

Infrastructure with Intent Project Toolkit

2025



www.zoo.org/empathy

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INTRODUCTION

Woodland Park Zoo's Advancing Empathy (AE) Initiative was launched in 2019 to expand the use of the empathy practices and build community and collaboration with other Association of Zoos and Aquarium (AZA)-accredited zoos and aquariums. As part of its AE Initiative, Woodland Park Zoo was privately funded to develop a grant program that builds capacity to foster empathy for wildlife in accredited zoos and aquariums across Alaska, Idaho, Minnesota, Montana, North Dakota, Washington and Wisconsin.

The AE Grant Program supports organizational efforts to plan, build, and/or expand practices and programs that foster empathy for animals and wildlife. Through grant support, recipients are developing the resources and expertise they need to increase the long-term impact of empathy practices and programs at their zoo or aquarium and have a lasting influence on their organization and their peers.

To date, the program has granted \$8 million to support 80 grant projects that have developed, implemented, and evaluated initiatives ranging from formal programs for children to infusing empathy into biofact usage, exhibit design, and interpretive plans. Grantees have also benefited from the program's collaborative nature and cross-institution knowledge sharing, which happens during grant periods, across grant rounds, and in professional forums such as peer-reviewed journals and panels at AZA conferences.

AE grant recipients also share best practices, lessons learned and resources developed through their grants with the Advancing Conservation through Empathy for Wildlife (ACE for Wildlife™) Network. The Network is a global learning community that creates and shares effective practices to foster empathy for animals and people. This amplification allows grant outcomes to support collaboration among all zoos and aquariums working to inspire conservation action.

To make the 142 resources developed by all 80 projects more accessible, the AE team has created this series of toolkits based on the 10 underlying themes that cut across grant projects including:



