Welfare Webinar Wednesdays: Underrepresented taxa assessments

Presented on behalf of AZA Animal Welfare Committee

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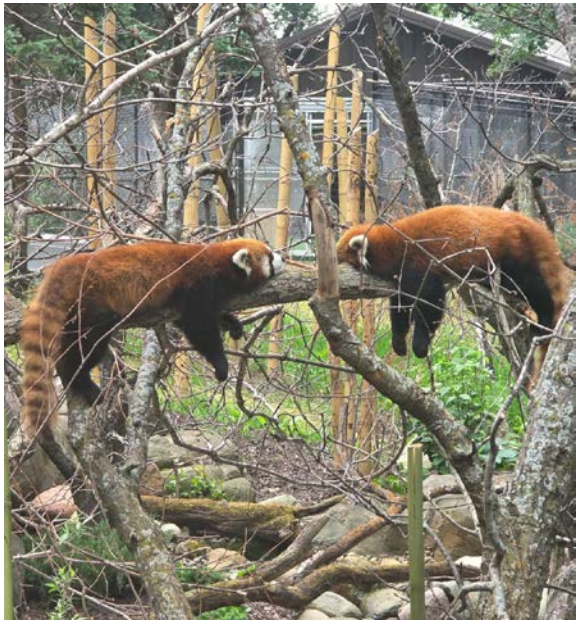
Monthly series

- Welfare Webinar Wednesdays: Defining Welfare and Wellbeing
  - Webinars will explore compelling and relevant topics in Animal Welfare and Wellbeing, feature subject matter and species experts, offer varied industry perspectives, and time for conversation in the community
  - Register here: https://www.pathlms.com/aza-learn/courses/56110/sections/119622
- Second Wednesday of the month
  - Follow up the conversation the next day at Animal Welfare Committee virtual “Office Hours” which are the second Thursday of the month at 1pm EST (ongoing since 2022)
    - The Zoom link is https://us06web.zoom.us/j/82093090810?pwd=BVWrYSn29R8yCc5oal0sSSyz1DeR8o.1
    - Meeting ID: 820 9309 0810
    - Passcode: 855950



Preview of upcoming webinars https://www.pathlms.com/aza-learn/courses/56110/sections/119622

Month	Topic
April 8	Underrepresented taxa assessments
May 13	Mitigating undesirable behavior
June 10	Feeder animals
July 8	Preferences, cognitive bias, contrafreeloading
August 12	Establishing event parameters
September 9	Full spectrum lighting

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Welfare Assessments for Underrepresented taxa assessments

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Learning Outcomes

Inform animal care professionals of tips for performing welfare assessments on understudied taxa. This can include creating assessments, improving communication and writing guides.

1

Finding Confidence in Welfare Assessments

Kendle Enter

Curator

South Carolina Aquarium

2

Implementation of Assessments for Animal Care Teams

Hilary Colton

Animal Keeper

Smithsonian's National Zoo & Conservation Biology Institute

3

Invertebrate Welfare assessments

Selena Mayer

Zookeeper

Sedgwick County Zoo

4

Adapting assessments for reptiles and amphibians

Katie Vyas

Director of Animal Wellbeing

Denver Zoo Conservation Alliance

5

Developing SWIGs for aquatic species

Linda Penfold

Executive Director

South-East Zoo Alliance for Reproduction and Conservation

Rachel Stein

Director of Animal Husbandry

The Maritime Aquarium at Norwalk

Finding Confidence in Welfare Assessments for Understudied Species

Kendle Enter

So Challenging!

