

The Lawrence Hall of Science

UNIVERSITY OF CALIFORNIA, BERKELEY



FY24 Evaluation Report June 2024

Outdoor Nature Lab

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Background

The Outdoor Nature Lab (ONL) at the Lawrence Hall of Science aims to foster wonder, awe, and curiosity of the natural world; deepen personal relationships with the outdoors; and promote understanding that there are multiple ways to connect with the outdoors. Since its launch in June 2022, the ONL has engaged thousands of visitors in open exploration of the outdoors, but as of yet there has not been any systematic data collected on its use and impact.

This Evaluation Report provides results from the FY24 ONL evaluation, conducted in Spring 2024. The FY24 evaluation was a process/implementation evaluation to understand who is using the ONL, what they are doing in the space, and their perceptions of the experience. The evaluation was based on a [logic model](#) co-developed by the Lead Evaluator and ONL Program Lead, Chris Ziska.

FY24 Evaluation Questions

- 1) Access and Use: Who is visiting the ONL? Why did they visit? What are they doing while they are there? How long do they stay? Was it easy/hard to find and/or did they know it was there?
- 2) Reactions and Feedback: What do they like most? What could we improve? Would they recommend it? Was there anything they were expecting to find in the ONL that they didn't see? In what ways were their expectations met/not met?

Methods

Data were collected from April – May 2024 through the following data sources.

Data Sources and Sample

Visitor Surveys

The [visitor surveys](#) included a mix of closed and open-ended questions to gather visitors' perceptions and feedback on their experience. We received a total of 36 surveys completed in English and one completed in Spanish.

Surveys were collected the following days.

Date	Day of the week	# of surveys
April 8	Monday	1
April 12	Friday	2
April 16	Tuesday	2
April 17	Wednesday	3
April 21	Sunday (Earth Day event)	15
April 24	Wednesday	1
April 28	Sunday (\$5 Day)	8
May 1	Wednesday	5

Who completed the surveys?

Overall, people who completed the surveys were positively inclined towards the outdoors.

How much do you agree or disagree with the following statements?	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Mean (SD)
Compared with other people, I am more likely to notice plants and animals wherever I am	5%	10%	25%	25%	35%	3.75 (1.21)
Compared with other people, I am more likely to spend time outside for fun.	0%	0%	15%	50%	35%	4.20 (0.69)

- Only 11 of the respondents provided racial/ethnic demographic information. Six of the 11 said members of their group identified as White, four as Asian (two as “Asian,” one as “Southeast Asian,” and one as “Asian American Indian”), two as “mixed,” and one as “Mixed Hispanic Pacific Islander.”
- Twelve of fourteen respondents sharing their home language said they speak English at home, one “English, Dutch, Thai” and one “Bengali English.” [Note: the person completing the Spanish survey did not finish the survey and did not respond to this question.]
- When asked if they or anyone in their group has/had a permanent or temporary disability, 75% said no, 21% said yes, and 4% preferred not to say.
- 68% of survey respondents identified as a woman, 24% as a man, 4% as non-binary, and 4% preferred not to say.

Observations

The [observation protocol](#) consisted of running field notes, followed by a series of reflection questions about what the groups were doing and how engaged they seemed. Observations were conducted the following days:

Date	Day of the week	Weather
April 12	Friday	Cold (57 degrees), cloudy, windy
April 17	Wednesday	Sunny, partly cloudy, light breeze, 67 degrees
April 21	Sunday (Earth Day event)	Sunny (65 degrees)
April 24	Wednesday	Cloudy (60 degrees)
May 1	Wednesday	Sunny, slightly windy, high 60's

Findings

Who accessed the ONL?

In the survey, we asked visitors to describe who was in their group. Most frequently, groups contained children under 5 or children ages 6-12 (each in 64% of groups).