Animal Ambassadors



*Animal Care Play Spaces
& Young Learners*



Animal Husbandry



Construction



*Diversity, Equity,
Accessibility & Inclusion*



Long Term Planning



On-Site Interpretation



Programs & Partnerships

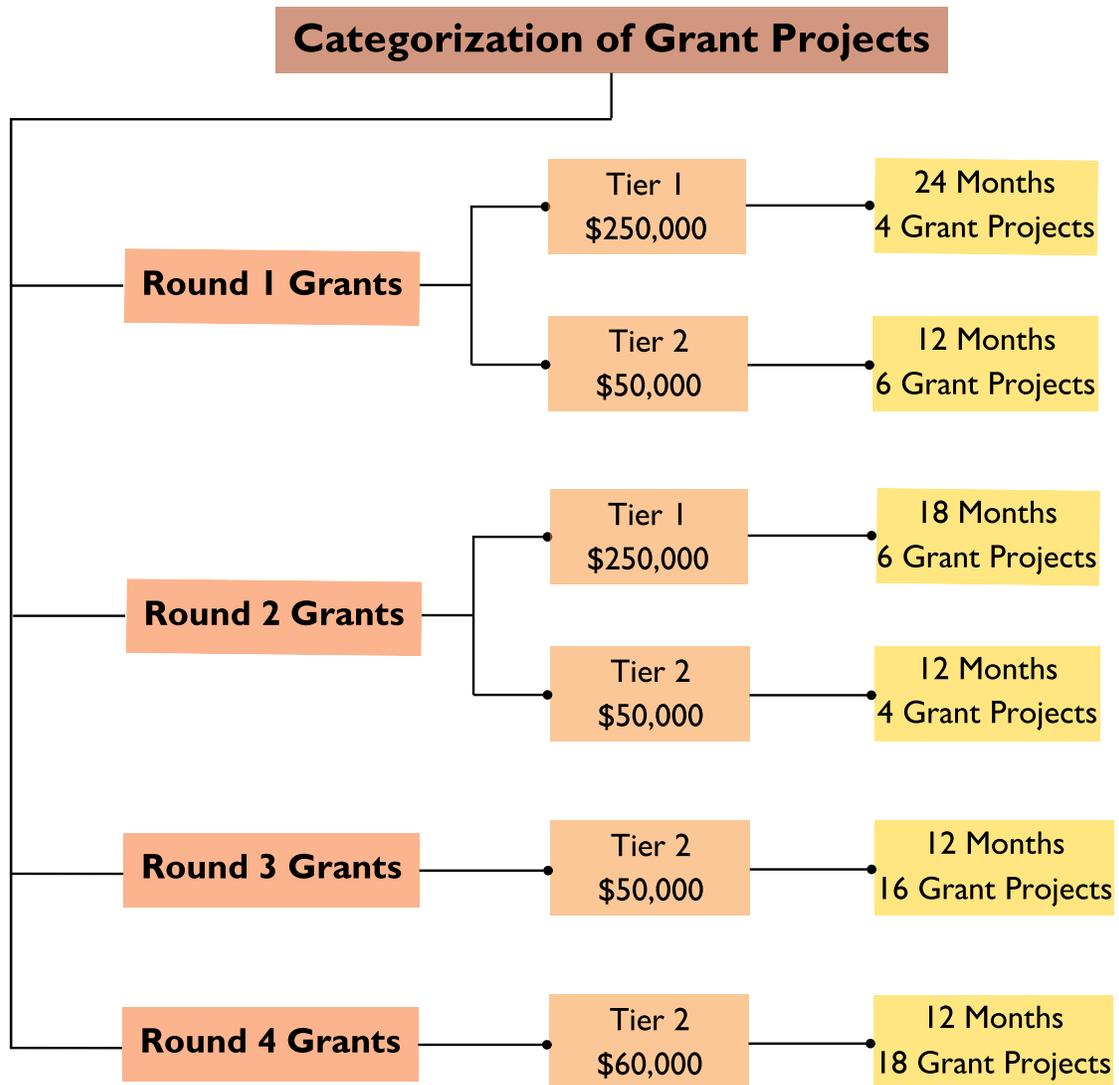


Signage



Staff and Volunteers

The toolkits include AE grants funded in the 2019 grant pilot program and AE Grants Rounds One through Four. As subsequent grant rounds conclude, additional resources will be added. In Rounds 1 and 2 (awarded in 2021), there were two funding tiers: Tier 1, up to \$250,000 and up to 24 months (in Round 1) or 18 months (in Round 2); and Tier 2, up to \$50,000 and up to 12 months. Round 3 only featured Tier 2 grants due to the timeline of the overarching AE grant that had been set to end in December 2023. Due to an AE grant extension, Round 4 Tier 2 grants were offered on a 12-month timeline as well, with an increase of up to \$60,000 to account for rising costs.



Categorization of Advancing Empathy Grant Program

For insights into the collective impacts of funded projects and key takeaways from the grant program to date, see our culminating grant reports in the [Resource Library](#). These reports highlight lessons learned, emerging themes, and recommendations as the granting program continues to evolve.

EXECUTIVE SUMMARY

This toolkit includes the outcomes, achievements, and challenges of six empathy-focused grant projects centered on zoo and aquarium infrastructure. These projects span the construction of new exhibit spaces, habitat expansions, and behind-the-scenes facilities designed to deepen guest connections with animals and support the operational needs of empathy-driven programs. These investments have improved animal wellbeing, enhanced visitor experience, and expanded capacity for educational programming. Collectively, they demonstrate how thoughtful empathy-centered design and infrastructure planning can serve as a foundation for meaningful engagement with wildlife.

Projects Included



New Grizzly Bear Den



Becoming Bear – Bear Burrow Interpretive Exhibit



Creating a Space for Empathy



Empathy Driven Construction Documents for new Red Panda Exhibit



Construction of the Red Panda Exhibit to Foster Empathy for Wildlife



Bear Den Prep Kitchen

Objectives and Strategies

These projects primarily focused on the planning and constructing of new exhibit spaces or adding major infrastructure elements to existing exhibit or interpretive spaces. Many of these projects aimed to increase guest perceptions of animal wellbeing and foster increased feelings of empathy towards animals among zoo visitors.

Key Achievements

Across all projects, new spaces and construction plans have enabled zoos to expand empathy-infused education programming, improve guest comfort, and better support their conservation missions. Across multiple sites, organizations have made significant strides in innovative habitat enhancements, new development of back-of-house spaces and enriched educational programming with interactive experiences included alongside these new buildings. From outdoor animal playgrounds and multi-sensory, guest-focused installations to the completion of new bear dens and prep kitchens, each initiative has prioritized animal wellbeing and guest engagement.

Outputs and Deliverables

Across all projects, grantees developed and enhanced empathy-based interpretation spaces, interactive exhibits, and animal habitats that foster deeper emotional connections between guests and wildlife. Deliverables included new enclosures, such as a red panda habitat with expanded spatial complexity and a bear den to increase capacity for rescue and care, along with multi-sensory exhibits like the Becoming Bear interpretive exhibit and in-habitat outdoor enrichment zones that promote natural behaviors and guest interaction. Behind-the-scenes spaces, including a newly constructed animal care kitchen and enrichment training yard, became both functional upgrades and interpretive experiences. In addition, qualitative research projects and baseline data collection were launched to support long-term evaluation of empathy-building strategies and inform ongoing cross-departmental program development.

