

# Weighing the Options: New Technologies Advance Wellness and Weight Management for Animals at the Buffalo Zoo

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Like all zoo managers and keepers, the staff at the Buffalo Zoo in western New York continuously looks for ways to ensure the best care possible for the animals they manage. This includes everything from new habitat designs, improvements to existing compounds, medical care, and daily management programs.

Critical to the health of their animals is ensuring a complete wellness program that focuses on nutrition, exercise and on-going health maintenance by their animal keepers. One area where the Buffalo Zoo staff has utilized new technology is in the area of animal weight management. Finding the right tools and discovering new options for gathering animal weight data can be challenging. Over the years, keepers at the zoo have worked with a leading medical scale manufacturer to develop a number of niche-application weighing solutions that have been tailor-made for specific exhibits at zoos.

For instance, a regional aquarium learned that the manufacturing company had adapted its medical scales for veterinarian applications. The aquarium inquired if the company could design a scale for its dolphins as the dolphins were creating injuries to staff members when being weighed. The design engineers at the company worked with the dolphin trainers to create a waterproof, slide-on platform scale. Using this new scale design, the dolphins are now rewarded to slide on to the scale from their pools to be weighed. This same large platform scale was put in place at the Buffalo Zoo for its sea lions.

Other animal scales were soon developed for zoos that enabled keepers to gather more accurate weight data on their animals. However, several large animals at the Buffalo Zoo were in need of an updated weighing system, most notably the elephants and rhinos.

Photo by Kelly Ann Brown,  
Buffalo Zoo Registrar



Working with the design team at the scale company, a new portable platform scale was developed to meet the needs for these large mammals. Some of the many considerations that needed to be included in the scale design was the ability to accurately obtain weight data no matter where the animal stood on the platform, as well as eliminate wires that could be chewed or stepped on causing harm to the animals and damage to the scale. To help address these and other technical design challenges, the scale incorporates a wireless app that is synchronized to the platform's electronics. The rugged and low-profile waterproof enclosure made it easy and comfortable for animals to be quickly trained to walk or stand on the scale.

"It's really important for us to be able to closely monitor the weight of these magnificent animals," commented Mindy Ussrey, elephant manager at the Buffalo Zoo. "The new scale shows us how much the elephants need to eat or not eat at any given time. Our elephants are on a strict diet and in fact, one is on medication, so managing the animal's weight is even more critical."

Ussrey notes that like people, elephants too, will experience health issues if proper weight is not maintained. "So if an elephant becomes overweight it can have the same impact on their joints, muscles, and heart as it does for a person. This also contributes to the need for our elephants to be accurately weighed on a regular basis. What we look for when we weigh them are big drops in weight loss or spikes in weight gain. For instance, a couple hundred pound drop is not significant, but something in the neighborhood of a thousand pounds, we need to look more closely at their nutrition. Before our new wireless scale we used a body score system, a photo and illustration numbering system which was not accurate."

Since the scale is portable in design, it enables the staff to rotate the scale from the elephants to the rhino compound to gather these weights as well, including the new baby rhino. At six months of age, the baby rhino is already over a thousand pounds.

Joe Hauser, head rhino keeper notes that for his rare Indian rhinos, maintaining their weight is an on-going process. Having successfully bred three Indian rhino calves, weight monitoring is a critical factor for these animals as well. "We want to make sure the calf is steadily gaining weight. By routinely weighing our rhinos and especially the younger ones, we have an accurate record of the animal's weight. For example, if a calf would ever plateau or decrease with weight, we would be able to more quickly identify potential problems and determine a corrective approach."

Buffalo Zoo's General Curator Malia Somerville shared that the recently opened Arctic Edge Exhibit incorporates two built-in SR Scales' weighing platforms to assist keepers and veterinarian staff to more accurately manage the weight of the zoo's polar bears. "Having these new scales in place is part of our initiative to provide state-of-the-art facilities and equipment that not only gives our animals the best care possible, but also equips our staff to have the latest tools that give them added confidence and knowledge to care for our wonderful animals."

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