Figure 1. Types of Visitors in Each Survey Respondent's Group

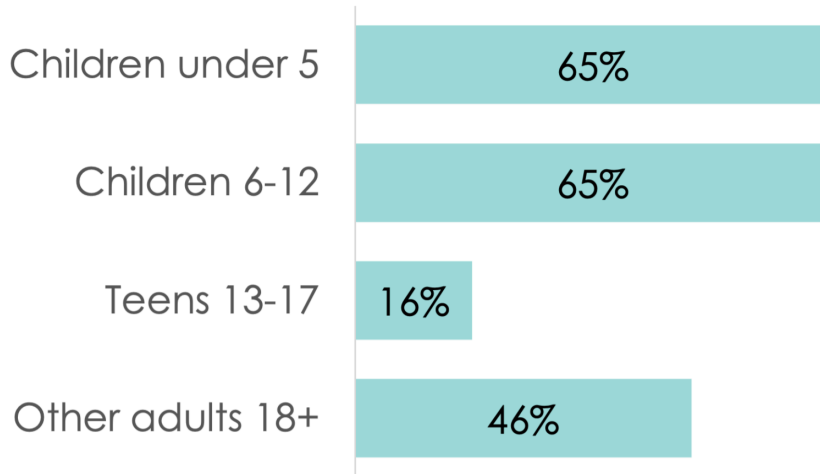
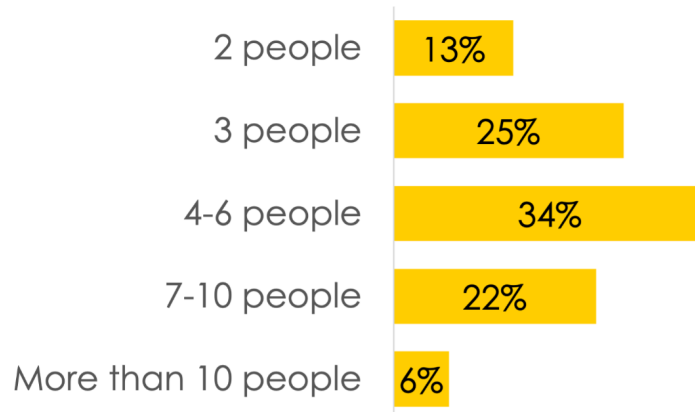


Figure 2. Number of People in Each Survey Respondent's Group

Group sizes ranged from 2 (1 adult + 1 child) through 26 (1 adult + 25 children).

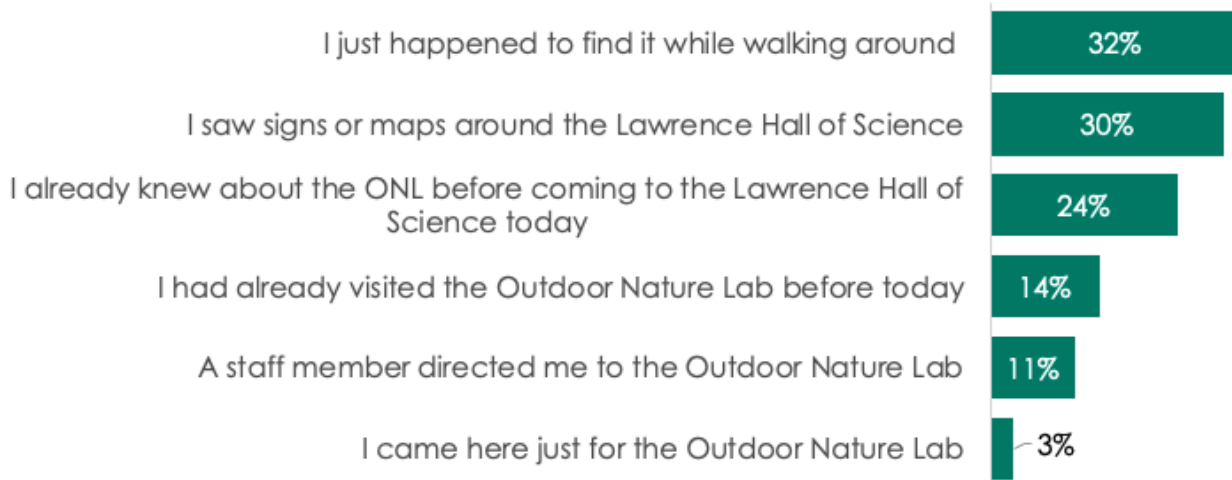


During observations, most family groups were 2-6 people, and most school groups were more than 10 people.