Challenges

Over the course of these projects, the most common challenge encountered was supply chain issues and higher than anticipated materials costs related to the ongoing COVID-19 pandemic. Other challenges included staff scheduling conflicts and issues securing contractors.

Conclusion

The funded projects collectively advanced the goals fostering an increased sense of empathy towards animals in zoo guests, increasing guest perceptions of animal wellbeing, and improved animal welfare. Despite facing challenges, the zoos achieved meaningful outcomes that will positively impact animal wellbeing and visitor education in the long term.

PROJECTS

New Grizzly Bear Den

Grizzly and Wolf Discovery Center, April 2022 – September 2023 (Round 2, Tier 1)

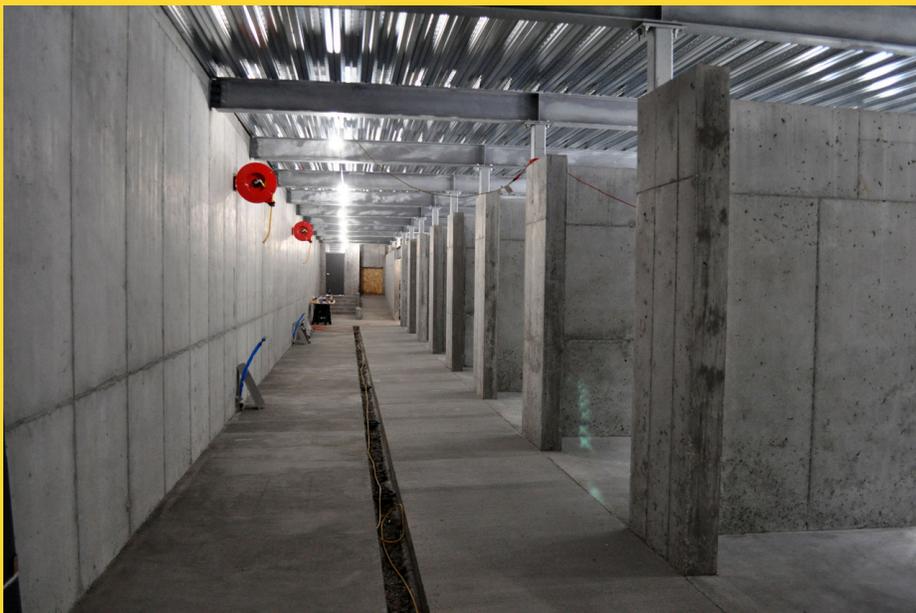
Project Summary: This project's primary objective was to expand the holding capacity for grizzly bears that could no longer remain in the wild due to human-wildlife conflicts. At the inception of this project, the facility had space for eight grizzly bears and had reached full capacity. Funding was directed toward the construction of a second bear den, expanding Grizzly & Wolf Discovery Center's (GWDC) ability to accommodate an additional eight grizzly bears in need of a new home. The bears at the facility serve as ambassadors, assisting education staff in delivering empathy-based interpretation programs. These programs aim to help visitors understand how to recreate responsibly in bear country, reducing human-bear conflicts, and preventing the euthanization of wild bears.

Achieved Outcomes: GWDC completed the enclosure of a new bear den; and continued to develop collaboration with the Montana Fish and Wildlife Parks to help save the lives of bears. This project also developed a qualitative research project to measure program, interpretation, and messaging feedback of their organization. The new bear den will enable GWDC to increase their capacity to protect bears and also provide them the opportunity to expand their platform for empathy-based interpretation.

Click [here](#) to view the webinar and resources related to this project.

Success Story: The following is a response to the survey question provided during this project: What was the highlight of your visit to the Center? Why?

"I loved watching Sam sift through all the logs to find food. He's just so so incredible, I literally stopped in my tracks with my jaw dropped, when I first saw him. I still have goosebumps from the experience."



