



Animal Welfare Program

(Deconstructed/Sample Components Only)

Revision Date

November 2022

Table of Contents

Introduction & Goals	Page 3
Animal Welfare Overview	Page 4
Dakota Zoo Welfare Program Purpose & Principles	Page 7
Components of the Animal Welfare Program	Page 8
Inputs and Outputs	
ZIMS Species 360 Assessments	
Quality of Life Assessments	Page 10
Nutrition Program	Page 11
Medical Care Program	Page 11
End of Life & Euthanasia Policy	Page 12
Behavioral Husbandry	Page 12
Training Program	
Enrichment Program	
Animal Welfare Concern Form Process	Page 13
Animal Welfare Committee	Page 14
Species Natural History & Individual History Considerations	Page 14
Animal Care Manuals	
Appendix A: Sample of ZIMS Assessments, Check Sheet, & Work Order	Page 16
Appendix B: Quality of Life Assessment Form	Page 19
Appendix C: Euthanasia Request Form	Page 20
Appendix D: Welfare Concern Form	Page 21
Appendix E: Natural and Individual History Questions	Page 22

ZIMS Species 360 Care and Welfare Assessments Module

There is general agreement that there is no single measure of welfare. Instead, an animal's welfare is assessed by monitoring multiple relevant indicators. Typically, scientists and animal care staff assess any number of input variables that can impact an animal's overall experience; these are sometimes termed resource-based variables. These are the "ingredients" that go into providing an opportunity for an animal to experience good welfare. In addition to inputs, outputs are also assessed. Outputs are health and well-being indicators (animal based) including behavioral, physical, and/or physiological assessments. These assessments of inputs and outputs can be accomplished through qualitative, methodical, and scientific evaluations by experienced animal care staff monitoring both inputs and outputs through daily keeper notes, descriptions, photos/videos, discussion, and work plans, as well as by inspectors during an accreditation or certification process.

The Dakota Zoo uses the Care and Welfare Module in ZIMS Species 360. Our templates and indicators for assessing welfare in the Care and Welfare Module include:

Environment	Behavior	Nutrition	Mental Domain	Physical Health
Choice and Control: Provided Environment	Activity Budget	Active dietary choice	Mental: Stress Levels	Fecal/Urine Output
Appropriate Sensory Environment	Activity Level: Age & Species	Species typical food consumption behavior	Subjective Assessment of Animal Well-Being	Feet/Hoof Health
Evidence of Environmental Interaction	Parenting/rearing behavior			Health Status
Exploration Opportunities	Behavioral Diversity			Evidence of pain/discomfort
External Impacts	Choice and Control: Observed Behaviors			Life Stage Adaptations
Indoor/Outdoor Access	Self-maintenance behavior			Mobility, Range of motion
Shelter/refuge opportunities	Social Grouping			Physical Appearance
Thermoregulatory opportunities	Reproductive behaviors			Sensory Ability
	Stereotypic Behavior (Observed)			Teeth/Oral Health
	Training engagement			
	Use of environment			
	Use of refuge/shelter opportunities			
	Species appropriate social behavior			
	Abnormal/undesired behaviors			

Welfare Action Items and Follow Up

Welfare Action Items: Any welfare concern or opportunity that should be addressed as a result of a welfare assessment. These items can be of high, medium, or low priority concerns or simple enhancements to already good welfare.

During each assessment, any welfare action item(s) that come up as a result of the input/output discussions will be noted in the Welfare Assessment excel check sheet. The staff member(s) doing the assessment are responsible for the oversight, follow through, and completion of that item

(even if tasks are delegated to other team members). The date assigned and completion date will also be noted. Large scale and high priority items will be put into a Work Order Form, be identified as a 'welfare action item', and be assigned a 'priority level' which indicates an appropriate timeline for completion.

