



Animal Wellbeing Newsletter

May 2025

The purpose of this document is to review the Columbus Zoo and Aquarium's ongoing animal wellbeing program, highlight the activity of various animal wellbeing ventures around the zoo, and provide opportunities for continuing education through discussion of animal welfare scientific literature.

Table of Contents

Mission.....	3
Vision.....	3
Definition.....	3
Approach.....	3
The 2025 Animal Wellbeing Education Series.....	4
All Eyes on Animal Encounters Village.....	10
Science Summary.....	21
General Updates and Conclusion.....	25



Mission

The Columbus Zoo and Aquarium's (CZA) wellbeing mission is to ensure best wellbeing of all animals in our care.

Vision

CZA's wellbeing vision is to be a recognized leader in zoo animal wellbeing.



Definition

CZA defines animal wellbeing as the state of being comfortable, healthy, and happy.

Approach

Regular wellbeing assessments, innovative enrichment, and both staff as well as animal training are used to proactively ensure all resident animals will thrive in their environments at CZA.

The 2025 Animal Wellbeing Education Series

In previous years, we offered a brown bag lunch and learn series focused on animal wellbeing. This year, we are rebranding and expanding your access to animal wellbeing information!

Wellbeing Webinar Watch

Join Zach England and other coworkers as we watch recorded webinars from esteemed animal welfare scientists. These meetings will not be recorded but will be offered on two separate days in order to accommodate your schedule!

“The Five Domains Model”

Dr. Ngaio Beausoleil
Jan. 13th & 15th @ 1pm in Lakeside

“Welfare: Threat or Opportunity?”

Dr. Jake Veasey
Mar. 14th & 17th @ 1pm in Lakeside

“Deconstructing Choice and Control”

Dr. Marieke Gartner
May 14th @ 1pm in Water’s Edge
May 16th @ 1pm in Lakeside

“Modern Zoo Animal Feeding”

Dr. Marcus Clauss
Jul. 14th & 16th @ 1pm in Lakeside

“Implementing Goal-Based Enrichment”

Elly Neuman
Sept. 12th and 15th @ 1pm in Lakeside

“Training as Enrichment”

Dr. Eduardo Fernandez
Nov. 12th @ 1pm in Africa Event Center
Nov. 14th @ 1pm in Lakeside

Live Wellbeing Presentations

Prefer the classic live talks? Don’t worry! We will again offer six live presentations, featuring Dr. Katie Seeley and Zach England, as well as a few committee presentations!

“What is Animal Wellbeing”

Dr. Katie Seeley & Zach England
Feb. 27th @ 1pm in Lakeside

“Deep Dive into Wellbeing Assessment”

Animal Wellbeing Zookeeper Committee
Apr. 27th @ 1pm in Lakeside

“Animal Wellbeing & Evening Events”

Zach England
Jun. 23rd @ 1pm in Lakeside

“Conducting Behavioral Observations”

Zach England
Aug. 19th @ 1pm in Lakeside

“Animal Wellbeing Training Projects”

Speakers TBD
Oct. 13th @ 1pm in Lakeside

“Focusing on Focal Assessments”

Dr. Katie Seeley
Dec. 18th @ 1pm in Lakeside

AWES – Paraphrasing Previous Presentations!

*Weren't able to attend the March, April, or May AWES presentations?
No worries - Find the highlights below! Additionally, recordings of the
previous presentations will be available on the O-drive soon.*

“Welfare: Threat or Opportunity”

By Dr. Jake Veasey, 2021; Webinar Watch's on 3/14/25 and 3/17/25

Link to original webinar recording:

<https://www.youtube.com/watch?v=3lloHFWXqpM&list=PLtkBZPwpjfuQH5-tH-9Hv5hc-UXESxd2&index=26>

Dr. Veasey begins his presentation by explaining why zoos & aquariums might view animal welfare as a threat. According to a 2018 survey done by the AZA:

- Only 54% of AZA visitors think animals in zoos & aquariums are happy
- Zoos & aquariums have lower favorability ratings than museums & sanctuaries

Additionally, stories of poor animal wellbeing can frequently be viewed in the press.

Dr. Veasey then explains how animal welfare can be an opportunity for zoos & aquaria:

