

A Room with a View

Raptor Enrichment

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As animal trainers we all want the best for our animals and one of the ways we work towards that goal is through environmental enrichment. I have read and heard many varied definitions for enrichment and this is where it becomes complicated. Enrichment can be so many things to so many people and for many different groups of animals that it becomes challenging to figure out exactly what it is we are trying to accomplish. When you really break it down it is about each individual animal, it is a study of one. There is really no concrete right or wrong answer.

This paper is about raptor enrichment and how to tackle the questions of what are we trying to accomplish and how we know if we accomplished it. As I started out on this journey of deciding to write a paper on raptor enrichment I had no idea I would end up trying to define success when it comes to enrichment. I thought I was going to find some new ways to enrich our birds by giving them choices according to their natural and individual history but I got hung up when it came to figuring out how we define success, especially when the enrichment you are offering isn't tangible.

Let's take a step back and I will give you some background information on what our facility set up is, our goals within our company, and the type of enrichment we have offered, as well as what I like to call "ambient" enrichment, enrichment that occurs on its own.

I work for Natural Encounters, Inc. at our main show facility located in a major theme park in Orlando, FL. We do 5 shows a day at our outdoor facility for thousands of guests and provide an entertaining show with a conservation message. Most of the birds in our show do two to three shows per day. We free fly a wide variety of birds in the show and provide enrichment for all of them. One of our hardest groups of animals to enrich is our raptor collection. Our hawks and eagles are tethered and our owls are free lofted in cubes. A cube is a term we use for the space where our raptors are housed for the night. Each bird has its own individual cube with three walls and a bow perch mounted to the back wall. In the case of the free lofts, it is mounted in the center of the floor of the cube. All of the cubes have a water dish and the hawks and eagles also have a mailbox perch. A mailbox perch is a simple mailbox that is weighted and is covered in turf. All these birds go into a weathering yard during the day where they have access to a variety of perches and substrates, as well as a view of all the other birds in the yard and the surrounding environment. More than half of our collection is weight managed so food enrichment is not usually an option. These birds were typically offered the following types of enrichment: Kongs, bamboo, rubber toys, browse, paper, branches, typically offered every other day and a weekly rotation of perches in the weathering yard which offers a change in view. We are constantly training our birds whenever we interact with them by offering reinforcement for the behaviors we want to see. Training is always enriching

because it gives the bird the power to choose to do the behavior and earn reinforcement or to decide not to do the behavior and receive no reinforcement.

Ambient Enrichment

All of our raptors are moved around on the glove backstage during set up and breakdown for our show. They get to walk by many different things and encounter all types of ambient enrichment. Ambient enrichment is enrichment that takes place on its own without being planned, it just happens. Another trainer, sound technician, show staff or maintenance worker might walk by. We are outside so they also encounter changes in wind and weather, and see wild birds often. When we are moving them on the glove we use small pieces of food to reinforce good behavior, sitting calmly on the glove in a nice upright position. Some of our owls are also brought out on the glove for our pre-show Park Encounter where they will see many guests up close as well as have exposure to the elements of the surrounding environment. We have four hawks and three owls that fly in our show. Our show birds are enriched by getting to fly free, outside in an open air theater. The number of shows they do per day varies as well as the size of the audience. The trainers working with them vary as well along with the types of food that are offered as reinforcement. These birds are getting some of the best enrichment we can offer, through careful training that empowers them to make choices according to what is happening in their environment.

Goals

With all of our birds getting so many different types of enrichment, why do we feel the need to do more? When you look at any specific bird and map out their day most of their time is spent in a cube where they have very few choices. The tethered birds have a bow perch mounted to the wall, a mail box perch and a water dish. The free lofted owls have a bow perch and a water dish. We have two levels of cubes so some birds have a view outside the barn while others don't. We wanted to offer these birds more opportunity to make choices throughout the entire day and to provide a more stimulating environment overall. To do this we first looked at what their wild counterparts do during the span of a day.

Wild Raptors

In the wild, raptors have many options during their day. If they are hungry there are many options a bird may take depending on its species and diet as to what it is going to do to find food. Some raptors will find a nice high perch with a good view and look and listen for prey to move through the area. Some birds may take flight in search of insects or small birds and catch and eat their prey on the wing. Others may hover high above ground or water looking for food to eat. Once they catch their prey and are satiated, what is the next choice they will make? Typically a full bird will find a nice high branch, probably with a good view, and sit. While sitting these birds will be exposed to wind and weather changes, if it rains they can choose to take shelter or take a bath. They will decide if they want to sit in the sun or the shade or to look out for predators. Even if they are not hungry, they may still watch other animals passing by. They may encounter others of their own species and they will choose if they want to interact with them, either

to invite them over or chase them off. Even when they are doing nothing they are always watching and listening, very aware of the surroundings in their always changing environment.