Visual Sample of ZIMS Species 360 Assessments, Welfare Assessment Check Sheet, and Work Order Form are found in Appendix A

Quality of Life Assessments

As already stated, the Dakota Zoo strives to provide excellence in animal care and welfare. The Quality of Life assessments are a supplement to our Animal Welfare Assessments. These assessments help staff more closely monitor individual animal needs as they age or develop health concerns. These assessments also aid in animal management decisions as they pertain to end-of-life care and euthanasia. The focus of Quality of Life Assessments is to acknowledge where an animal is in their life cycle (age), assess their current state of wellbeing (outputs), and consider adjusting care as needed to better suit the individual. Animals are viewed as juvenile, adult, or senior based on general age parameters for animals in human care and an additional consideration is made for animals noted as 'geriatric'.

The Dakota Zoo defines geriatric as, "*animals that require special care due to changes that occur in the body due to aging. It is a state of being, not a particular age, where the body is more fragile and requires more attention than that of younger, healthier individuals.*" The Dakota Zoo recognizes the importance of increased observation and care for its aging animals and has implemented these assessments as a way of addressing that need.

Our Quality of Life Assessment Program includes:

- A modified HHHHMM Scale, often used in Veterinary practice and modified for the assessment needs of the Dakota Zoo. (Hurt, hunger, hydration, hygiene, happiness, mobility, and more good than bad days, modified with senses and social.)
- A recommended guideline of one assessment performed per year for each adult and juvenile animal alongside the Animal Welfare Assessment.
- A recommended guideline of quarterly assessments performed per year for each senior animal.
- A recommended guideline of monthly assessments performed per year for each geriatric animal.
- Opportunity to use the assessments more as needed (e.g., weekly or daily) for special cases, medical concerns, and end of life care and decisions.
- Animal care staff participation in, and knowledge of, regular assessments.
- An opportunity to voice and openly address all welfare-related concerns with managers.

Quality of Life Assessment Form found in Appendix B

Animal Welfare Concern Process

To ensure that animal welfare is always of the highest priority, it is important that all staff members (paid and unpaid) are able to bring forward to management any questions or concerns they may have about animal welfare without fear of retribution or judgement.

Process:

If a staff member identifies an animal welfare issue and is not comfortable discussing it in the weekly staff meeting or monthly Safety and Welfare Meeting, they can report it to a member of the Animal Welfare Committee directly, or via an Animal Welfare Concern Form. Regardless of how an animal welfare concern is communicated, a signed animal welfare concern form must be submitted to a member of the Animal Welfare Committee on the same day that the matter is first reported.

Animal welfare issues may include (but are not limited to):

- Health concerns
- Social housing concerns
- Housing or facility issues
- Behavioral abnormalities
- Nutrition or diet concerns

Welfare Concern Form found in Appendix D

Appendix A: Sample of ZIMS Welfare Assessments, Check Sheet, & Work Order

Templates +

Filter by Name Created by

Name	Created By	Created Date	Last Assessed Date	Institution Shared	Shared	Edit...
African Penguins	Allison Malkowski	Dec 12, 2021	May 24, 2022	✗	✗	✗
Ambassador Animal	Allison Malkowski	Nov 10, 2021	Nov 10, 2021	✗	✗	✗
Canids	Allison Malkowski	Oct 07, 2018	Nov 27, 2022	✗	✗	✗
Discovery Center	Allison Malkowski	Jan 08, 2019	Nov 14, 2022	✗	✗	✗
Farmyard	Allison Malkowski	May 18, 2020	Oct 26, 2022	✗	✗	✗
Felid	Allison Malkowski	Apr 05, 2022	Nov 27, 2022	✗	✗	✗