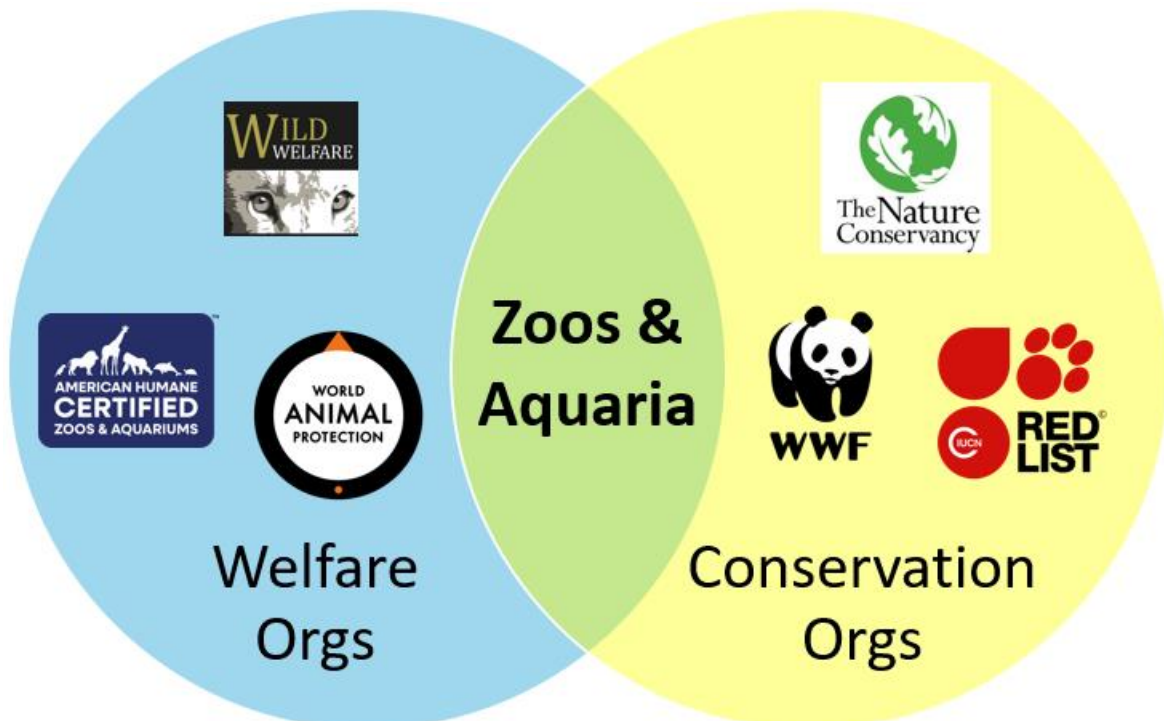
Animal Welfare

(Experiences of individual animals)
Public have an emotional connection

Conservation

(Safeguarding ecosystems for the future)
Public have an intellectual connection

Zoos & aquariums should seek to occupy the interface between welfare & conservation, utilizing people's inherent concern for individual animals to save species!



Finally, Dr. Veasey compares the “animal welfare perception” trajectories for orcas in North America and polar bears in the British Isles. He summarizes the lessons learned:

Orcas in North America

- Many facilities appeared not to anticipate shift in the public’s perception
- Institutions defended the status quo (we meet current standards, etc.)
- Justified keeping orcas because of the benefits to people & science
- Took the stance of longevity isn’t mutually exclusive with poor welfare
- Ultimately, the social license to keep orcas was lost

Polar Bears in the UK

- Zoo community was aware of growing concerns
- Zoos cooperated with research funded by ZooCheck & others to evaluate polar bear welfare
- Zoos responded to the evidence; stopped keeping polar bears or built new facilities
- Social license was secured and there was improved welfare for polar bears
- Still an ongoing process, with more evolution necessary

Complete presentation is ~2.5hrs, we only watched the first ~1hr!

“A Deep Dive Into Our Animal Wellbeing Assessment Tool”

Animal Wellbeing Zookeeper Subcommittee on 4/27/2025

The Animal Wellbeing Zookeeper Subcommittee put together an amazing presentation to review some complex concepts and cool wins their regions have experienced as a result of our animal wellbeing assessment tool. See below for the highlights!



Review of the Scoring Rubric

Unsure of what to score? Discussion is probably needed, meaning you should score a 2!

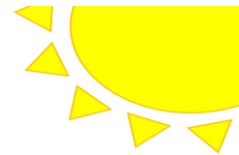
Are there actions in progress but the issue is still present? Discussions and updates are probably warranted, meaning you should score a 2!

You are and should always feel empowered to score a 1, 2, or 3!


Score	Definition
1	No discussion or action needed at this time
2	Discussion and/or action could be implemented to enhance wellbeing opportunities
3	Immediate action should be implemented to enhance wellbeing opportunities

Normal	vs	Appropriate	vs	Natural
What we would expect to see		What we should see		What we see in the wild
Can be + or – related to wellbeing		What is best for wellbeing overall		Can be + or – related to wellbeing
Is not reason enough to score a 1, 2, or 3		Usually normal & natural but not always!		Is not reason enough to score a 1, 2, or 3

We had a good discussion about the things we’ve learned about light!



When do lights turn on/off?		Access to shade outside?	Access to UV?
	What lights are on 24/7?	Access to “shade” inside?	What is the flicker rate?
Species-specific considerations!			

Statement #17	vs	Statement #18
The individual is absent of abnormal repetitive behaviors (stereotypic behaviors, pacing, headbobbing, overgrooming, etc.)		The individual is absent of behavior(s) without an apparent functional purpose.
<u>We want to use these statements to capture different things:</u>		
S17: Focus is on behaviors that are repetitive – occurring multiple times within the same short period or bout!		S18: Focus is on behaviors that are weird or unusual – might see them once or twice a day but the animal is not doing the behavior over and over again in one sitting.

New Statements For Our Animal Wellbeing Assessment Tool!

Input Statement #7 – Considering multiple factors, such as the animal’s history, age, and current state, a focal assessment is not warranted at this time.

Agree = No Actions

Disagree = Focal Assessments

Input Statement #8 – Based off the individual’s history and species’ natural history, this animal is in an appropriate social setting.

Yes = No Actions

No = Life-Impacting Assessment

End of Assessment Statement – Based on the animal’s current state, rank the animal’s wellbeing from 1 (perfect) to 5 (poor).

1 = the animal's mental experiences are optimal, the animal is living a near perfect life, and no wellbeing enhancements need to be made.

