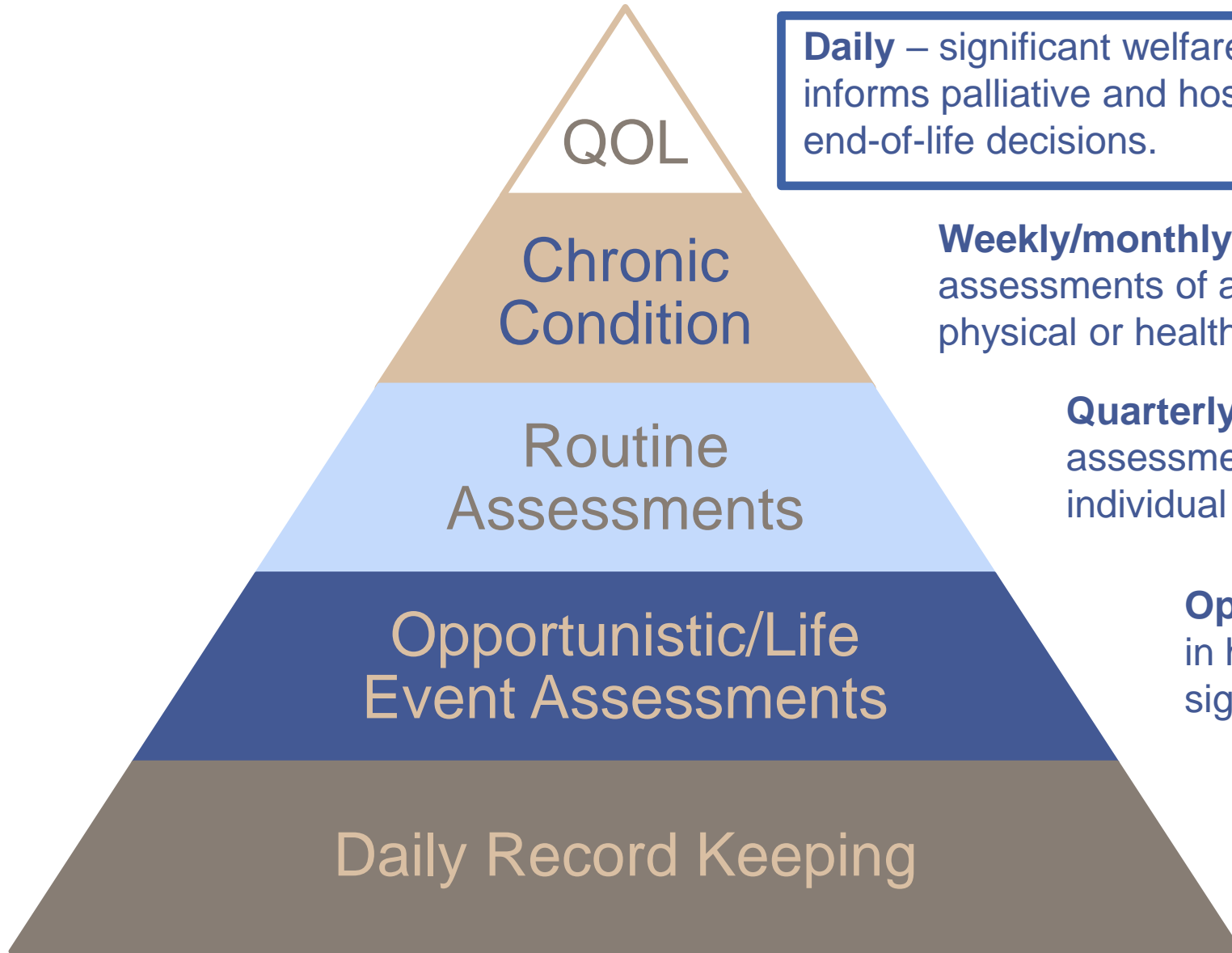


# Quality of Life Monitoring (QOL)

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**Daily** – significant welfare compromise; informs palliative and hospice care and end-of-life decisions.