African Penguins

Date of Observation ^{*} Observation Time Observed By ^{*}

Animal	Environment					
	Shelter/refuge opportunities	Thermoregulatory opportunities	Choice and Control: Provided Environment	Appropriate Sensory Environment	Evidence of Environmental Interaction	Exploration Opportunities
Penguin						
3455 / Ambrose / African penguin	Please Select	Please Select	Please Select	Please Select	Please Select	Please Select
3456 / Doug / African penguin	Please Select	Please Select	Please Select	Please Select	Please Select	Please Select
3457 / Joop / African penguin	Please Select	Please Select	Please Select	Please Select	Please Select	Please Select
3461 / Banks / African penguin	Please Select	Please Select	Please Select	Please Select	Please Select	Please Select
3463 / Divit / African penguin	Please Select	Please Select	Please Select	Please Select	Please Select	Please Select

Browser: <https://zims.species360.org/Main.aspx>

Chart

3224/Rhinocactus leachianus/New Caledonia giant gecko/ZFV18-00957

Animal Detail

poppy Created by

From 12/1/2018 To 2/6/2019

Sunday, Jan 20, 2019

- Abnormal/undesired behaviors: **The animal is not showing atypical/undesired behaviors.**
- Activity level: **3 - Average**
- Atypical aggression: **This animal rarely, if ever, demonstrates atypical aggression.**
- Behavioral diversity: **Diversity in behaviors.**
- Self-maintenance behavior: **Self Maintained**
- Species appropriate social behavior: **Demonstrates species appropriate social behaviors.**
- Access to indoor/outdoor areas: **Animal has access to any indoor/outdoor areas for a majority of the 24 hour day.**
- Appropriate sensory environment: **Well established species appropriate (sensory) environment.**
- External impacts: **There are no external impacts that could affect animal welfare.**
- Shelter/refuge opportunities: **This animal has a species appropriate shelter.**
- Thermoregulatory opportunities: **This animal has thermoregulatory choices in their environment.**
- Body Condition Score: **5 - Ideal condition**
- Evidence of pain/discomfort: **3 - This animal doesn't give any signs that may indicate pain.**
- Health Status: **Normal**
- Mobility: Range of motion: **3 - Normal mobility/range of motion.**
- Physical appearance: **This animal has a great overall physical appearance.**
- Sensory ability: **This animal's senses appear to be functioning normally.**
- Active dietary choice: **This animal is fed a variety of items and makes choices among items for consumption.**

Click categories or indicators to include/exclude them in the chart:

- Behavior: Abnormal/undesired behaviors, Activity level, Atypical aggression, Behavioral diversity, Self-maintenance behavior, Species appropriate social behavior, Stereotypic behavior
- Environment: Access to indoor/outdoor areas, Appropriate sensory environment, External impacts, Interaction with environment, Shelter/refuge opportunities
- Physical Health: Thermoregulatory opportunities, Body Condition Score, Evidence of pain/discomfort
- Health Status: Health Status, Mobility: Range of motion, Physical appearance, Sensory ability
- Mental Domain: Subjective Assessment of Animal Well-Being
- Nutrition: Active dietary choice

Appendix A Continued: Sample of ZIMS Welfare Assessments, Check Sheet, & Work Order

Welfare Assessments 2022					
Species	Yearly Assessment Proactive (X)	Action Items (if applicable)	Staff Responsible	Date Assigned	Date Completed
African penguin	X		MA		
African spurred tortoise	X		RS		
American alligator	X		MA		
American badger	X		KG		
American bison	X		RB		
American kestrel			AP		
Aoudad	X		RB		
Arctic fox	X		MS		
Bactrian camel	X		AM		
Bald eagle	X		AP		
Ball python	X		KG		
Bearded dragon	X		RS		
Bighorn sheep	X	In need of hoof trims	JH	7/17/2022	8/30/2022
Black swan	X		AL		
Black-footed ferret	X		ZP		
Black-tailed prairie dog	X		RS		
Blue eared pheasant	X		AP		
Blue-and-yellow macaw	X		AL		
Bluegreen chromis	X		RS		
Bobcat	X	Plans for exhibit platforms this summer.	AP	4/5/2022	6/1/22
Branch-capped coral	X		RS		
Brown bear	X		KG		
Brown eared pheasant	X		AP		
Bullsnake	X	Will add one additional hiding spot.	ZP	9/12/2022	9/12/2022
Cabbage leather coral	X		RS		
Canada goose	X		AL		
Canada lynx	X	Plans for exhibit platforms this summer.	AP	4/5/2022	6/21/2022
Cedar waxwing	X		RS		