2 = the animal's mental experiences are exceptional, the animal is living a great life, but a couple wellbeing enhancements could be made to further benefit the animal's wellbeing.

3 = the animal's mental experiences are more positive than neutral or negative, the animal is living a good life, but some wellbeing needs should be implemented to improve the animal's wellbeing.

4 = the animal's mental experiences are more negative than neutral or positive, the animal is living an ok life, but wellbeing needs and/or critical wellbeing needs must be made to help the animal have better mental experiences.

5 = the animal's mental experiences are consistently negative and while critical wellbeing needs have been identified, they have not been able to be implemented.

“Deconstructing Choice and Control”

By Dr. Marieke Gartner, 2024; Webinar Watch’s on 5/14/25 and 5/16/25

Link to original webinar recording:

<https://www.youtube.com/watch?v=5Q7ho8tGmUI&list=PLtkBZPwpjfuQH5-tH-9Hv5hc-UXESxd2&index=6>

Often, we’re caught saying “ChoiceandControl” when actually they are two separate terms:

Choice	Control
Simply means having options; act of choosing or selecting from more than one alternative	The act of driving choice; the power to direct events and behavior; the ability to predictably produce desired results
Doesn’t necessarily indicate good welfare, we can make unhealthy choices!	Control may be more important than choice – animal will choose control over preference!

Dr. Gartner poses some interesting questions about choice...

- If we only have 2 choices, is that enough? What if we don’t like 1, is that still choice?
- If our choice is to walk away or train, but we only get reinforced for staying, is that a choice?
- If our choice is to walk away or train and we get the same food item as reinforcement for walking away or training, are we there yet?
- If an animal is conditioned to do something, is that choice?



There isn’t a ton of research about choice or control in a zoo setting; Dr. Gartner challenges us to do our own after reviewing what has been done already:

Mellen et al., 1981 – Giving Indian elephants control over a shower led to increased use



Hirskyj-Douglas & Kankaanpaa, 2012 – Giving white-faced sakis control over playing a video led to a decrease in anxious behaviors

And she shows us a video of a tamarin having control over closing its nest box door!

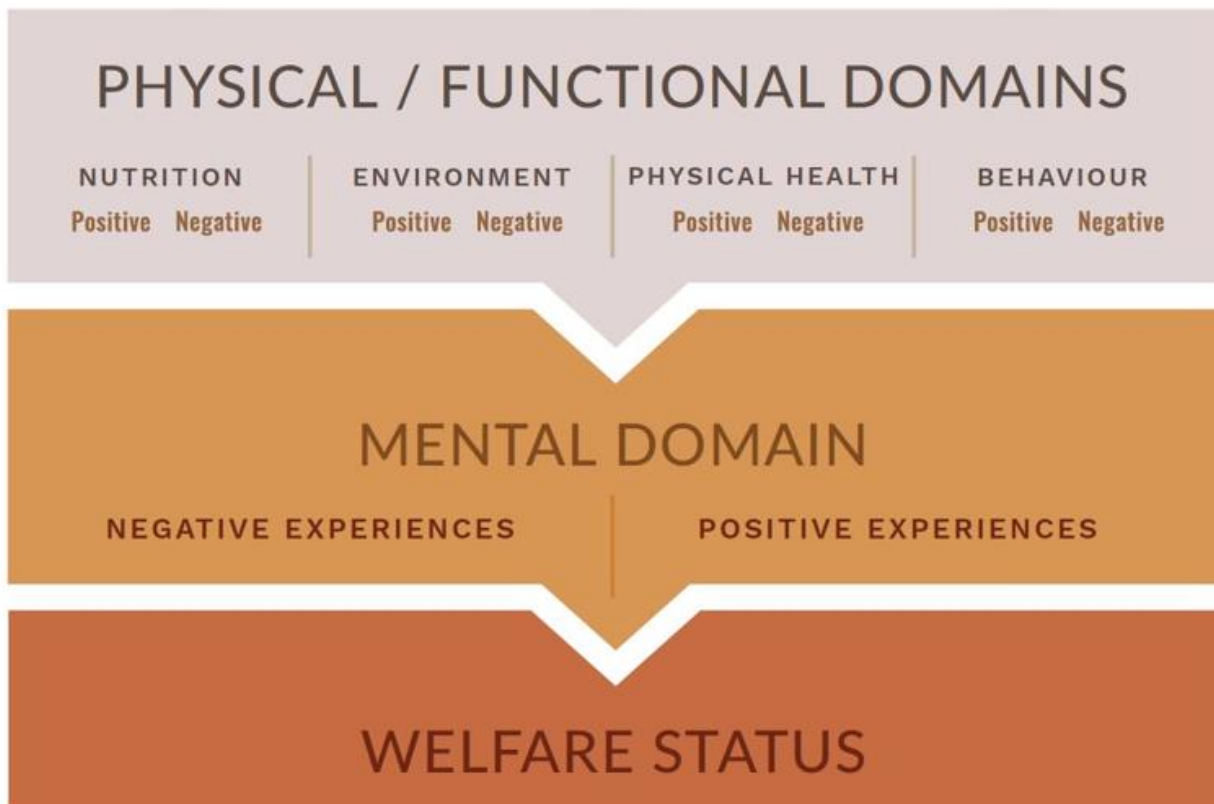
Dr. Gartner finishes by sharing a research project she is working on at Zoo Atlanta. The goal of the study is to provide their orangutans with the control to turn on/off a white noise machine, a water feature, and a light and then study how the orangutans choose to interact with and respond to the increased control. Look for more information once it is published!