How and Why are People in the ONL?

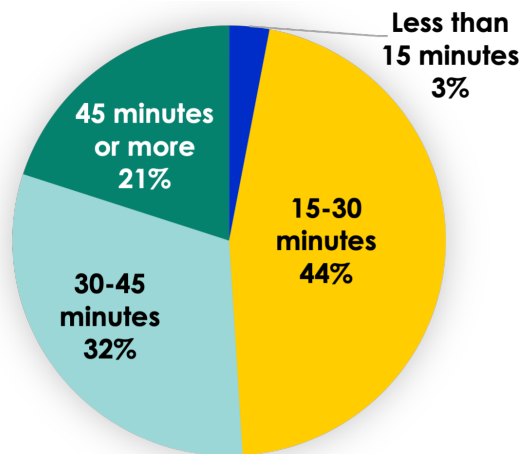
How did they find it?

Most people happened to find the ONL while walking around or by seeing signs/maps.



How long were they there?

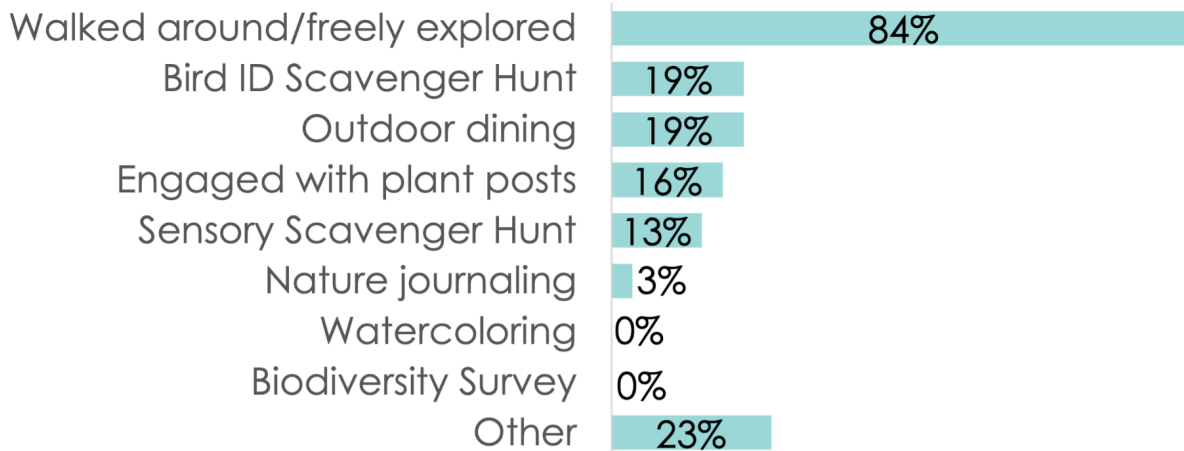
They usually spend 15-45 minutes there. At least among those willing to take the survey, they very rarely stay less than 15 minutes.



Observations saw groups there for a wide range of time, from less than 5 to 45 minutes or more.

What activities did they do?

Nearly all groups freely explored the ONL. A third of groups did only one activity, usually free exploration. Forty-three percent did two activities, and 20% did 3 or more activities.



Observations differed depending on whether they were of school groups or families. Families often started at the gazebo, eating lunch or a snack, and then something would catch their eye and they would run off to investigate. Exploration was usually child-led. Adults would typically either follow the children around or would sit at the tables while the children explored. School groups were often loosely based around an activity—e.g., a scavenger hunt—which held attention for some time but then evolved into free exploration. Both families and school groups did a lot of gross motor activities – climbing up the log stairs and running around.

The observation on Friday, April 12, paints a picture of one family’s engagement with the space:

Family headed straight to the gazebo for a snack. They chatted and ambled around the gazebo as they ate. Then, the dad noticed something and got the children’s attention.

Dad: Can you see it? The blue jay?

Child: I can see it!

Dad: I’m going to see if I can sneak up on it!

Child: I’m going to follow you, Dad!

They explore together.

Mom: Let’s go check out some stuff inside.

Children point to places and they go explore, Dad leads the way. They explore the logs by the steps. Dad removes branches that have fallen, weeds some plants. They go up the log steps.