Dakota Zoo Work Order Request Form

Description of Work: _____

Date Requested: _____ Requested By: _____

Status: Accepted Rejected

Reason for Rejection (if applicable): _____

Is this a Welfare Action Item? Yes No

Priority Level: 1 – High 2 – Medium 3 – Low

Guideline for addressing priority levels (discretion used case-by-case):

High resolved immediately to 48 hours. Medium resolved in one to two weeks. Low resolved in two to three weeks.

Accepted/Rejected By: _____ Date: _____

Work Completed By: _____ Date: _____

Comments:

Office Use Only

Appendix B: Quality of Life Assessment Form



Quality of Life Monitoring (Modified HHHHMM Scale)

Score Criterion (1-10 Scale) **1-Severe, 5-Moderate, 10-Ideal**

Hurt – Is the animal exhibiting any behavior that would indicate pain (lameness, lethargy, depression, inactivity, signs of discomfort, disorientation, teeth grinding, isolating itself, difficulty or irregular breathing, etc)?

Hunger – Is the animal eating enough to maintain an acceptable body condition? Does diet manipulation, different presentation, or hand feeding help?

Hydration – Does the animal exhibit signs of dehydration (sunken eyes, tenting skin, dry mucous membranes)?

Hygiene – Is the animal (with caregiver assistance if feasible) able to keep itself clean and free of pressure sores?

Happiness – Is the animal maintaining a near normal behavior repertoire and time and activity budget? Does the animal engage in any behaviors beyond basic maintenance (in addition to eating/drinking/bathing/preening)? How often? How does this animal respond to its keepers?

Mobility – Is the animal alert and active; can it move around its enclosure normally and get to most/all locations within normal limits and without significant risk of injury to itself? How is posture and locomotion?

Senses – How are the animal’s senses? Can the animal still see, hear, touch, smell and thus respond to its environment and keepers with their senses? Has the decline of any senses caused modifications to care or cause limitations to daily husbandry goals?

Social – Can the animal get along with other animals socially, if appropriate for the species? Did the animal need to be removed from conspecifics for any reason, whether for behavior or medical reasons, and will the individual be able to be offered companionship in the future?

(Y/N) More Good Days Than Bad – When bad days outnumber good days, quality of life might be compromised, and re-assessment should be made. Answer Yes or No.

Total = A total of > 45 points is generally acceptable for a good hospice (exceptions will apply)

Species: _____ **Name:** _____ **Local ID:** _____

***Please score the animal based upon a normal, healthy animal receiving all 10’s, not based upon what has become “normal” for this particular animal.*

Date	Hurt	Hunger	Hydration	Hygiene	Happiness	Mobility	Senses	Social	Good vs. Bad	Total Score	Comments

Appendix D: Welfare Concern Form

Dakota Zoo Animal Welfare Concern Form

Updated January 31, 2017

Date: _____

Reported by: _____
(please print)

Signature: _____
(required)

Severity of Concern *(check one)*

- High...threat to life, limb or severe injury or illness potential
(REQUIRES IMMEDIATE EVALUATION BY A MEMBER OF THE ANIMAL WELFARE COMMITTEE)

- Moderate...minor injury or illness, broken small bones, sprains, strains, cuts, abrasions, mild self-mutilation/over grooming, stereotypic behavior, and psychological distress

Detailed Description of Concern *(please list animal, situation, etc.)*

Proposed Resolution(s) if Apparent *(how would you fix it?)*

Report Reviewed By: _____ Date: _____

Actions Taken: