was crowded:

- 22% Of entering repeat visitors expected their overall experience to be superior
- 32% Of exiting repeat visitors found their overall experience to be superior

For visitors who responded to the “Plan Your Visit” survey, two out of five (44%) were interested or very interested in the museum restricting access to exhibitions during busy periods. Two out of five (40%) were neutral on the question, and one in six (17%) was uninterested or particularly uninterested in such a policy.

FIGURE 10. VISITORS' POINT OF ENTRANCE ⁷



POST-VISIT

At home, months later, a small number of visitors (44 people - 10% of those who gave their emails) responded to the online follow-up survey.⁸ However, we get a better idea of how the visit fares in memory by looking at the recently collected (Fall 2013) data from the South Mall Campus Study. The results are very close to the ratings measured at the museum exit.

⁷ Based on 2012 visitation of 7.6 million visitors.

⁸ The few visitors who answered the survey (2% of surveyed visitors) appear to be a biased sample, since their exit ratings were much higher than those of the visitors as a whole: 57% Superior vs. 33% Superior for all exiting visitors in the same time periods.



FIGURE 11. EXPERIENCE RATINGS HOLD STEADY OR EVEN INCREASE OVER TIME

Visit was three or more years ago



Visit was within the past three years



WHAT SURPRISED VISITORS⁹ ABOUT THEIR VISIT TO NATURAL HISTORY?

Free, no lines, vast, the photography, human origins exhibit does allow for “other explanations,” variety, completeness of exhibits, how crowded, meanderthal, “high scientific level of presentation, yet comprehensible to lay people,” dino skeletons, butterfly pavilion, “not as busy as I remembered,” [various differences of memories from visits as a child], elephant not a replica, dna exhibit, size, so many artifacts on display

WHAT QUESTIONS WOULD THEY ASK THE MUSEUM? EXHIBITIONS

How do you decide which exhibits to show?

Are the native artifacts permanent or rotated?

CHILDREN

What more can I tell my four-year-old about fossils?

How can I get my child more excited about science and nature?

Can you recommend any books to children about science?

SCIENCE

How does a typhoon grow?

In your mind what is the most significant issue of today that future historians will be presenting to the public?

Is there a way to gauge in advance the impact of loss of threatened species?

What are the methods to estimate the age of a fossil, and what is their precision?

What are the effects of climate change on the modern species exhibited in the museum?

OTHER

What journals or magazines would you recommend? What museums?

WHAT CHANGES WOULD THEY LIKE TO SEE?

EXHIBITIONS

I would put forward a clear exhibition on the importance of understanding science as a relevant and reliable source of information, e.g., How evolution affects daily living. Why global warming is not a political event, etc.

More advanced content that appeals to educated adults.

Emphasis on hard science. Exhibits should challenge the mind and the masses.

More interactive exhibits. Let kids actually TOUCH things, feel the ooze, what does a snakeskin feel like, or how heavy is a fossil? Not everything should be look-but-don't-touch.

Add some new discoveries.

OTHER

More seating.

Improve the traffic flow. One person with a stroller stops up the entire walking flow of people.

Allow tripods to be used in the museum.

More docents available for tours. Limit the number of visitors.

Keep the museum open at night (maybe 9 pm) in winter at least one day per week.

9 The 44 visitors who responded to the post-visit online survey



CONCLUSION

OPPORTUNITIES FOR 2ND YEAR STUDY

- Continue to measure outcomes of new VE programs and services
- Identify the impact of further changes at the Information Desk
- Document the effect of Q?rius on the NMNH visit
- Measure the degree to which the NMNH visit may be changing visitors' understanding of what scientists do day-to-day
- Obtain a fuller picture of where visitors go in the museum
- Document possible improvements in meeting experience expectations of visitors
- Revise pre-visit web survey
- Improve follow-up online survey to include social media questions
- Comprehensively investigate user-generated reviews of NMNH on travel websites

AREAS FOR IMPROVEMENT

These studies have identified five areas for potential development.

Three of these might be addressed by Q?rius:

- More volunteer/staff and visitor interaction
- More hands-on experiences
- More fun/ humor, engaging activities for younger visitors

The remaining two would need to be addressed separately:

- Improved information desk services
- Materials in other languages (Spanish, Chinese, Korean, Japanese)

POSSIBILITIES FOR FURTHER RESEARCH

A study of organized groups

- Who are in the organized groups that visit the museum each year?
- What are the visit patterns of these groups?
- Do visitors within a group have better or worse experiences than those visiting on their own ?

A comprehensive review of the museum's current listening posts

- What they are?
- How they are used?

- How they can be improved to glean more timely and actionable insights?

A comparative study of the museum's major exhibitions

- Which exhibitions work best for which visitors?

A longitudinal panel study

- How do NMNH visits enhance the lives of visitors?