All Eyes On Animal Encounters Village!

Foreword by Zach England, Region Assistant for Wellbeing

Many organizations (including us!) use The Five Domains Model of Animal Welfare as a framework to help us think about our animals' experiences. The model first considers four physical/functional domains: Nutrition, Health, Environment, and Behavior. Within each of those domains, animals can have positive and negative experiences, like satiation or hunger, playing or fighting with conspecifics, etc. The final domain, Mental State, is the culmination of these positive and negative experiences. If evidence shows us that an animal has primarily positive experiences, then we can cautiously infer their Mental State is probably positive and thus, in a good state of welfare.

The Animal Encounters Village team has put together a collection of stories that highlight wellbeing in their region and span The Five Domains!



Domain 1: Nutrition – Let Them Eat Petals: Browsing Benefits from Horticulture Habitat Enhancements

By Taylor Jorden, Wild Encounters Specialist, Animal Encounters Village

Edible flowers have always been in high demand at Animal Encounters Village. A lot of our species would naturally be browsing on flowers and lapping up nectar as part of their diets in the wild. Our lemurs, sloths, porcupines, and tortoises all really enjoy flowers when we have them to offer. But, with limited supply, we have only been able to offer flowers sporadically as a special treat. So, last year we started to brainstorm possible ways we could increase natural browsing opportunities for our animals that are on habitat.

As a result, last summer the horticulture team planted some magnolia trees inside the outdoor yards at AEV. This spring the trees bloomed for the first time, producing beautiful edible flowers! The red ruffed lemur boys, Paul and Finn, really took advantage. Within a few days, they had eaten all the blooms off their trees. It was awesome to observe them exhibit those natural foraging behaviors and to be able to have a snack whenever they pleased. We also harvested some of the flowers from the neighboring yard's trees to feed out to our other species. To the lemurs' delight, there were more flowers than we could keep up with, so the boys were shifted over to the other yard to finish the flowers off before they could wilt. Within a week and a half, all the flowers had been consumed.

Magnolia trees only produce flowers in the spring. While the animals will still be able to enjoy the shade and shelter the trees will provide, we still wanted a way to provide flowers and browsing opportunities all summer long, so we got Horticulture involved once more. At their advice, we decided to plant nasturtium seeds in between the outdoor yards. The seeds have already sprouted and will eventually produce edible flowers that bloom from the summer all the way through the fall! As it grows, the nasturtium will vine up the mesh and into the yards so the animals on habitat can still access it. Problem solved! A huge shoutout to the horticulture department for all their help - this would not have been possible without their hard work and knowledge!!



Domain 2: Health – Teamwork Takes Flight: Diagnosing a Hornbill’s Hidden Illness

By Angela Armocida, Wild Encounters Specialist, Animal Encounters Village

Over the past few years, keepers at the Animal Encounters Village began to notice that Pterri, the Abyssinian ground hornbill, was having increased difficulty navigating the perching in her enclosure. Additionally, she was having trouble flying for her trained behaviors and couldn’t make the long flights she used to be capable of. The team was diligent about communicating their concerns through wellbeing assessments and regular team meetings.

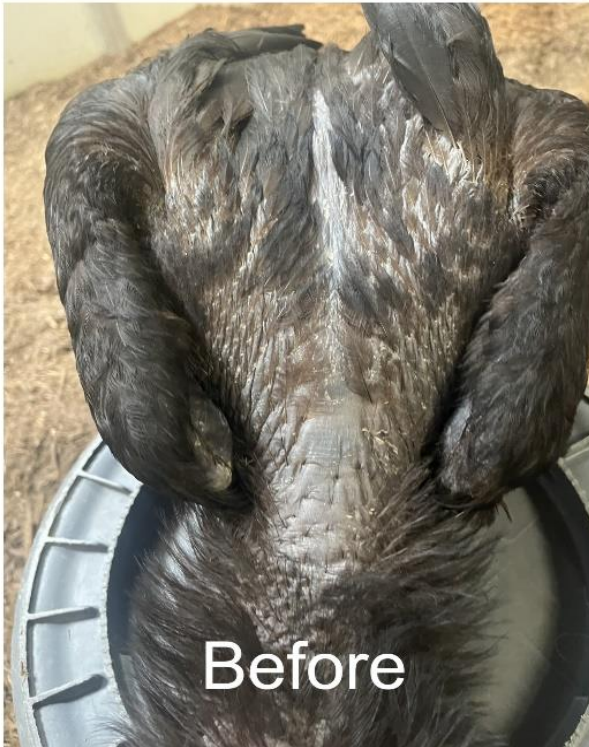


Unsure of what could be causing these challenges, we tried several husbandry and training interventions. Pterri hadn’t been flying much during COVID and avian influenza, so we worked on training smaller flights to try to build up her strength and muscle again. During these flights, we noticed that she had some broken feathers on her wings, many of her tail feathers were gone, and feathers were thin on other parts of her body. At this point, we decided to offer her a free feed diet with the hope that abundant food might encourage her to molt her damaged feathers and grow new ones. We also altered the structure of her housing in case she was breaking feathers on branches or the mesh of her enclosure. Unfortunately, despite these efforts, Pterri’s feather condition continued to worsen.