The view

We may not be able to recreate the experiences wild raptors have exactly with the birds in our collection but we can try to offer them enrichment with these natural goals in mind. One of the first things we as a team wanted to offer our raptors was a new view. We didn't even realize it at first but the space we needed to give them a good view was right under our noses. We have two "show" cubes we use for owls that are worked in the show. Instead of having to walk out to the weathering yard to get these birds during show, the show cubes are strategically located closer to stage to help us be more time efficient. These cubes are not utilized during morning husbandry hours, the two hours prior to the start time for setting up the first show, so what we decided to do was place a couple birds in these cubes during this time. They are located in areas that offer two completely different views. One has a view of our main common area where lots of trainers and other show staff are walking by. The other is in a little quieter location with a view of our barn and also a little bit of foot traffic. Both areas can give our raptors a brand new view with new sights and sounds.

There are a few birds that cannot go into the cubes because of safety concerns due to size. Our eagles do not go into these locations due to the simple fact that they are just too large. Also we don't put our Mississippi Kite in this cube either because the perches in the cubes have the potential for a bird that is too small to get tangled up.

The birds in these cubes were observed on the bow perch, on the mailbox perch, the mat and the water dish. They were also paying attention to the movement around them, looking alert and watching the organized chaos that is our morning husbandry routine. We made sure that these birds looked comfortable, we didn't see any bating, or flying off the perch in the cube or other nervous behavior. Whether it can be defined as successful or not, this enrichment resulted in an increase in desirable behavior. The birds were observed to be alert and aware of their surroundings, paying attention to all the activity going on around them but maintaining calm, comfortable body language.

This is one of my favorite of the new types of enrichment we have tried for a few reasons. First of all it cost nothing and took very little time to set up and implement. It also meets our criteria for natural goals by giving them a different view of their surrounding environment. It was easy to generalize to all staff and everyone was quick to support this new enrichment protocol and give feedback to help improve it. With the feedback from the staff we were able to develop a simple check off sheet to make sure all birds had the opportunity to get their turn in the cubes each week. The bird in the cube located in the main common area is unloaded and put back into the weathering yard during the first show set up so this cube is clear for show. By placing our first show hawk of the day in the other cube in the quieter location, it saves time during set up because we can just get the bird on the glove from the show cube and take him right to the location where he is loaded for show. Then the cube is empty and ready for the owl that normally occupies it for the day. It makes loading the first show hawk of the day a

little bit easier by simply being closer to the area we load them in. Time is of the essence in a show setting, especially doing 5 shows per day where every minute is budgeted, and every second counts.

Another way we offer our birds a new view is by rotating their cube locations. Once per week we switch out the location of where all the birds sit in our raptor cubes. This gives almost everyone a chance to have a new view of their surroundings. There are a few exceptions for safety reasons for birds with special needs. Their cubes have some modified perches that are important to their health and welfare. Besides these few birds everyone else is rotated on a regular basis.

Since I originally wrote this paper our team has implemented even another and my most favorite way to offer our raptors a new view. We have an enclosure that had been set up for our Ferruginous hawk. It is a 6x8 wire enclosure. He was living in this space due to medical issues with his feet that required many different types of perching. We had been battling with this issue for some time and even in this enclosure we didn't see any significant signs that the varied perching was helping the problem so we decided to change strategies.

We came up with a plan to start to rotate this bird from being tethered in a cube for a few days to being turned out into the enclosure. We were doing this on and off which left this enclosure, already set up for a raptor, empty most of the time so we started to use this turn out enclosure for other raptors in our collection as well. Now every morning after weighing our birds we choose one bird to go spend part of the day, or sometimes the whole day in the turn out enclosure. All of the birds are rotated through so that everyone gets a turn to spend time in this amazing enrichment enclosure. Not only does it offer a novel view of the surrounding environment, but it also allows us to give our birds a chance to be free lofted in a large enclosure! We can also offer different types of enrichment to these birds in this enclosure now that we have the added space, like larger bath pans. They are also getting the chance to experience completely different substrate, from the mats on the ground to the special perching.

