

PLANNING FOR THE INDIVIDUAL: SITUATIONAL PROBLEM SOLVING

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Introduction

If the fundamental goal of a behavioral management system is to provide optimal care for captive animals; and, if we acknowledge that it is the behavior of the animals by which we judge our success; then our first step is to begin in the natural world. By using the natural environment as a model, we can begin to create a functional substitute for it in captivity. The next step is to recognize the differences between life in the wild and in captivity, and to address them.

These differences include not only the physical environment, but all the things we do to captive animals in the name of animal care and welfare. We tell them when and where to move so we can keep their quarters clean and sanitary. We decide how, when, and what they'll eat to promote good nutrition. We separate, confine, and restrain them, examine, inoculate, and anesthetize them, all to insure good health and husbandry. And although we know why all these actions are so important, they are often in direct conflict with the natural behavior we're trying to preserve. A sort of rock and hard substrate dilemma.

Addressing that dilemma is the subject of this paper. How do we provide optimal care for animals within the reality of life in captivity? How do we best do all the things we need to insure that level of care, while at the same time preserving and enhancing their well-being? I would like to suggest that behavioral management offers a means to that end.

A well developed behavioral management system allows effective problem solving by using an organized series of steps, and in many respects is an exercise in the scientific method. By combining elements of training, enrichment, and operations, it is a multidisciplinary approach to assessment and resolution that is more comprehensive and versatile than the sum of its parts. In order to illustrate this process, consider the following problem addressed from a training perspective, enrichment perspective, and behavioral management perspective.

THE PROBLEM: SHIFTING INTO NIGHTTIME HOUSING

Difficulty shifting or gating animals between enclosures is a universal problem. Whether it involves a single animal or an entire group, the inability to move animals reliably and in a timely fashion negatively impacts staff time, animal care, and display considerations.

A. Training Approach

Step 1

Assess the situation and determine how, when, where, and why the problem behavior occurs. In this case, the animals are reluctant to shift into the holding area at the end of the day. They have also been inaccessible during emergency situations.

For clues to the why, look at the reinforcement pattern. Reinforcement is *anything* an animal wants. Although food is a primary reinforcer, it alone is often not a strong enough motivator to gain compliance. Of the complex matrix of potential reinforcers, experience has shown that controlling keeper time and attention can be a powerful reinforcement for many animals. All too often an examination of the reinforcement pattern will reveal that when animals don't cooperate, staff routinely spend long periods of time trying to coax, wheedle, and bribe them to move. Yet when animals shift immediately, staff are usually off and running to the next task. So, in effect, the majority of reinforcement is occurring when animals do *not* shift.

Step 2

Develop and implement training strategies to address the problem. This would likely entail formally training animals to shift, including: establishing a specific cue, desensitizing animals to the gate opening and closing, and adjusting the reinforcement pattern. It may also be necessary to address other factors that impact compliance, such as social dynamics. Animals may be trained to separate, and dominant animals reinforced for allowing others to receive food and attention. Finally, the context would be expanded to get reliable shifting anytime of the day.

B. Environmental Enrichment Approach

Step 1

Assess the situation and determine how, when, where, and why the problem behavior occurs. The shifting problem occurs when attempting to move animals from the outside exhibit into holding areas at the end of the day. One of the most striking features of this situation is the difference in desirability between the two areas. The exhibit space is almost always larger, with more diverse substrates and furniture, and a greater amount of stimuli, and thus behavioral opportunities. On the other hand, holding areas are usually small, sterile, and offer few behavioral opportunities. Furthermore, if the animals are kept inside at night, they spend the majority of their time in the least desirable area.

Step 2

Develop enrichment strategies to enhance the less desirable area. This might include: environmental changes such as adding soft substrate, bedding, and furniture; increasing behavioral opportunities by providing browse and toys; implementing complex feeding strategies by using enrichment devices and feeders; and addressing social factors by adding visual barriers and hiding places. The hope is that with a more desirable area, the animals will be more willing to enter it.

C. Behavioral Management Approach

Step 1

With a behavioral management approach, both training and enrichment perspectives are combined with an analysis and adjustment of operational protocols. In this situation, operational protocols to examine might include:

- Animal management protocols that rely on a rigid, predictable schedule. Animals are moved onto exhibit in the morning and off exhibit in the late afternoon. Only in unusual or emergency situations are animals asked to move at other times of the day.
- Visitor viewing protocols which include constraints regarding moving animals off exhibit during daytime hours.