At this point, Animal Health, with the support of the AEV team, elected to sedate her for an exam to try to figure out if there was something medical causing her feather loss. The extent of her feather loss was noted during the exam and a small mass was found on her thyroid during her CT scan. Dr. Seeley consulted with the SSP to get their perspective on Pterri’s exam and feather loss. The SSP worked on finding a relatively age-matched Abyssinian ground hornbill that was housed in a facility of similar latitude for comparative thyroid panels. Pterri underwent a second exam a



month later to collect blood and we found that her thyroid levels were incredibly low, indicating hypothyroidism. She started on a dose of levothyroxine and ten days later she began to molt! She very quickly began to lose her old feathers and looked a little bit startling, but the feathers started to grow back in just as quickly as she had lost them.



Pterri has since been taking her levothyroxine daily and has been doing wonderfully! She has beautiful feather plumage, her casque is starting to grow, and she can fly gracefully and easily. We will recheck her thyroid levels this summer and are even training a voluntary mask behavior so that she can have more choice to participate in her care. Pterri's case is a great example of collaboration between multiple groups, and we can't thank Animal Health and the SSP enough for helping us to solve her mystery!



Domain 3: Environment – Creating More Dynamic Spaces on a Dime

By Lauren Etzkorn, Assistant Curator, Animal Encounters Village



The Animal Encounters Village was developed with a rotational concept; the habitats were designed with the intention of allowing for total flexibility so that many different species could move through them. Because of this design, many of the habitats are without species-specific opportunities for locomotion, socialization, burrowing, foraging, resting, etc., and thus, some of the animals were missing resources necessary to perform these highly-motivated behaviors.

Once that problem was identified, we decided to see what we could accomplish with little or no resources, outside of leaning on the expertise of our peers in other departments (especially the Horticulture, Planning, and Maintenance teams). In order to brainstorm enhancements, we identified a focus species for each habitat and goal behaviors we'd like to elicit. As a whole team, we conducted a month-long brainstorm of elements and features that we knew would encourage more natural behaviors from the animals we care for and help us achieve a more naturalistic aesthetic. Some of the changes that we've made include:

- Removed some of the furniture that didn't serve a functional purpose from exterior yards
- Worked with Horticulture to plant trees and shrubs in exterior yards
- Worked with Horticulture to install upright deadfall in exterior yards
- Worked with Planning to install shelving for vertical climbing and resting opportunities
- Worked with Maintenance to install clamps and eyehooks in exterior yards in order to offer more perching and climbing opportunities
- Planted seasonal, vining, edible plants adjacent to habitats

We have successfully completed a few of the yards and are seeing the animals use the newer, more dynamic features of those habitats in all sorts of ways, some of them unexpected. Anecdotally, we've even seen one species electing to spend more time on public-view, even when given access to back-of-house, whereas beforehand, they seemed to exclusively prefer the opposite. These positive gains give our team the inspiration and encouragement to continue chipping away - making similar creative and resourceful enhancements for our animals' environments wherever we can!

These wellbeing wins are thanks in no small part to the involvement of various members of the Facilities department! Check out some before and after pictures below:

Before



After



Before



After



Domain 4: Behavior – 3 Armadillos, 3 Stories: A Study In Individual Variation

By Julia Schwendenman, Wild Encounters Specialist, Animal Encounters Village

As a part of our wellbeing goals, AEV has completed activity budget observational studies on the three-banded armadillos, *Tolypeutes matacus*, (2.1) that lived at AEV at the start of this project - Arthur, Tango, and Dozer. All our armadillos were high on our priority list to be formally observed as we had noticed seemingly high levels of pacing, an abnormal repetitive behavior (ARB), from both Dozer and Arthur over the years. Our anecdotal observations turned out to hold some weight as our initial studies on both armadillos showed a high percentage of their day was spent engaging in an ARB; 10.4% for Dozer and 15.5% for Arthur. Both numbers were higher than our team's pre-determined ARB threshold for further study, so immediate intervention was our next step. Our third three-banded armadillo, Tango, showed significantly lower levels of ARB, at .08%. This low number indicated he was not a top priority for husbandry or management interventions, and he has since moved to the Denver Zoo on an SSP breeding recommendation.