- Limited baseline information
- Few validated indicators
- Subtle behaviors
- Groups or Mixed species exhibits

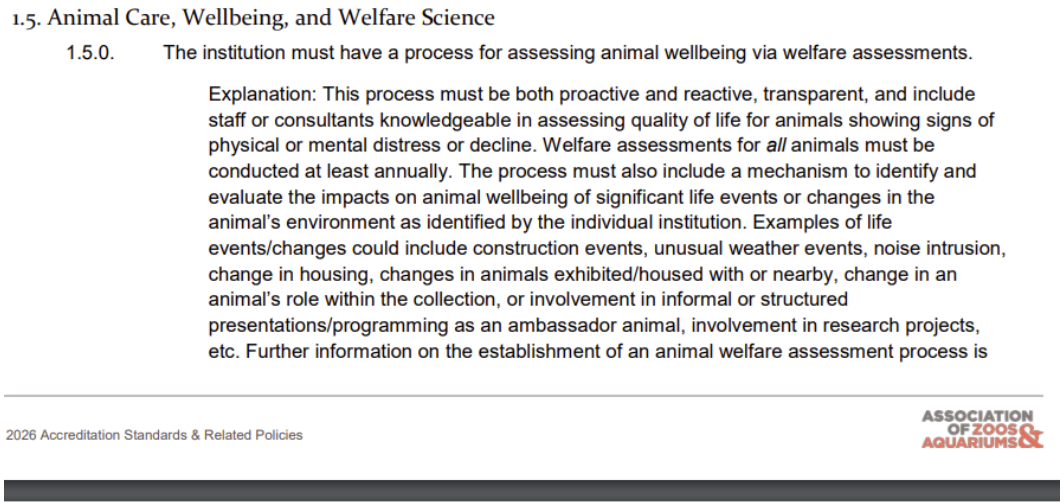
AZA Standard 1.5.0

Does require annual holistic assessment conducted at collection level

Does Not require detailed assessments for every individual animal

Assessments help prioritize attention & resources

A structured framework



1.5. Animal Care, Wellbeing, and Welfare Science

1.5.0. The institution must have a process for assessing animal wellbeing via welfare assessments.

Explanation: This process must be both proactive and reactive, transparent, and include staff or consultants knowledgeable in assessing quality of life for animals showing signs of physical or mental distress or decline. Welfare assessments for ***all*** animals must be conducted at least annually. The process must also include a mechanism to identify and evaluate the impacts on animal wellbeing of significant life events or changes in the animal's environment as identified by the individual institution. Examples of life events/changes could include construction events, unusual weather events, noise intrusion, change in housing, changes in animals exhibited/housed with or nearby, change in an animal's role within the collection, or involvement in informal or structured presentations/programming as an ambassador animal, involvement in research projects, etc. Further information on the establishment of an animal welfare assessment process is

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available from AZA, and online in AZA's Accreditation Resource Center at https://www.aza.org/accred-resource-center (you will be requested to log in using your individual membership user name and password).

Thriving?

Look at variety of aspects

Inputs vs Outputs: What tells us the most?

Everyday observations

Focus on what seeing from Animal

Developing Specific Indicators

Start simple - You know the animal

- Natural history
- Individual history
- What's normal
- Needs

Work back from what you know

Developing Specific Indicators

To be effective:

- Observable & Repeatable
- Relevant & Practical

Clearly define each

Involve animal care staff

When Assessing - Remember

Stress & Resilience
- Natural to be challenged and fail

Observer Bias
- Can influence interpretation

Outputs, not just inputs
- Focus on what seeing from anim

Stay simple
- Doesn't need to be large scale

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Iterative Approach

Flexibility

Be willing to adjust & refine

It’s improvement!

Confidence grows from

Clarity & Practice

Collaboration

Observation

Continuous improvement

Implementation of Assessments for Animal Care Teams

Hilary Colton

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Challenges for assessors

- Familiarity of front-line animal care staff with welfare science
- Time available for assessments
- When is the an appropriate time of year to evaluate individuals/species?
- What happens when people disagree?

Internal stakeholder buy-in

- Evaluations are meant to serve as a management tool, not a judgement of care
- This is an opportunity to serve as the subject matter experts as methods develop
- Emphasize that if welfare assessments trend lower, they will not be penalized

Consistency in assessors

- Who is evaluating which exhibits/species?
- How frequently are assessments performed?
  - Minimum AZA requirement is annual evaluation, but can be institution or unit specific
- Is there discussion before/after assessments to see what might be refined?

Definitions

- Who was involved in defining what the outputs look like per species?
  - Front-line staff likely have important historic experience for consideration
- Is team in agreement of what each score means?

Score	Visual Concept	Meaning/Action
1	Red	Concerned notification + immediate action plan (make sure senior curator and vets are aware)
2		Monitoring prompts discussion to identify opportunities to improve
3	Yellow	
4		
5	Green	Good proceed as normal
NA		Not Applicable

Special considerations of individuals

Item (see details about topics to include in Definition Workseet tab)	Animal 1: Responses	Animal 1: 1.0 Sunbittern "Wonk" OUTPUTS - If NOT GREEN/5, but expected, why? INPUTS - If "no", include suggestions for improvement)	Animal 1: Responses	Animal 1: 0.1 Sunbittern OUTPUTS - If NOT GREEN/5, but expected, why? INPUTS - If "no", include suggestions for improvement)
Date	11/6/2021		11/6/2021	
Name(s) of assessor(s)	H. Colton		H Colton	
Species	Sunbittern		Sunbittern	
Animal Name	"Wonk"			
Accession Number	212763	Hatch date 08/30/1992	215505	Hatch date 06/27/2005
Integument	5	skin tag on side of face	5	
Atypical Body Structure		Missing toes on left foot, right wing does not fold properly	N/A	
Conformation	4	Walk is slightly wobbly due to missing toes (typical for individual)	5	
Mobility	4	Missing toes minimally impact his ability to land on thin perching	5	
Physiological Discomfort	5		5	
Weight - Units (LB or KG)	0.205kg		0.196kg	
Weight - Date	9/2/2021		8/23/2021	
Activity (Fitness)	5		5	
Activity (Behavior)	5		5	
Self Care/Maintenance	5		5	
Demeanor (with group mates)	4	Displaced by female by her actions, calling between birds but not affiliative contact	4	Occasionally displaces male from training sessions or hand feeding location
Demeanor (with keepers)	5		5	
Food Motivation	5		5	
Eating/Drinking	5		5	
Feces/Urine Output	5		5	

Assessing group managed species

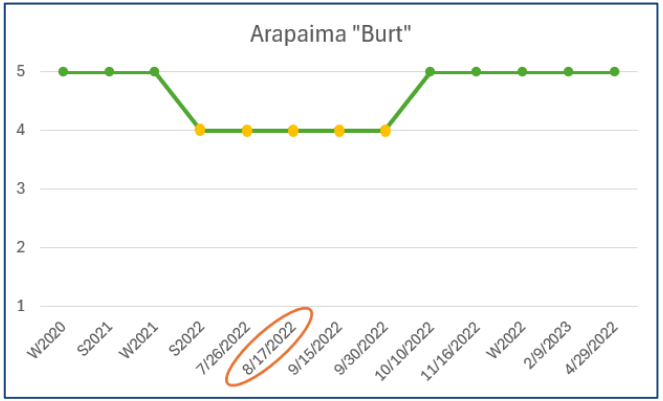
- Understudied species may be managed as groups, rather than individuals

- Training per team might be useful to discuss methods per exhibit
    - Difference between terrarium and 10,000 gallons