And it gets better! Our hawk with the foot problem is doing the best he has in years because of our new method combined with a new topical treatment. But one of the very best parts I haven't mentioned yet. This whole amazing enrichment enclosure and idea to turn out our raptors was implemented while I was away for six weeks doing another show for our company in Texas. When I got back I was so ecstatic about what we were doing I thanked everyone and told them all how much I loved this new form of enrichment. I pulled our Director of Staff Development, one of my mentors, aside and I asked her whose amazing idea this was. She told me that she wasn't sure whose idea it was. They all worked on making it happen and that it was inspired by me and the work we have been doing to enrich our raptors since I started this paper. That was one of the best moments in my career. Knowing that our team supports me and helped to work on this project even without my presence made a huge impact on me. The ideas I am passionate about are ideas our whole team is passionate about. I consider my work on this paper and our program to be a great success, not because I worked hard on it but because everyone

worked towards the common goal to better enrich our raptors' lives. I am very proud and very lucky to work at such an amazing place.

Alternative Substrate

One type of natural enrichment that I wanted to offer our birds was alternative substrates. We have seen our birds of prey manipulate their mats, jesses and leashes. Sometimes this behavior becomes destructive and undesirable. Some birds have been known in the past to destroy their equipment and sometimes even eat small pieces of their mats. To counteract this undesirable behavior we have successfully offered enrichment as an alternative. We have a few birds that always get some type of shreddable enrichment because they are known to rip and tear at their equipment, mats and sometimes their own molted feathers. Shreddable enrichment is typically offered in the form of newspaper. We try to offer it in novel ways since these birds are receiving it every day and we want to keep their interest. Occasionally browse is offered instead of newspaper as a shreddable item and it is successful as well. In all birds with the above undesirable behaviors, once offered shreddable enrichment, we saw a sustained decrease of unwanted behaviors and many of those unwanted behaviors reduced to preexisting base levels.

I wanted to find more options for these birds to ensure their interest doesn't wane because if it does the undesirable behaviors may resurface and lead to health risks. One of the first alternatives we tried was a shallow bath pan filled with leaf litter. We offered this to a few raptors in the weathering yard first. We placed the pans in a location near the perch that was safe for the birds to move in and out of and not get tangled up on the pans. We observed a few birds manipulating the leaf litter or picking up a leaf and flying back to the perch to sit and hold on to. Since the birds were receptive to this new enrichment we wanted to offer it to the specific individuals with destructive/undesirable behaviors in their cubes. We usually see birds destroyed equipment during our morning husbandry rounds. This leads us to knowing these behaviors are occurring inside their cubes overnight. We had to offer them the leaf litter in a safe way if we wanted to leave it with them unattended. We put the leaf litter into small light weight planter bottoms, light enough that if a leash were to snag an edge it would just flip over and the bird would not become entangled. We could have just placed a pile of leaves in their cube without a container but this would make a huge mess. Multiply that by all the raptors in the collection and it could be time consuming to clean. I wanted staff support so I needed a way to keep this potentially messy enrichment as simple as possible. If a few birds did interact with the enrichment and made a huge mess then we happily cleaned it. But if the bird didn't touch it then all we had to do was pull out the planter bottom in the morning during husbandry; no time consuming mess. This system allowed us to only have to clean up an extra mess if the bird chose to interact, plus it was an easy way to measure whether or not the bird used the enrichment overnight. During the day we still occasionally offered them the leaf litter in the weathering yard. In order to try to offer this enrichment in the yard on a more regular basis we implemented a weekly schedule and now offer it to them once per week. We also supplement this enrichment by alternating between leaf litter and sand baths. The sand baths are only offered in the yard and we have not seen much interaction with them as of yet.

Variable Size Bath Pans

In the wild raptors can choose to bathe in many different ways, in the rain, in a puddle or the shore of a lake or stream. We wanted to replicate this with the raptors in our collection and we did this by offering variable sized bath pans. We do this in two ways. First of all, the bath pans in the weathering yard are of a few different sizes and since these birds are rotated once per week they have access to these different pans. We also wanted to allow them this same opportunity to bathe in their cubes. Once per week we offer birds that are on the lower cubes large bath pans to bathe in during the hours staff is present. These large bath pans require a longer leash length in order to give the birds enough room to comfortably get into them and bathe. We have seen quite a few birds using these bath pans when they are offered. For safety reasons, we replace these with small water bowls and shorten leash lengths before we leave for the day. Almost all of the birds get the opportunity to be on the bottom shelf because of the weekly rotations of the birds in the cubes.