- Animal management and/or safety protocols that require animals to be housed in holding areas all night. Consequently, animals spend the majority of their time in off-exhibit holding areas.

Step 2

A behavioral management approach to the problem of shifting might look like this. Environmental enrichment strategies are implemented to improve the quality and desirability of the holding area. Simultaneously, animals are formally trained to shift on command in a timely and reliable fashion. Animal management protocols are adjusted to allow animals to leave the exhibit for brief periods of time during the day. Once in the back, they are reinforced for compliance, and before being released, the keeper adds some simple enrichment to the exhibit prompting more activity and species typical behavior on exhibit. Staff now have the ability to shift animals whenever they choose, including those emergency situations where animals were inaccessible, except through more negative and stressful methods, in the past. Visitor viewing has improved by providing enrichment opportunities for the animals throughout the day instead of just first thing in the morning.

Finally, if safety issues can be addressed, animals are managed more flexibly, with the option of spending off hours on exhibit, in holding, or given access to both. The expectation of spending excessively long periods of time in a sterile environment has been eliminated, so animals are more willing to comply with shifting attempts. Social dynamics in the group have been improved by multiple feeding opportunities, access to better visual screening, and active intervention to reward cooperation and reduce excessive dominance and aggression. In short, everyone from staff to animals has benefited in multiple ways, well beyond simply being able to shift animals inside at night.

THE PROBLEM: ABNORMAL BEHAVIOR

It could logically be argued that if the expression of species typical behavior by captive animals is an indicator of well-being, then the presence of abnormal behavior is an indicator of ill-being. Although simplistic in form, this notion has merit. Abnormal behavior is a far-reaching problem in the management of captive animals. It occurs across species lines and in even the most naturalistic habitats. Perhaps because of its prevalence, unless the behavior takes a very blatant or injurious form, an uncomfortable acceptance of its presence seems to prevail. However, operating in the context of a behavioral management system, it might be addressed like this.

Behavioral Management Approach

Step 1

Assess the situation and determine how, when, where, and why the problem behavior occurs. In the discovery phase of addressing abnormal behavior, the why is the most elusive, and the most critical, component. The answers are often varied and complex. Boredom, fear, social pressures, stress, and lack of control over external events are potential precursors to abnormal behavior. The specific causes may not be determined immediately, but rather emerge in the process of designing and implementing corrective strategies and then checking results to see what works. This circular process is often necessary given the extremely complex, subtle, and powerful nature of the root causes.

Step 2

Develop training and enrichment strategies to reduce or eliminate the abnormal behavior. A training approach may include: reinforcing the animal when the behavior is *not* occurring; training a behavior that is incompatible with the problem behavior; using training sessions to increase activity and overall stimulation; using training to achieve voluntary cooperation in specific events, thus increasing the animal's general control over events; desensitizing the animal to any fear producing stimuli; or training cooperation among group members to improve social dynamics.

An enrichment approach may include utilizing a variety of objects, devices, feeding strategies, and environmental enhancements to: increase overall activity levels and stimulation and alleviate boredom; create escape routes and safe areas for socially pressured animals; provide multiple feeding options; and make undesirable or scary areas more positive.

In combination the two approaches complement one another. In order to provide more frequent and regular enrichment, animals are trained to gate quickly and reliably multiple times a day. Active training sessions and passive enrichment activities provide increased stimulation for animals over extended periods of time. And trained behavior can be combined with enrichment devices to stimulate more complex, species typical behavior (such as in "Markowitz-style" devices).

Finally operational protocols may be altered to provide the greatest opportunity for training and enrichment strategies to be implemented. For example, allowing animals to be moved on and off exhibit multiple times a day; the presence of artificial objects on exhibit to expand the number and types of enrichment activities available; and altering the feeding routine to encourage more food related activity throughout the day.

By taking this comprehensive approach, it is evident that not only is the abnormal behavior positively impacted, but many other elements are as well. Fear of specific events is reduced, socially driven stress is addressed and alleviated, species typical behavior is increased, visitor viewing is enhanced, and voluntary cooperation in routine management activities is achieved.

These examples are a very small sampling of the potential applications of a behavioral management system. The intent of this paper is to focus on the process, and to stimulate you to consider the possibilities.