Item (hover over output items for details about topics to include in the definition)	Animal 11: Responses	Animal 11: 0.0.5 Eartheater cichlid OUTPUTS - If NOT GREEN/5, but expected, why? INPUTS - If "no", include suggestions for improvement)	Animal 20: Responses	Animal 20: 0.0.1 Eartheater cichlid OUTPUTS - If NOT GREEN/5, but expected, why? INPUTS - If "no", include suggestions for improvement)	Animal 20: Action Plan (if RED/1 & discussed with team)
Date	3/27/2026		11/23/2025		
Name(s) of assessor(s)	H Colton		H Colton		
Name(s) of assessor(s)					
Location	Pool 4		Pool 4		
Species	*Geophagus altifrons*		*Geophagus altifrons*		
Animal Name					
Accession Number	500846		500846		
Integument	5		5		
Vision (see Definition Worksheet for details)	5		5		
Conformation (atypical body structure is included in this)	5		5		
Mobility	5		5		
Physiological Discomfort	5		5		
Body Condition Score (by Vet or Nutritionist) - Number	N/A		N/A		
Body Condition Score (by Vet or Nutritionist) - Date					
Body Condition Score (by Vet or Nutritionist) - Color Code					
Body Condition Score (by Keeper) - Number	5	(HC)	3	Swollen ceolom- historic issue with previous Geophagus (HC)	monitor until behavior or appetite is compromised
Body Condition Score (by Keeper) - Color Code					
Weight - Number	N/A		N/A		
Weight - Units (LB or KG)					
Weight - Date					
Weight - Color Code					
Activity (Fitness)	5		5		
Activity (Behavior)	5		5		
Self Care/Maintenance	5		5		
Demeanor (with group mates)	5		5		
Demeanor (with keepers)	N/A		N/A		
Food Motivation	5		5		
Eating/Drinking	5		5		

Discussion and refinement

- Increased communication with assessors following evaluations
  - This output score changed - do we need to accommodate for this?
  - Are any individual's outputs trending up/down?



Historic data

- Welfare assessments should be considered over time
- Keep previous definitions and scores, even if species or individuals are no longer in collection
- Staff turnover should not mean knowledge lost - capture the reasoning behind scores as best you can

Developing Invertebrate Welfare Assessments

Selena Mayer

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What common questions do we ask about vertebrates that are inapplicable to invertebrates?

- No training for medical procedures, keeper interactions, or guest programs
- Lack of quantifiable medical indicators

Opportunity for Choice and Control
Animal can regulate interactions with caregivers and indicate when to participate in training/programs
Interactions with caregivers are mostly positive or neutral
Animal voluntarily chooses to participate more often than not
Animal can regulate interactions with guests and indicate when to participate in feeding/programs
Animal engages in pleasurable behaviors (e.g. eating, play, enrichment, copulation)
Animal engages in natural behavior during enrichment
Animal exhibits *absence* of abnormal, stereotypic, or self injurious behavior
Animal exhibits *absence* of chronic stress
Animal makes progress in training for medical behaviors
Comments/ concerns about Mental State:

What common questions do we ask about vertebrates that are inapplicable to invertebrates?

- Exoskeleton condition is not necessarily a reliable indicator of welfare
- Level of environmental control has high welfare impact
- Scaling problems-short lifespans, large numbers, high diversity

Opportunity for Optimal Health
Animal has appropriate condition of skin/fur/feathers/scales
Animal has appropriate condition of teeth/beak/tusks
Animal has appropriate condition of feet/hooves/nails/fins
Animal has appropriate mobility/range of motion/posture
Animal exhibits *absence* of acute illness, chronic disease, injury, parasites, behavioral indicators of pain
Animal has normal fecal/urine quantity/quality
Animal exhibits choice and control over its physical well-being (e.g. groom/preen)
Animal has body condition score within normal range

What indicators do all these animals have in common?







Population Management vs Individual Care

Population Management for Assessing Welfare

Opportunity for Optimal Health
There are expected ratios of life stages present (evidence of eggs, juveniles, adults)
Animals progress through life stages (e.g. egg to pupa to adult) successfully
There is evidence of reproductive activity (e.g. oviposition**s**)
Reproductive goals for this species are being met consistently
This species' nymphs/larvae have not experienced significant developmental issues (e.g. molting problems, outside expected bounds) since the last assessment ("Y" if no problems)
Adults are meeting longevity expectations
Mortality rates for each life stage are appropriate
There have not been any unexplained mass mortality events since the last assessment ("Y" if no problems)
Pests/parasites are absent

Opportunities for Optimal Health

- There are expected ratios of life stages present (evidence of eggs, juveniles, adults)
- Animals progress through life stages (e.g. egg to pupa to adult) successfully
- There is evidence of reproductive activity (e.g. ovipositions)
- Reproductive goals for this species are being met consistently
- This species' nymphs/larvae have not experienced significant developmental issues (e.g. molting problems, outside expected bounds) since the last assessment)
- Adults are meeting longevity expectations
- Mortality rates for each life stage are appropriate
- There have not been any unexplained mass mortality events since the last assessment
- Pests/parasites are absent

Other Considerations

- Opportunity to Express Species-Specific Behavior
  - Animals use enclosure elements appropriately (e.g. substrate, horizontal and vertical space, hides)
- Opportunity for a Well-Balanced Diet
  - There is evidence that animals are eating
- Opportunity to Self-Maintain
  - The climate is kept with the correct parameters for the species
  - Animals show evidence of being able to adjust their micro-environment (e.g. towards/away from light, moisture, substrates, etc)

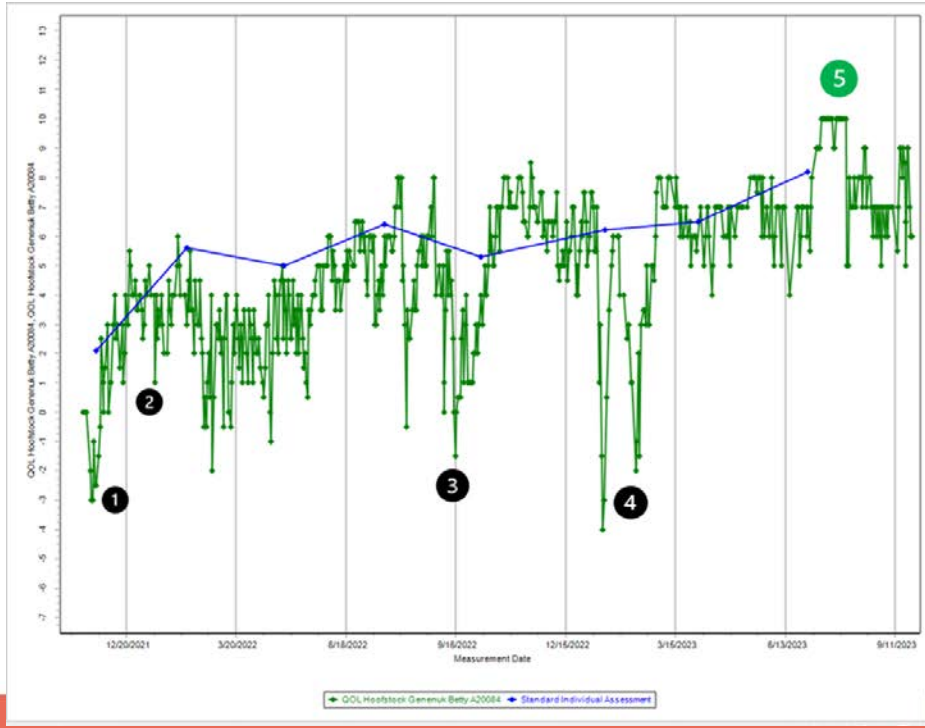
Re-imagining understudied taxa welfare assessments

Katie Vyas

Re-imagining understudied taxa welfare assessments

- Advocacy for a meaningful life
- Considerations for understudied taxa welfare assessments (ectotherms)
- A collaborative approach to re-imagining an assessment tool
- Outcomes