**Weekly/monthly** – regular assessments of animals with known physical or health issues.

**Quarterly/TBD** – routine periodic assessments of inputs and outcomes; individual animal and outlier models.

**Opportunistically** – when animals are in hand (e.g., during exams) or when significant life events occur.

**Daily** – keeper observations of changes in physical and behavioral condition of animals.

# QOL Assessments

- Animals with significant compromise
- Focused evaluations
- Weighted indicators
- Daily or 2-3x/week
- Can inform palliative, hospice care, or end-of-life decisions
- NOT a direct route to euthanasia
- P.S. – you don't make decisions based on math!





# Inputs vs. Outcomes

- Inputs – the things we do or provide for our animals
- Outcomes – what our animals actually experience
- Both should be measured

# Inputs: Resource-Based Measures

- Ability to avoid/interact with other animals
- Ability to avoid/interact with guests
- Access to drinking water
- Ambient noise levels
- Animal enrichment
- Animal training
- Caretaker-animal relationships
- Caretaker attitudes
- Caretaker skills
- Containment
- Drainage
- Enclosure cleanliness and maintenance
- Enclosure complexity
- Guest proximity
- Humidity
- Influence of adjacent animals
- Landscape
- Lighting

# Inputs: Resource-Based Measures

- Natural and individual histories
- Nutrition
- Opportunities for bathing, wading, swimming
- Opportunities for dusting, wallowing
- Opportunities for natural locomotion
- Pest control
- Photoperiod
- Shade
- Shelter/hiding locations
- Social structure
- Space
- Substrates/surfaces
- Temperature
- Variability in food type/presentation
- Ventilation
- Veterinary Care
- Water Quality









# Outcomes: Animal-Based Measures

- Activity level
- Aggression/submission
- Attitude
- Behavioral diversity
- Body condition
- Caretaker-animal interactions
- Conformation/gait
- Coprophagy
- Defecation
- Enclosure use
- Exercise
- Exploration/manipulation of objects
- Feeding behavior
- Food consumption
- Growth
- Health status
- Mobility
- Pain assessment

# Outcomes: Animal-Based Measures

- Participation in training
- Physical condition
- Play
- Reaction to guests
- Regurgitation/re-ingestion
- Reproductive status
- Self-maintenance behaviors
- Self-trauma
- Shifting
- Signs of stress (physiological and/or behavioral)
- Sleep patterns
- Social interactions with allospecifics
- Social interactions with conspecifics
- Stereotypy
- Urination
- Water consumption
- Weight







# QOL Assessment Steps

- 
1. Develop welfare indicators and criteria
  2. Determine scoring method
  3. Weight indicators
  4. Determine frequency of assessments
  5. Perform assessments and review data

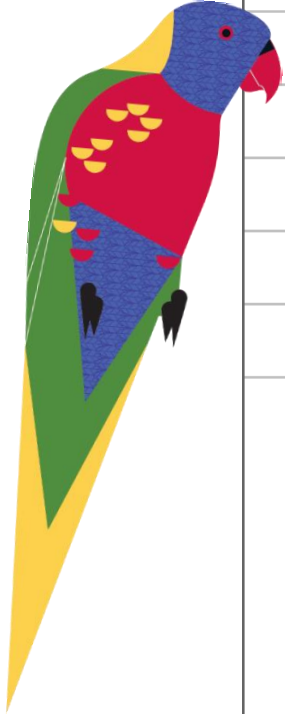






# Quality of Life Assessment Setup

Included Items				Unused Items	
<a href="#">Remove</a>	<a href="#">Edit</a>	Careta...	Weight: 2	<a href="#">Include</a>	Abnormal behaviors
<a href="#">Remove</a>	<a href="#">Edit</a>	Food c...	Weight: 1	<a href="#">Include</a>	Activity level
<a href="#">Remove</a>	<a href="#">Edit</a>	Physic...	Weight: 3	<a href="#">Include</a>	Aggression/submission
<a href="#">Remove</a>	<a href="#">Edit</a>	Shifting	Weight: 1	<a href="#">Include</a>	Behavioral diversity
<a href="#">Remove</a>	<a href="#">Edit</a>	Attitude	Weight: 2	<a href="#">Include</a>	Body condition
<a href="#">Remove</a>	<a href="#">Edit</a>	Weight	Weight: 1	<a href="#">Include</a>	Conformation/gait
				<a href="#">Include</a>	Coprophagy
				<a href="#">Include</a>	Defecation
				<a href="#">Include</a>	Exercise
				<a href="#">Include</a>	Exploration/manipulation of objects (incl...
				<a href="#">Include</a>	Feeding behavior
				<a href="#">Include</a>	Growth
				<a href="#">Include</a>	Health status
				<a href="#">Include</a>	Medication compliance
				<a href="#">Include</a>	Mobility



## Define Scoring Criteria for Indicators

Edit Assessment Protocol Item Value

### Rank

1.0

### Caption

Optimal

### Require Comment

Require Comment when this value is selected

### Instructions

Upright posture, bright and alert, moving often throughout exhibit/holding, feathers smooth, wings in a normal position.