Child: Dad look! Let’s see what’s over there!

Mom goes to join them, they head back down the steps.

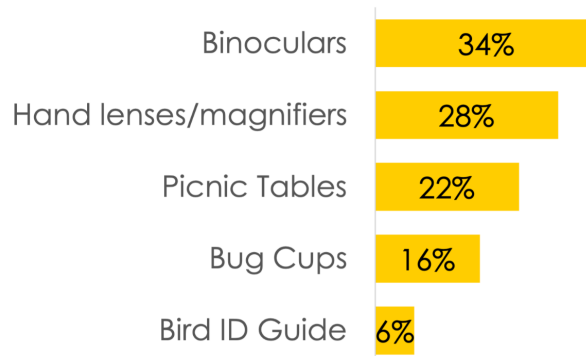
After going inside, they return to the ONL for more focused exploration (I think they were using the magnifiers I gave them for taking the survey). The Dad left the kids this time and the girls were focused on one spot for about 10 minutes. They were crouched down and looking at things together.

The observation of Wednesday, April 17, painted the following picture of a school group's engagement with the space:

The school kids engaged both in groups and individually, but it was more common for them to explore with at least one other child. They explored all over the space, going on all the paths. Children roam around, yelling what they see. Some kids climb logs. Some run up and down the log steps. Kids give each other tips on where to spot hummingbirds. Some kids run around. Teacher comes out and tells the adults they're having lunch in the cafeteria. "There's actually a lot more things to do around here, much more than the field trip in the fall (tech museum in san jose)." Kid comes up to tell the teacher what she's found on the scavenger hunt. "Oh wow!" "Lunch in 5 mins." Child: No!!!. Kids continue running around in groups of 2-5. "They are so many mushrooms!" Adult yells "Guys last 2 mins we need to go have lunch!" Kids don't want to. "Nooooo!!!! Can we come back outside after?" Kids run and point as they leave.

What materials did they use?

Most visitors (87%) used some ONL-provided materials. Most (75%) only used one kind of material, though 12% used more than one kind. The most commonly used materials were binoculars, followed by hand lenses.



Overall, visitors thought it was easy to find materials/activities to use in the ONL. A few suggested modifications to the space, including:

- More signage within the space (e.g., identifying plants) (n=4)
- More activities for gross motor play (playground, natural climbing options) (n=2)
- Adding a pond (n=1)
- Adding art space (n=1)

Earth Day activities

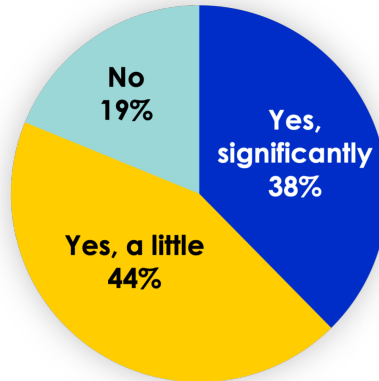
Observations of Earth Day activities revealed a highly positive experience. Most groups were engaging with the activities in the gazebo. People said they enjoyed the Ohlone activities, and

based on the length of time spent in the gazebo (often 20+ minutes) it seemed like people were enjoying those activities as well.

Interactions with Staff

Did they interact with ONL staff?

Most respondents interacted with staff to some extent.



Everyone who interacted with staff had a “good” or “great” experience.



- *Yes everyone was smiling and there were plenty of people available if we had any questions*
- *Staff is friendly and informative*
- *Very friendly and approachable. Yet not overbearing*
- *They were great. We learned about bees.*
- *They are very kid friendly! Increasing our sons exploration*

For the 19% of visitors who didn't interact with staff: most (n=5) “didn't want or need to interact with staff today,” but one person (n=1) “wanted to interact with staff but [they] couldn't find any.” This person was there on Sunday, April 28 around lunchtime.

General Visit Reflections

Overall Ratings of experience

On a 1-5 scale (1=Poor,2=Fair, 3=Good, 4=Excellent, 5=Outstanding), responses averaged 4.09.