Wellbeing assessments promote advocacy



1)Dec 2021 – 1st action plan started

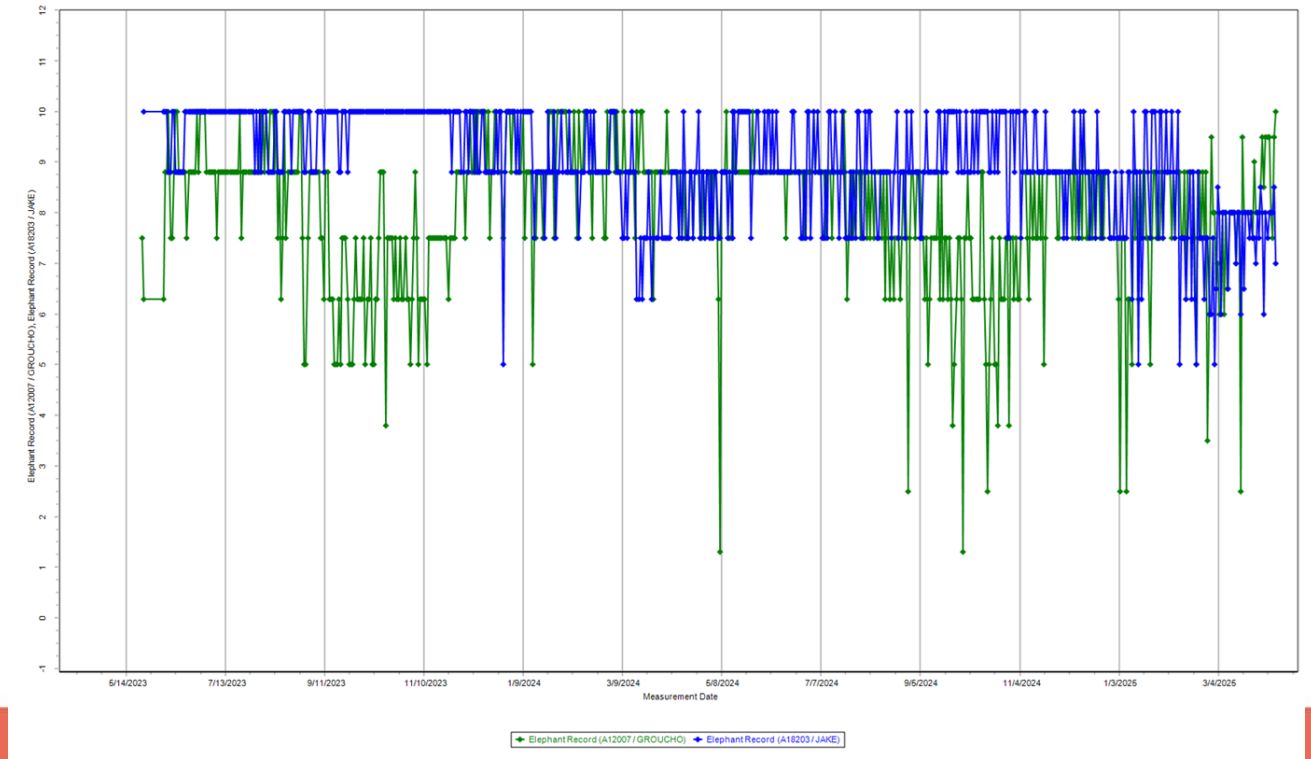
2)Feb 2023 – Dir of AWEL sending monthly reports