Food Enrichment

Most of our enrichment given is not food enrichment because we are in a show setting and many of our birds are on a managed diet. That doesn't mean we don't ever use food as enrichment. One of the ways that we do is by giving our birds larger items that they can naturally rip and tear apart. We do this by offering some of our raptors rabbit heads, rabbit legs and spine. When we do offer a bird this type of food we get a great response. Most birds immediately choose to foot the item and mantle over it. Many of them will stay on the item until it is completely gone! It is not only great enrichment but also a great way to help our birds' beaks and nails wear down naturally.

What is Success?

Now for the hardest part. How do we know that the enrichment we are offering is actually enriching to the individual bird? There are many interpretations about how to measure success when it comes to environmental enrichment. The first step in finding out if the result of the enrichment you are offering is successful is to define a goal that you are trying to accomplish with the specific enrichment. If you have a goal you can better define what success will look like when you see it. Our main goal with most of our enrichment is to provide a more stimulating environment. This is one of the hardest goals to measure. It is easy to see that enrichment is successful in the case of the birds with destructive behaviors because without enrichment we observe the unwanted behavior of destroying equipment, feathers, etc. When offered enrichment the unwanted behavior lessens or ideally goes away completely. That is clearly success, but when we want to simply provide a more stimulating environment it becomes much more difficult to define and this is where it also becomes hard to separate opinions and observable facts. It becomes even more difficult when you are trying to do this with very little time.

As animal caretakers we all wish we had more time. Ideally when offering enrichment you should observe the animal for a few days without enrichment and then observe the animal for a few days with the enrichment. A few papers I have read about quantifying enrichment suggest making up an ethogram to chart the behaviors you observe and

ideally to observe the animal all day every day for two weeks! We all wish we had this kind of time to dedicate to our enrichment programs but most of us hardly have five minutes to spare let alone two whole weeks. How can we possibly find out if what we are doing is successful with so little time?

There really is no easy answer. We have circled around the question, “Is this enrichment a success?” and it always seems to get answered with another question, “What is success?” And, success can only be defined by the person or institution offering that enrichment. So what may be successful to us at Natural Encounters Inc., may not be what your facility considers success and vice versa, and the best part about that is we can both define it in our own ways and still have a great, well thought out enrichment program that is best fitted for each specific institution. For me, success is a measurable term that encompasses the following. Did the enrichment offered have a goal? Was it well thought out and planned with the individual bird’s history and natural history in mind? Did it provide the animal with changes and choices to its environment? Did it encourage natural behavior? Did it give the bird power over its environment? Was it safe for the birds and the staff? Was the staff supportive of the enrichment? Was it continued by all staff members? If all of these questions can be answered, “Yes” then to me the enrichment provided is considered a success.

I encourage everyone to look further into the question of the definition of success when it comes to enriching animals in our collections. There is no easy answer and that is the fun part. We are on the brink of figuring it out and for raptors it is so much harder to define behavior as successful because most of the time there isn’t much behavior to observe. But that doesn’t mean that trying to improve their well-being is pointless. It just means we have to try harder as a community to figure out a way to rate success with the time we have available with these amazing predators.

Safety

Safety plays a huge role in choosing what enrichment fits best for your facility. It is so important that whatever we decide to offer is safe for our staff and for the animals in our collection. When trying out a new type of enrichment it is important to look into and weigh all possibilities that could occur when offering it for the first time, especially the ones in which a bird could harm itself. All items offered should always be safe for staff to introduce and to remove. Always make sure that if you are offering a new item that it doesn’t have any parts that a bird could ingest or any sharp pieces that could cause scrapes or wounds.

When introducing a new item go slow. Make sure the bird is comfortable by paying close attention to body language. When we introduce new items into a cube we put the item in first and then bring the bird to the item. If a bird shows nervous body language, or, in the extreme, bates away when brought slowly to the cube then we will remove the item and put the bird into the cube without it. Then we may leave the item outside the cube but within the birds view at a distance where they portray comfortable body language, so they can get used to seeing it. As we see relaxed behavior when the item is within view we can slowly bring it closer to the bird during the day, as long as we continue to observe comfortable body language. Eventually they become comfortable

enough that we can reintroduce the item back into the cube. We won't leave a new item with a bird overnight unless it has been carefully monitored throughout the day and we have seen consistent comfortable body language. It is very important to pay close attention to the behavior of the bird and show extreme sensitivity when introducing new enrichment.

We have had challenges with raptor enrichment in the past, such as birds ingesting paper or browse and birds becoming aggressive and protective over certain items. When this happens it is very important to make all of the staff aware so that these birds can be given items that are better fitted to their needs. We have a few owls that became overly protective over balls and kongs so these items are not given to these specific birds. We also noted immediately through morning casting notes a few birds that had ingested paper or browse overnight. We again simply offer them other items or types of enrichment that fit their needs.