View of the raceway from inside the Bear Den

Becoming Bear – Bear Burrow Interpretive Exhibit

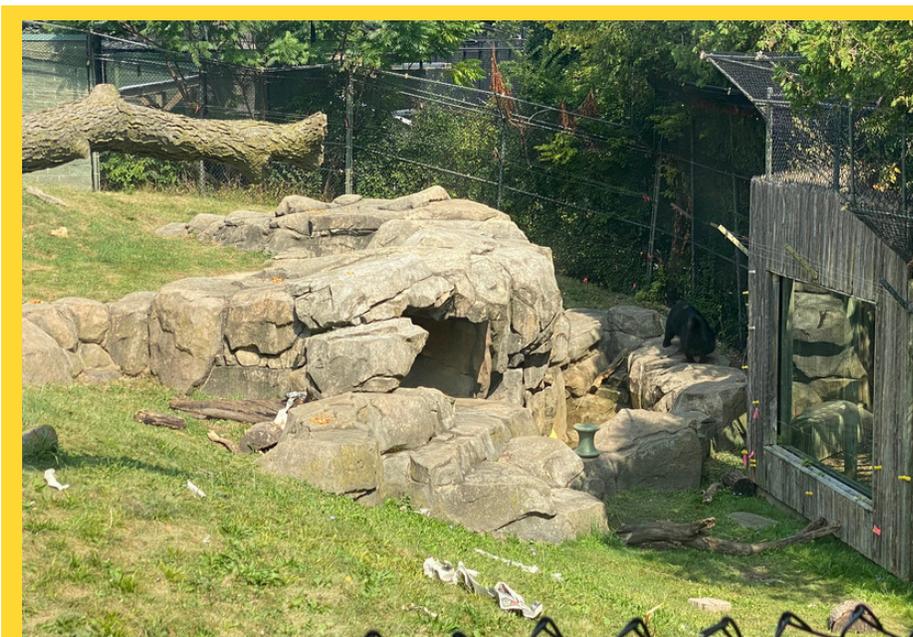
Racine Zoo, April 2022 – May 2023 (Round 2, Tier 2)

Project Summary: Racine Zoo’s project created the zoo’s first indoor, non-guided interpretive space. This new space—part of the rejuvenated Bear Overlook—guides guests through the life of an Andean bear using immersive, hands-on elements designed to spark curiosity, reflection, and emotional connection. By providing year-round shelter from the weather and dynamic opportunities for self-directed exploration, this space aims to increase empathy outcomes for general admission guests, a goal previously only pursued through staff-led experiences or digital outreach.

Achieved Outcomes: The *Becoming Bear* space has provided guests of all ages with a multi-sensory, interactive experience that fosters perspective-taking and encourages emotional connection with bears and broader conservation themes. People of all ages, not just children, can engage through playful activities like spinning a bear behavior wheel or leaving “scent-mark” messages on a chalkboard tree, while older visitors can explore informative exhibits on bear and fox conservation, as well as their cultural significance. Guests can see themselves reflected in a bear mirror with bear ears and spectacled markings, promoting deeper self-identification and empathy with wildlife. Importantly, the space has also become a valuable tool for Racine Zoo’s educational team, expanding their ability to integrate empathy into routine programming year-round.

Click [here](#) to see the resources and video recording related to this project.

Success Story: *“We had the opportunity to share this new space with Katie Neville, Program & Audience Evaluation Specialist with Milwaukee County Zoo, who visited our Zoo for the first time with her 9-year-old son, Henry. Katie later informed me that Henry enjoyed building with and climbing on the log toys so much that in the weeks following their visit he asked multiple times not just when they could visit our Zoo again, but specifically when they could revisit the Bear Burrow! This was particularly impactful for us, as it shows us even with the absence of a bear to view the space is still engaging and memorable for our primary audience (young guests).”*



View of the Andean Bear space with new signage



Creating a Space for Empathy

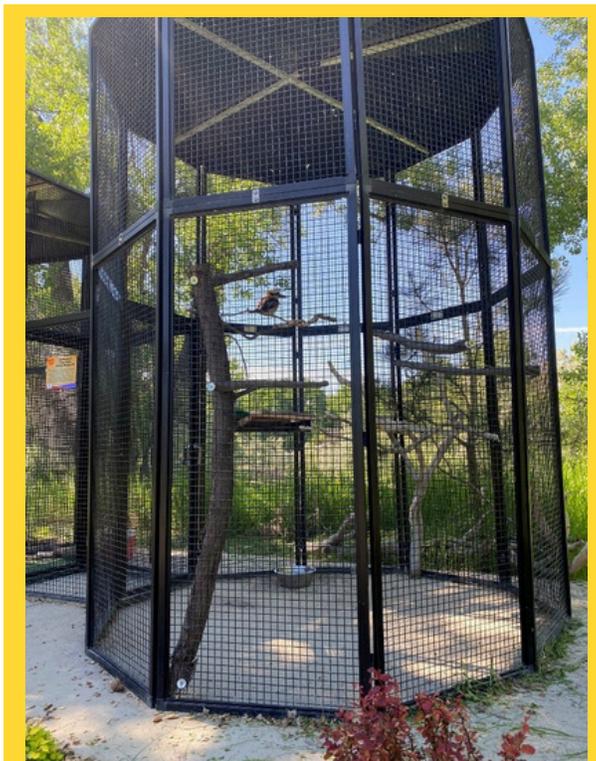
ZooMontana, September 2022 – September 2023 (Round 3, Tier 2)

Project Summary: This project created safe outdoor environments for ambassador animal residents to enjoy some fresh air and stimulation. This provided ZooMontana's animal residents with an outdoor facility where guests could better observe relationships with staff; as well as training, education, and enrichment sessions. In addition, they began permitting and design of a training/exercise space for enrichment staff to facilitate their outdoor work. Additionally, this project included the installation of shade sails for the amphitheater, which created a more comfortable environment the public during presentations, increasing access to educational programming on the importance of preserving and conserving the natural habitats of all animals.

Achieved Outcomes: Several outdoor Animal Playgrounds for Zoo Montana's ambassador animals were constructed that allow them to maximize welfare of the indoor animals (birds, reptiles, and mammals). This project has allowed for more empathy-infused education programming in the summer. In addition, a new training enrichment yard was also designed to give guests an opportunity to see animal care staff give enrichment and training to animals.

Click [here](#) to view the webinar and resources associated with this project.

Success Story: *"I think the biggest success story is sort of a culmination of all the work has allowed us to do. When I was walking across our grounds and heard a little girl yell, Hey...Sydney's outside" I realized that the little girl not only knew who Sydney was but she was at first concerned Sydney was not in her normal spot and then elated to see she was outside in a new environment (and knew it was her by her call)." -ZooMontana staff*



Sydney is enjoying one of the new outdoor spaces

Empathy Driven Construction Documents for new Red Panda Exhibit

Zoo Boise, September 2022 – September 2023 (Round 3, Tier 2)

Project Summary: This project supported the development of empathy-driven design documents for Zoo Boise’s red panda exhibit. In collaboration with zoo design firm GLMV and guided by insights from the AWARE Institute, the project integrated empathy-driven elements directly into the exhibit’s construction planning. The project produced detailed architectural documents that balanced the needs of animal care and guest flow while intentionally creating experiences that deepen emotional connections between visitors and red pandas.

Achieved Outcomes: The most significant outcome of this phase was the integration of empathy-centered design from the earliest stages of planning. The new red panda exhibit design includes expanded spatial complexity—expanding from one yard to three outdoor yards plus an indoor dayroom—and features elevated pathways and an overhead transfer tunnel that allows red pandas to cross above guest walkways. These intentionally designed features promote natural behaviors and increase opportunities of meaningful guest-animal interactions.

Click [here](#) to view the webinar and resources associated with this project

Success Story: *“Having a lot of those conversations—and bringing in people from animal care, management, our red panda keepers, education, and guest services—really helped us make sure everyone felt involved in the project. It allowed us to think about what the red pandas need now and what future animals might need, and to design a space that supports well-being, empathy, and meaningful guest connections from the ground up.”*



Context Imagery of the Red Panda Exhibit from GLMV Architecture

Construction of the Red Panda Exhibit to Foster Empathy for Wildlife

Zoo Boise, January 2024 – December 2024 (Round 4 Tier 2)

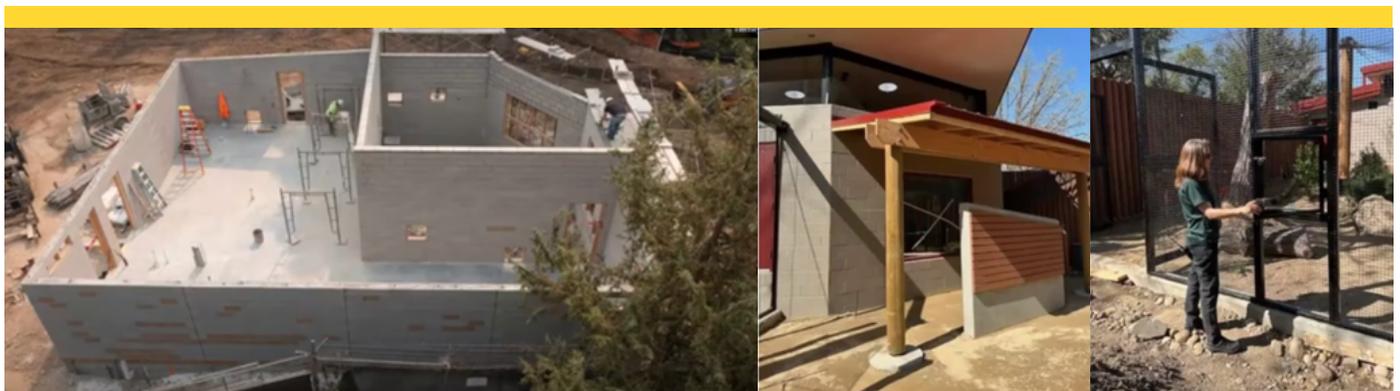
Project Summary: Zoo Boise, in partnership with GLMV Zoos has completed construction of a new red panda habitat designed to foster empathy for wildlife through immersive and intentional design. The new habitat, open May 2025, anchors the zoo's Phase I "Heart of the Zoo" campaign and reflects a broader commitment to transform multiple animal habitats using empathy-based principles in habitat development. Informed by guest and animal behavior research from AWARE Institute, the habitat creates new spaces and opportunities for visitors that invite perspective-taking, highlights natural animal behaviors, and brings guests eye-to-eye with animals to deepen emotional connections between visitors and wildlife.

Achieved Outcomes: Empathy-driven design concepts have been developed and applied across a suite of Zoo Boise habitats, including red panda, giraffe, snow leopard, and more. These designs incorporate strategies such as flexible animal access, non-restrictive viewing, enriched habitat complexity, and guest proximity to support longer, more meaningful interactions. Cross-departmental input from education, animal care, and guest services helped shape the red panda space, specifically, with empathy as a core value. Research baselines from AWARE Institute will support the ongoing evaluation of the long-term impact of these designs on empathy development and conservation engagement in guests.

Click [here](#) to view the webinar and resources associated with this project.

Success Story: *"Our goal wasn't just to build a beautiful space—it was to build a space where guests could see that care, understand it, and connect emotionally with the animals who live there."*

"We wanted it to be intentional that visitors could see there were a lot of options—so even if they didn't see an animal in one space, they could understand that the animal was choosing where to be. That choice is part of their well-being, and it's part of the story we're telling."



Construction progress of the new Red Panda Exhibit

Bear Den Prep Kitchen

Grizzly and Wolf Discovery Center, January 2024 – December 2024 (Round 4 Tier 2)

Project Summary: The Grizzly and Wolf Discovery Center (GWDC) bear den prep kitchen was a key component of a larger, long-term habitat expansion project aimed to improve animal care and increase capacity for grizzly bears that cannot survive in the wild due to human-wildlife conflict. The state-of-the-art space functions as the core of daily animal care and has been designed with the needs of animal care staff in mind, including space for enrichment prep, training interactions, veterinary care, and administrative, record keeping. The expanded space also supports the growth of GWDC's empathy-focused Keeper Kids program, where young visitors help prepare enrichment and place it in the habitat, building on their understanding of grizzly bear needs and natural behaviors.

Achieved Outcomes: The new kitchen has transformed behind-the-scenes animal care by offering flexibility for staff and infrastructure improvements to enhance daily operations and animal wellbeing. Improvements to space allow visitors to observe animal care practices, and delivery of enrichment which leads to more natural and engaging bear behavior and offers more meaningful educational experiences. The expanded Keeper Kids program has seen strong engagement and new survey data shows long-term retention of empathy-focused messages. The kitchen component of this project has become more than a functional upgrade and has become a visible, interpretable piece of the guest experience.

Click [here](#) to view the webinar and resources associated with this project.

Success Story: *“We need facilities and practices that are really delivering on the promise of good animal care so that the visitors can develop trust. Once they start to develop trust in us, then they're able to observe the animals and observe natural behaviors and healthy and happy animals. That allows them to then be open to these conversations that we want to have with them—learning about the animals and learning about what they need and what they might need in the wild. That's when we start to create the connection.”*



For further information on grant projects and the Advancing Empathy Grant Program, please reach out to empathygrants@zoo.org.