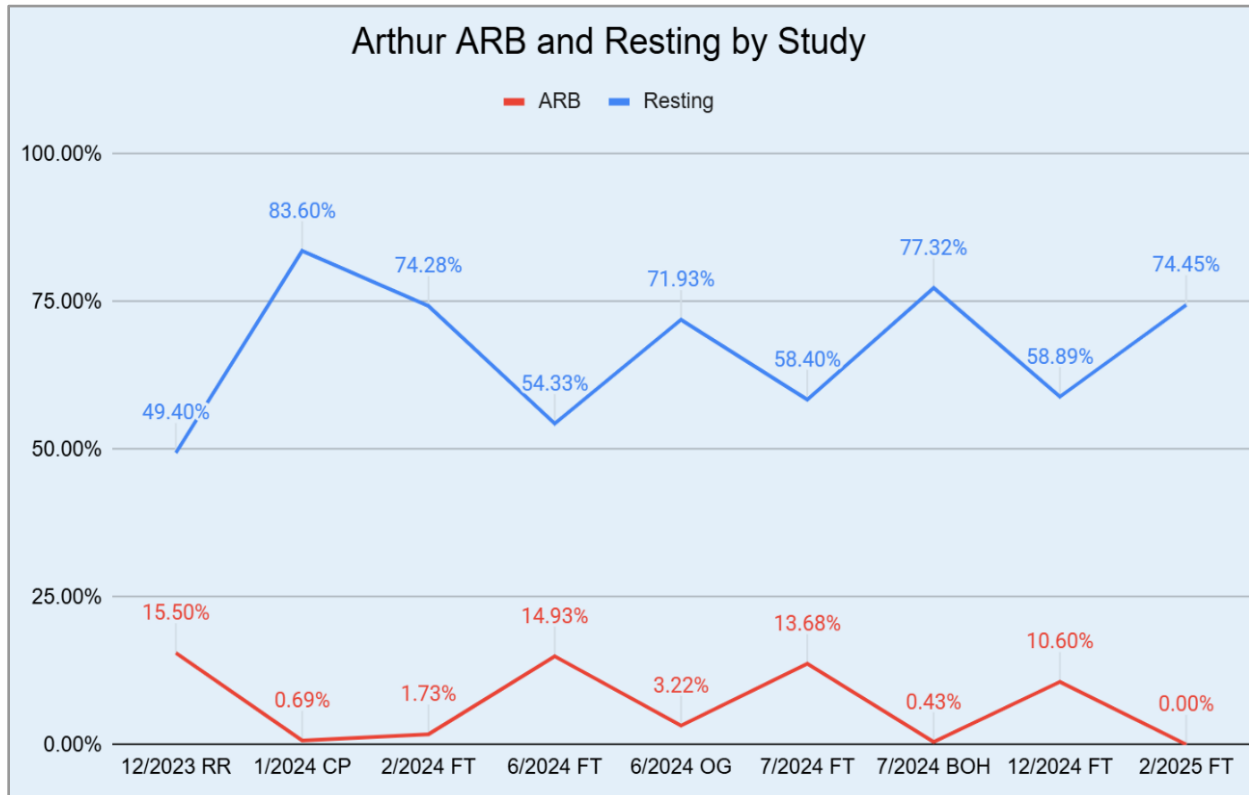
Interestingly, we learned something different when looking closely at Dozer's and Arthur's behavior after several rounds of interventions and follow-up studies. Our initial study on Dozer was completed in November 2023, and, at the time, Dozer, now 23-years old, was a retired ambassador animal living solely in one habitat behind the scenes and no longer used in guest encounters. Her initial study showed 10.4% of her time was spent doing an ARB and



53.8% of her time was spent resting. Because we now had baseline information to which we could compare the impact of our husbandry decisions, we decided as a first intervention to put her in a public facing habitat. In a study completed in one of our park habitats, her ARB decreased by half, amounting to 5.2% of the observed period. In addition, her resting time increased to 74.0%. We were encouraged by the results but wanted to dig deeper into the differences between the habitats.

We considered several factors but ultimately decided to pursue if Dozer having access to a hide would have an impact. Armadillos are natural burrowers, so we have offered permanent hides to our armadillos historically. While Dozer was on our public viewing habitat, we did not offer a hide, but ensured that she had access to a similar depth of substrate as her back-of-house.

As a next step intervention, we tried removing Dozer’s hide. Excitingly, Dozer’s pacing decreased to 2.2%. We continued to observe Dozer with and without a hide in several habitats and the results remained the same. As a result, we removed Dozer’s hide as a “furniture” item, modified her enrichment calendar to include materials that would allow her to build her own burrow nesting spot, and determined a standard depth of substrate for any habitat she’d visit.



Arthur, however, proved to be less straightforward. His pacing differed dramatically depending on which habitat he was in for the day and even between different studies in the same habitat - ranging from 0.4% to 15.5%. There was not a strong correlation between habitat size, on habitat vs back-of-house days, temperature, season, or time spent digging. There was a slight correlation between overall activity and pacing and substrate coverage and pacing. In response, we upgraded Arthur’s housing when off habitat so he would have more space by modifying the ground of our sloth habitat. In his new housing back of-house, we saw the lowest ARB to that point of 0.42%. We also increased the depth of substrate in all of the habitats he spends time in. We also changed our feeding strategy to give Arthur access to his food earlier in the day which anecdotally seemed to decrease pacing.

Like Dozer, Arthur’s ARB was also inversely correlated with his resting - the more he rested, the less pacing we saw. Unlike Dozer, Arthur’s ARB did not lessen when premade hides were removed. In fact, the opposite was true, Arthur’s resting increases and his pacing decreases when he has access to a familiar premade hide. In our most recent study, we put his hide (an old animal crate) from his back-of-house habitat to the public viewing habitat in which

he typically has high levels of ARB. With access to his crate hide, his ARB dropped to 0% and he rested 74.5% of the study period.

From here, we will work with Planning to create a hide that can move with him between habitats but blend more seamlessly into the surroundings when he is in public view. Our hopes are that a hide that smells like him might encourage levels of resting, and in turn, low levels of ARB. Each of our nocturnal activity budget studies has taught us a new nugget of information about our animals, and I am excited to see what we learn next!



Photo #1 – Tango, Taken by Julia Schwendenman

Photo #2 – Dozer, Taken by Julia Schwendenman

Photo #3 – Arthur, Taken by Jackie Espinal

Domain 5: Mental State – Thinking Outside Of The House!