3)Indicators of pain; meds adjusted

4) Introduced to kudu and crane

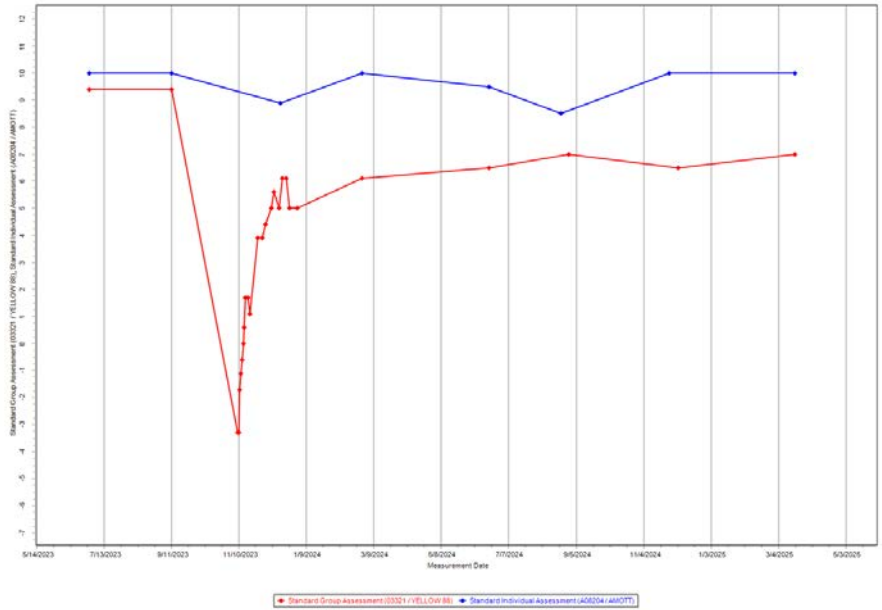
5) Meeting "meaningful life definition

Wellbeing assessments promote advocacy



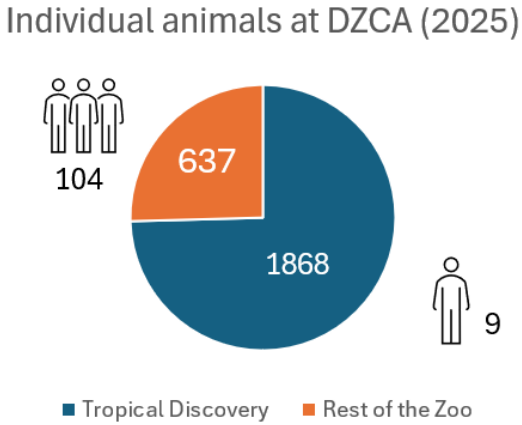
GNRH

Wellbeing assessments promote advocacy



Advocacy for understudied taxa

We need an assessment tool that works



Animal:Caretaker ratio

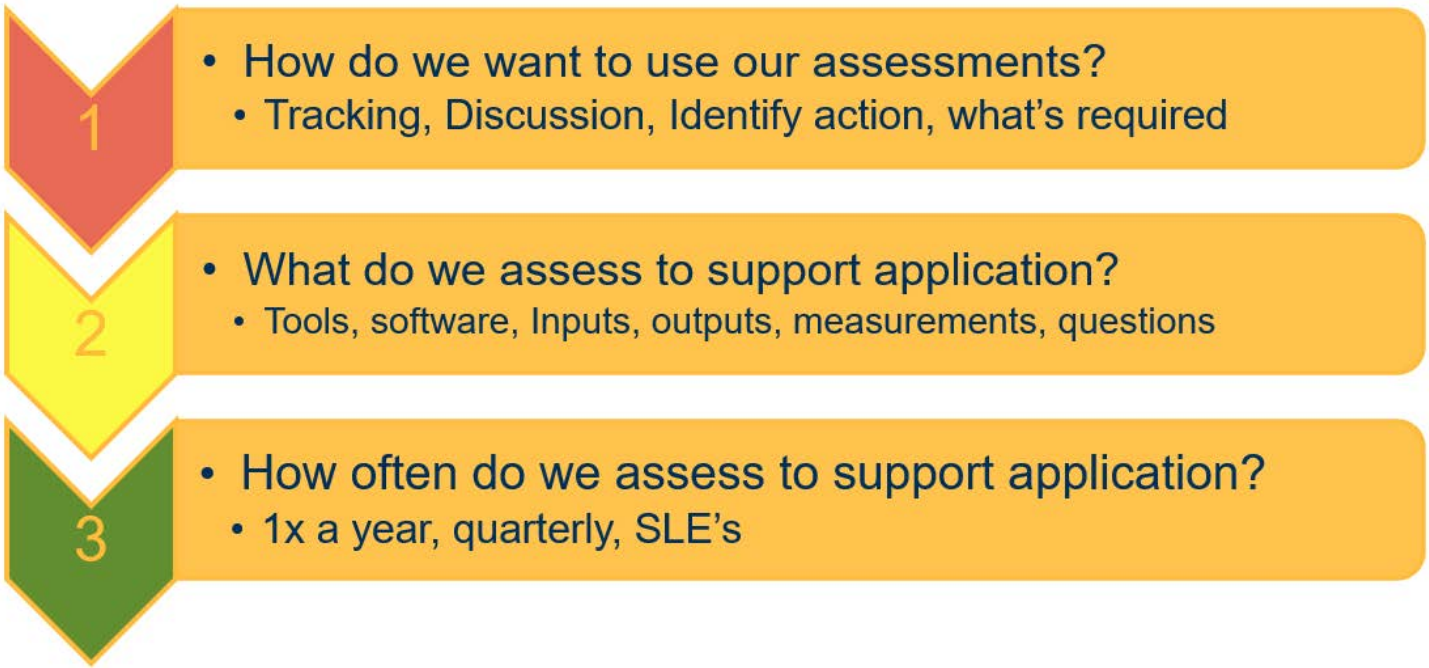
Indicators

Action/advocacy

Outcome-based approach to re-designing assessments

- Workshop with animal care specialists, veterinarians, nutrition team, neighbors
- Provided basic requirements
- Application
- Indicators, tools, etc.
- Frequency
- Roadblocks/challenges
- Focus group

Outcome-based approach to re-designing assessments



Building an effective tool together

Entity A17269

Assessment Time 3/12/2026 1:43 pm

Observation Type	Weight	1/17/2026	Assessment	Comment	Copy to Animal Journal
Opps for natural feeding?	0.00	Yes			
Animal consuming nutrionally balanced diet?	10.00	1 Yes			
Does feeding behavior align with natural history?	10.00	0 Somewhat			
Opps to support social needs provided?	0.00	Not a social species			
Are social interactions appropriate?	10.00	NA			
Options for choosing different environmental conditions?	0.00	Yes			
Animal utilizing habitat in a species-appropriate way?	10.00	1 Yes			
Can animal self-maintain without assistance?	10.00	1 Yes			
Does the habitat support temperature needs?	0.00	Yes			
Does the habitat support basking requirements?	0.00	Yes			
Does the habitat support UV needs (if app)?	0.00	Yes			
Water temp in the correct parameters (if app)?	0.00	NA			
Does the habitat support humidity requirements?	0.00	Yes			
Does physical condition align with species standards?	10.00	1 Yes			
Does body condition align with species standard?	10.00	1 Yes			
Are environmental factors causing distress?	10.00	1 No			
Is this animal healthy?	10.00	1 Yes			
What was the animal's response to programs?	10.00	NA			
Ambient temp reading (optional)	0.00	80-85			
UV reading (optional)	0.00	0-4			
Basking temp (optional)	0.00	110			
Humidity reading (optional)	0.00	40-60			
If outside normal assessment schedule, what is the reason?	0.00				
Life stage transition before next assessment?	0.00				
Any additional comments?	0.00				
Any needed actions identified from this assessment?	0.00				

- Question format
- Increased attention to how inputs affect oucomes (grouping)
- Ability to collect qualitative and quantitative data
- Identify actions
- Whole-life planning
- Addressed road-blocks
- Meets requirements

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An ectotherm assessment our staff can stand behind

- Utilized a collaborative process that aligns with core values
- User designed = **buy-in**
- A tool that is customized to ectotherms = **applicable info**
- Identifying action = **advocacy**

Species Welfare Indicator Guide for Aquatics

Linda Penfold and Rachel Stein

AZA | Learn

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Species welfare indicator guide for aquatics

Linda Penfold and Rachel Stein

Q&A

NEXT STEPS

- Follow up the conversation tomorrow at Animal Welfare Committee virtual “Office Hours” which are the second Thursday of the month, 1pm EST (ongoing since 2022)
  - The Zoom link is https://us06web.zoom.us/j/82093090810?pwd=BVWrYSn29R8yCc5oal0sSSyz1DeR8o.1
  - Meeting ID: 820 9309 0810
  - Passcode: 855950
- Download the resources on the AZA Learn page (bibliography, links, etc)
- Please join us again on May 13!
  - Mitigating undesirable behavior