During the observations, we observed lots of wonder, awe, and curiosity. Examples:

- exclamations of "look!" and then focused attention in one spot
- lots of joy from the school groups. "This is so fun!"
- Many kids did not want to leave, and yelled out "look!" when they saw something they were excited about.

Feedback on Different Aspects of the ONL

Visitors like the self-directed and natural environment of the space. They were mixed on whether they would have wanted more signage and/or facilitation.

How much do you agree or disagree with the following statements?	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Mean (SD)
I enjoyed having a self-directed experience in the Outdoor Nature Lab.	7%	0%	4%	50%	39%	4.14 (1.04)
I liked that the space was fairly natural, without a lot of signs or exhibits.	0%	7%	10%	55%	28%	4.03 (0.82)
I would have preferred more educational materials or interactive exhibits to help me explore more	0%	17%	31%	38%	14%	3.48 (0.95)
I would have preferred more facilitation from staff	7%	28%	38%	24%	3%	2.90 (0.98)
I, or someone in my group, experienced a sense of wonder today in the Outdoor Nature Lab	0%	7%	17%	48%	28%	3.97 (0.87)
I, or someone in my group, feel more connected to the outdoors after exploring the Outdoor Nature Lab	0%	0%	21%	48%	31%	4.10 (0.72)

When asked if there was anything we could do to make the space more accessible, the majority skipped the question. Of the 12 who responded, 7 answered “n/a” or “no,” 2 requested more interactive elements or exhibit-type experiences, 1 asked for more signs, 1 asked to move the tools/materials outside to reduce trips back inside, and 1 asked for “more birds.”

What were their expectations for an “outdoor nature lab”?

When asked “When you think of an “outdoor nature lab” is there anything that you would expect to see (or would like to see) that we currently don’t have offered?”, nine individuals responded. One common theme was around tactile learning experiences: opportunities to touch dirt, worms, plants, etc.

- *More interaction, like dirt to touch and plant seeds or touch things like worms.*
- *Tactile experiences. Something where the kids touch and feel nature. Maybe a sink so sensitive parents can wash the dirt off when the kids are done. Might allow some parents to let their kids get more into the activity.. if I try and think of something*

specific maybe, digging up worms with a message of how they help the soil, or similar thing with mushrooms (but maybe harder to manage).

- *Perhaps an area where kids can make and test things with natural elements (e.g., sticks/small logs; digging area).*

Another common theme was increased opportunities for specific content learning.

- *I wonder if there is a way to connect some of the inside exhibits to the natural outdoor space (eg wind/air flow).*
- *condos that kids can look into to see the inside of local bugs homes.. bug action they might have in their backyards.*
- *More appreciation for the plant lifecycle that teaches from seed, to sprout, to plant.*

Will they return to the ONL the next time they come to The Lawrence?

97% of visitors said they would return, while 3% (n=1) said “maybe” they would.

Implications and Looking Ahead: FY25

Key Takeaways

- Current engagement in the ONL is channeled through **largely unstructured exploration**. Visitors seem to appreciate the **fresh air and beautiful, natural setting**.
- Sense that the space is a place to **escape** for some, and a place to **burn off energy** for others
- **Feedback was mixed on whether visitors would prefer more scripted learning** materials and opportunities, whether through signs/equivalent or facilitators.
- Favorite features
 - The **log stairs**
 - **Magnifiers** and **binoculars**
 - **Fauna** (1) and **Flora** (2)
- **Science content and practices** were sporadic and serendipitous
- Some reflection questions
 - When we talk about “relationship with the outdoors” what do we mean? Is appreciating the air and sunshine enough, or do we mean cognitive engagement with the space?
 - How are we positioning visitors to understand there is no one right way to engage with the outdoors? What sorts of reinforcements can we provide?
 - How are we *fostering* and sustaining wonder, awe, and curiosity?

Data collection reflections

- Most surveys were taken after prompting from Sarah or another LHS staff member. We cannot count on surveys as a reliable, passive source of information. We must actively collect surveys.
- If we want to focus on outcomes, it seems most likely that we would see positive effects on **connection to nature** and appreciation of **biodiversity**
- Visitors seem to define “wonder” and “awe” with a higher bar than we might want. Curiosity might be a better term to use. Perhaps interest or excitement.