# Entering Quality of Life Scores

Observation Type	Weight	3/29/2019	Assessment	Comment
Caretaker-animal interaction	3.00	0 Acceptable	1 Optimal	Normal interaction on exhibit and off
Food consumption	1.00	0.5 Good	Select One	
Physical condition	4.00	0 Acceptable	-1 Unacceptable	Mild wing droop.
Shifting	1.00	1 Optimal	-0.5 Marginal	Shifted well, slow out, but actively working on it.
Weight	1.00	0.5 Good	0 Acceptable	
			0.5 Good	
			1 Optimal	
			NA	

Created by Heather Lester

Score: 5.5

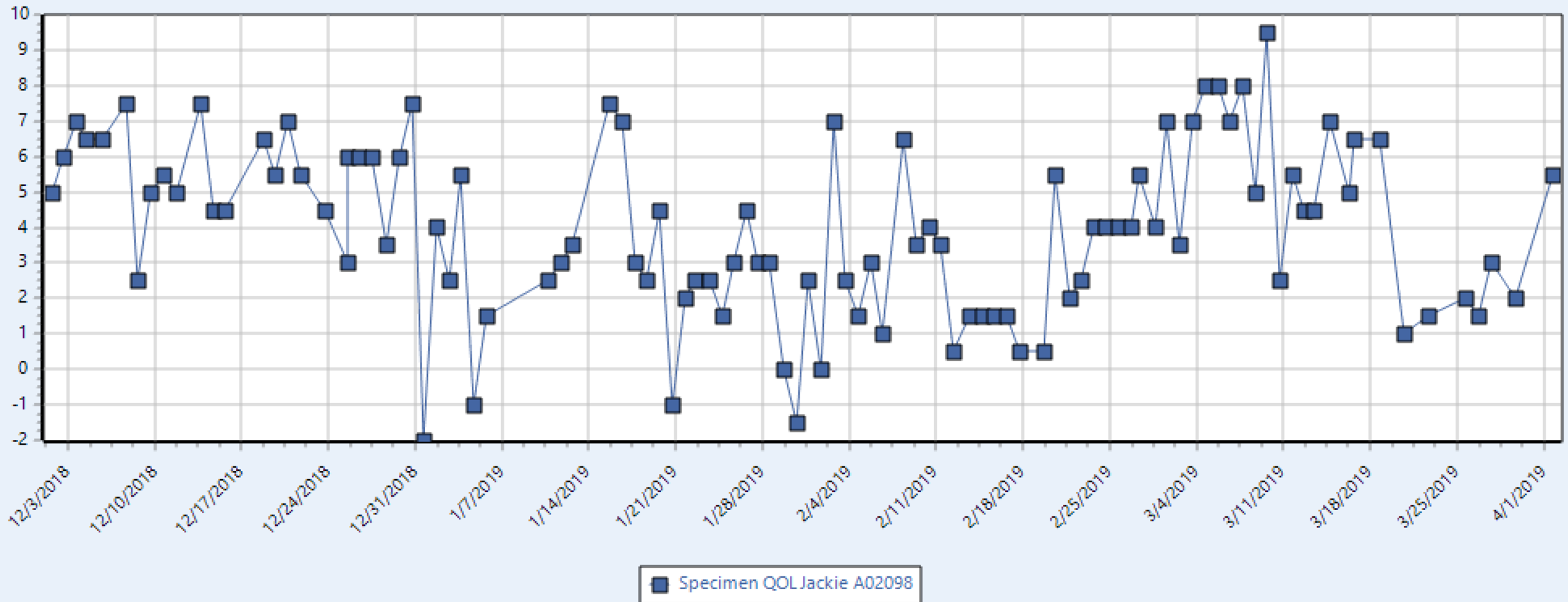
**Reason**



Save Cancel

**Note:** this view may contain overlapping points. Try the 3D view to see all points from all series clearly.

### Score Over Time



# Review Assessment Data

- Review at regular intervals
- Include all stakeholders
- Team meetings
- Meetings with veterinary staff
- Mortality & morbidity discussions



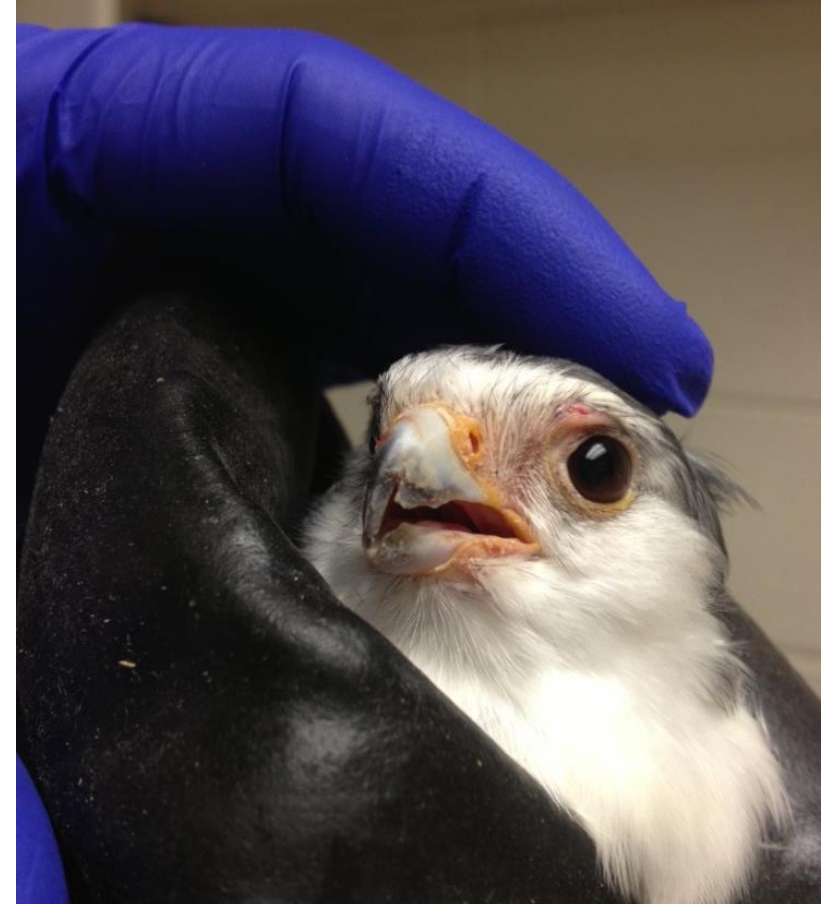
# Determine How Data Will Be Used

- Compromise found in any assessment method
- Decide what will trigger welfare actions, interventions, or next-level monitoring
- Criteria discussed, agreed upon with stakeholders in advance
  - Scores below “x” will trigger discussion
  - Scores below “x” for “x” assessments in a row will trigger discussion
- Math is only part of the equation

# When you identify compromise:

1. Take immediate action (acute compromise)
2. Increase frequency of monitoring
3. Examine inputs
4. Problem solving
5. Test and adjust

**Repeat!**



# 1. Take Immediate Action

- Intervention
  - Husbandry
  - Veterinary
  - Behavioral husbandry
- Exam, diagnostics
- Euthanasia in extreme cases





## 2. Increase monitoring

- 
- Frequency
  - Implement other assessment tools
  - Historical information
  - Research



# 3. Examine Inputs

- 
- Natural and individual histories
  - Health program
  - Husbandry/BH
  - Nutrition
  - Environmental
  - Housing
  - Social structure
  - Caretaker skills/attitudes



## 4. Problem Solving

- Dialogue with all stakeholders
- Structured brainstorming
- May consult other husbandry/veterinary experts
- Research



## 5. Test and Adjust

- Husbandry/veterinary intervention or changes
- BH intervention or changes
- Habitat or housing changes
- Social changes
- Collection changes
- Increase caretaker skills/knowledge
- Palliative, hospice care, or euthanasia discussion



# Conclusion

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- Build your QOL assessment
- Review regularly
- Include all stakeholders
- Determine what will trigger welfare actions/intervention
- QOL assessment is a tool, not a decision maker





Questions?

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