By Jen Dew, Senior Wild Encounters Specialist, Animal Encounters Village

Macky, a nineteen year old laughing Kookaburra, is fully flighted and is observed utilizing his whole house every day. At this time, we are unable to consistently give him access to a bigger living space. As a team we brainstormed other enclosures, that are more dynamic, where he could spend time outside of his normal living space.



One new enclosure opportunity we generated for him was to share space with our capybaras. We added perching to the capybara house to suit his needs and in the space, he was able to engage with features of the space that he doesn't have in his normal enclosure; he would hunt crickets out of the pool and forage for bugs in the hay. Unfortunately, in the summertime spending time in the capybara house is not an option because Macky would have access to the outside yard which is not enclosed. We wanted to find a more mentally stimulating option for him inside.



Another opportunity we decided to try was letting him spend time in our behind-the-scenes tour space and this has also been a success. This space is substantially larger than his house with multiple places for him to perch up very high in the ceiling. He seems to enjoy this space a lot. We even sometimes see him warming himself up high near the large spotlights that light the room. Not only is the tour space a much larger and more dynamic space, but he also gets to engage with the team when he's in there too. We do our team meetings in the tour space and occasionally Macky will join us in attending. We can also open the doors to the hallway window so he can people watch and guests can watch him in the tour space too! Overall, we have been able to meet his need for novelty and mental stimulation by offering him opportunities to spend time in nontraditional spaces.

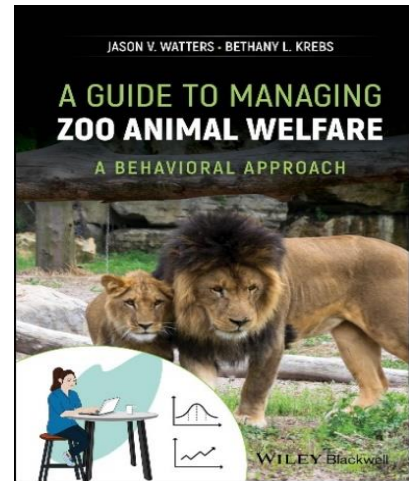
Science Summary – Book Club Series!

We normally summarize research articles but over the course of the next few newsletters, we are going to work through our first animal welfare textbook!

“A Guide to Managing Zoo Animal Welfare: A Behavioral Approach”

Book by Jason Watters & Bethany Krebs, 2025

Chapter Summaries by Zach England,
Region Assistant for Wellbeing



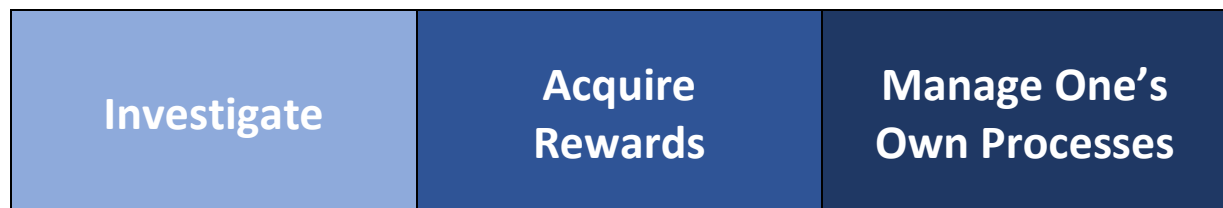
Chapter 1 – Background Concepts and Goals

This chapter sets the stage for the entire book by covering the foundational science and theories that the authors use to support their work. It begins with an overview of the Cambridge Declaration on Consciousness, created in 2012 by a group of prominent neuroscientists. The Declaration states that "emotional feelings" arise from neuroanatomy shared by humans and nonhuman animals, and that all animals possess "evolutionarily shared primal affective qualia." This essentially means that intrinsic self-assessment of positive and negative feelings is evolutionarily old, and that all animals engage in this process.

The chapter emphasizes that animals have experiences that are affectively either positive or negative. Simply put, when something happens, an animal either feels good about the outcome or does not. Animal wellbeing results from an animal mainly having these primarily positive experiences.

The central goal of the book is to provide a general technique to assess animals' own perspectives of their welfare state and to suggest ways to provide positive opportunities when an animal is negatively out of balance. Throughout the book, the authors refer to animals' core behavioral Needs: investigating, acquiring rewards, and managing one's own processes. These three Needs are capitalized to set them apart from other needs an animal may have.

In its simplest sense, an animal's mind is nurtured when the animal acquires meaningful and sometimes novel information, experiences occasional and predictable success, and has behavioral options that permit them to express agency. These are key to maintaining animal wellbeing across the zoo!



Chapter 2 – Is Wild Animal Behavior a Proper Template for Captive Animal Behavior?

The authors challenge the common belief that animals in captivity should mimic their wild counterparts' behaviors to experience good welfare. They argue that wild animals often face harsh conditions that do not necessarily equate to good welfare. For example, a wild prey animal separated from its social group and wandering across a landscape filled with predators is not experiencing good welfare, even though this is a common circumstance for many wild animals.



The authors state that wild polar bears do not crave long walks on endless sea ice; they need them to find the widespread and unpredictable resources that can satisfy their physical needs. In captivity, polar bears do not require these walks. Rather than focusing on the behaviors we see in the wild, the welfare-minded animal care professional should focus on behaviors indicating positive welfare - regardless of their natural frequency and appearance.

Larger spaces alone will not ensure positive welfare for zoo animals. Neither will soft substrates, real vegetation, nor physiologically neutral temperatures. While modern zoo enclosures should include these elements, they are not enough for an animal to maintain wellbeing. The problem is that captive animal environments are often profoundly not dynamic. Animals quickly learn that the resources they desire most are associated with cues from outside their environments and often at predictable times.

Unfortunately, animal habitats are vastly expensive, and entire zoos cannot be rebuilt with each advance in animal welfare science. This has resulted in major advances to zoo animal welfare science being almost exclusively related to animal care and husbandry (training, social housing, 24hr access to preferred spaces, enrichment, etc.), with very little innovation in the way zoo habitats are designed to support animal welfare.

Ultimately, it is the responsibility of those caring for animals to ensure they tend to their charges' psychological needs. This is not to say there are no substandard animal spaces; there most certainly are. Nonetheless, the welfare of an animal should not be judged solely on the space in which it lives – or the way their behaviors reflect “wild.”



Gorilla exhibit of the "green tile" period. This emphasis on isolation from potential diseases kept apes alive but didn't provide for their psychologic well-being.



Willie B, in 1988, on his first day outdoors in 27 years at Zoo Atlanta, where nature was the design model.

Will gorilla habitats in the future be focused on positive experiences rather than disease prevention or “the wild”?

Chapter 3 - Investigating



Investigation is a fundamental need for animals, allowing them to seek new opportunities and gather information to understand their world and act within it. Different species may use various cognitive processes to engage with this motivation, but it stems from a core behavioral Need. Fulfilling this Need is crucial for optimizing animal welfare, as it results in positive feelings and can be a precursor to exerting control.

Animals are driven to learn about what is happening in their world, even when they receive no external reinforcement for doing so. When “knowing” is the goal, the act of information gathering is rewarding on its own. However, it doesn’t take long for some animals in human care to have thoroughly explored the spaces they live in, the opportunities available within them, and the timing of events that are important to them. With no new knowledge to gain, animals’ motivation in learning drops off. On the other hand, when it is impossible to arrive at a solution because the environment is entirely unpredictable and the animal’s previous experience cannot inform behavior, the animal’s motivation to take part in learning also drops off.

While animals in zoos benefit from environmental reliability, this can lead to a lack of positive experiences from investigating their space. Since investigation is ultimately aimed at gathering knowledge, an environment in which an animal comes to understand that there is virtually nothing left to learn will result in a loss of behaviors aimed at doing so. These animals are in a negative state of welfare as it relates to the ability to experience the positive emotions associated with investigating and may require long-term behavioral therapy to encourage them to engage with new opportunities again.



Animals with experience in varied environments may behave more confidently and optimistically, treating new stimuli as opportunities rather than threats. Investigation helps animals build confidence by developing an understanding of their world, allowing them to identify threats or opportunities and respond appropriately. It is often the first step in chains of behaviors, leading to learning, making choices, and expressing agency. Providing numerous and varied stimuli for animals under human care can stimulate a variety of behaviors, supporting their welfare.

Chapter 4 – Acquiring Reward

The second behavioral Need for animals is acquiring rewards, which is essential for their survival, development, and reproduction. This process often involves a sequence of behaviors, such as a lioness tracking, stalking, and killing prey. Similarly, breeding in many animals is preceded by complex courtship behaviors. Although, we often refer to such behaviors by the consummation of the sequence – feeding or breeding.



Natural selection drives animals to acquire basic needs like food, water, and territories. Successfully meeting these needs provides positive feedback through the consummation of the behavioral drive, positive physiological experiences, and positive emotions. Every time an animal acquires a resource, it is an opportunity for a moment of positive welfare.

The motivation to engage in these behaviors is as real as the need for food or water, supporting psychological and affective wellbeing. Highly-motivated behaviors are often tied to the species' ecology - otters will work to swim, prairie dogs to burrow, and pig to root.



We expect an individual who is hungry to be more motivated to obtain food because they perceive they need the meal. The same principle can apply to other positive experiences. An individual who has been deprived of positive experiences will become reward sensitive. Increased reward sensitivity will motivate the animal to acquire positive opportunities, which often manifests as intense anticipatory behavior. In a sense, an individual's reward sensitivity reflects their own perception of the balance between positive and negative events in their life.

General Updates and Conclusion

General Updates

The Animal Wellbeing Committee will have its second quarterly meeting for the year on June 11th. Each subgroup will review the progress they have made during the first half of 2025.

- **Subcommittee Highlight** – The Animal Wellbeing Zookeeper Subcommittee (AWZS)!
 - A huge thank you to Megan Saylor, the previous chair of our AWZS, for all of her hard work and leadership over the past few years. We wish her the best as she moves on to a new position outside of the zoo! We are excited to welcome Lauren Meyers to the subcommittee as the new Pinnipeds representative!!
 - Currently, the AWZS is partnering with Audra Meinelt to standardize the way we document and track animal wellbeing action steps across regions.
 - Additionally, the group is working with Shannon Borders to create a guide that keepers can use when they are setting up and completing observation projects! Stay tuned!!

Conclusion

Thank you for reading the second issue of the 2025 CZA Animal Wellbeing Newsletter! As always, please contact adam.felts@columbuszoo.org or zach.England@columbuszoo.org with questions, comments, or ideas regarding the newsletters or anything animal wellbeing!