Staff Support

A new program or concept introduced to a team is only as strong as the staff that supports it. Sometimes when we have a strong team environment with a routine that works it can be difficult to integrate new ideas and new systems for doing things. Communication is a key point in beginning anything new in an existing routine.

When I started out working on new ideas for enrichment with our raptors I first asked everyone on the team for feedback. I wanted this to be team effort. Anyone who wanted to be involved was encouraged to voice ideas and concerns. Throughout the process of brainstorming, to actually carrying out new ideas, our entire management team was kept up to date on progress and challenges we encountered along the way. Staff would give feedback on better ways to track the schedule of enrichment and keep everyone current on any important information that we discovered along the way, such as a bird being nervous over a new item or one that really enjoyed a specific type of enrichment so we could offer it more often. A few staff members went above and beyond by helping to make up charts to track enrichment and make sure other staff members remembered to incorporate the new enrichment into their regular routines. Management was very supportive as well even though this is a subject that many have drastically different opinions on. They gave valuable feedback from their extensive and varied experiences that helped me select the items that would be beneficial to the bird's health and welfare and also support the company's mission. It was very important to keep the lines of communication open throughout the whole process and really listen to the team members that had concerns and why. No one's feedback was ever discounted or disregarded in any way. Instead, the feedback was welcomed and this opened the door for us to be able to try new things or even re-try some ideas that were unsuccessful in the past. With this understanding we were able to take into account the information that was given to us about concerns and work to improve past challenges in order to do our best to make the new enrichment options successful. Any new idea is only as successful as the team that supports it. The proof is in the team. If the team member that initiated the idea leaves the team but the program or idea continues to evolve without that key member then it can be considered a success.

What Lies Ahead

At Natural Encounters, Inc. we continue to strive to provide natural ways to train and enrich our birds. We are aiming to do the best we can at each location with what we have to offer and the space and time we have to work with. We are very lucky to be able to work in such an amazing and supportive environment where we have the opportunity to try new things and share new ideas. I get to work with some of the best animal trainers in the world and I learn from them every single day. We all have goals and hopes for the future and when it comes to enrichment we are getting to see some of those come to light.

Since I began work on this paper we have discussed some new and exciting ideas for enrichment with our raptors. One of the biggest ideas that has been tossed around is to build a few mews, or a large wooden flight enclosure, next to our barn area. We have limited space to work with but just two mews would really benefit us in countless ways. First, we would be able to put all our birds on a rotation so that we can give every bird the opportunity to be in the mews for a day or two at a time. They would be exposed to many types of ambient enrichment. Some include flying comfortably in these flight mews, choosing which perch to sit on and if they would like to sit in the shade or the sun/rain. They will be exposed to elements such as rain, sunshine and wind, in an environment with an additional and varied view. We could also offer even larger bath pans, pieces of browse and other furniture to allow hiding food in their mew.

We would also have a shift door in the mews and would train the birds to load themselves into their show crates, giving them more choice over their environment and giving us more information about how they may fly during show. If a bird chooses not to load that is very important information and could possibly prevent a fly off. The benefits are countless.

We have also discussed building a weathering yard on the roof of our backstage area. We already utilize this area during show for releasing and catching birds but during the morning husbandry hours it is not being occupied. By building this weathering yard on the roof we can offer our raptors a more natural view, a view from above as in the wild, as well as opening up more space for us to weather new birds. If we have an extra bird in each show rotation that allows us the flexibility to offer certain birds a “day off” from shows in which we could then provide them with alternative enrichment that could include food, such as being able to provide rabbit heads, legs and spine to more birds on a regular basis.

Since the original writing of this paper we are actually now in the beginning stages of our new weathering yard on the roof. When we first discussed this idea we were talking about only one maybe two perches for this new yard. We met a few times about this project and finally got the go ahead to build not only one or two perches, but a whole entire yard of possibly up to eight perches on the roof! This is a very exciting step forward in our raptor enrichment program.

We aim to provide the raptors in our collection with a more stimulating environment. It is a process that cannot happen in a few days, weeks, or even months, but I do believe we

have made great stride and we are on our way to making even more progress with our raptor enrichment program. It is a dynamic process that is always taking place. As long as we are always thinking about what we can do better to improve our birds' well-being while under our care we will continue to make strides. By communicating with each other, sharing information and continuing our education we can continue to grow with the community to try to provide the best enrichment for our animals. Hopefully we can provide them with an environment that can satisfy these amazing predators' complex needs.