

# **“It Takes a Village to Move a Bison”**

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## **Introduction**

In January of 2010 keepers at Chicago Zoological Society's Brookfield Zoo began preparing the American bison (*Bison bison*) herd to move to the zoo's newly constructed Great Bear Wilderness exhibit. The herd consisted of 11-year-olds Becky and Drew, and 10-year-olds Ron and Judy. Additionally, two female yearling calves were going through quarantine during this time at a separate location. The bison herd was managed fairly hands-off other than shifting for cleaning and accepting some hand-fed treats at the fence line.

Keepers, along with our associate curator and behavioral husbandry manager, recognized the need for a team approach to trailer training our herd for a successful move to their new exhibit. We developed a training team specific to bison and created a list of goals before we got started on the actual training. A formal shaping plan, with a list of training steps, was developed for each goal. Some of our goals were: to station train the herd members to have better control over shifting; desensitize each bison to separate from the herd for short periods of time; desensitize the herd to shift through a barn; and, most importantly, to train each individual to voluntarily enter a trailer for transport.

## **Training Process**

The bison were moved in a standard two-horse trailer with special modifications to accommodate this particular set-up and to protect the trailer from the bison's potential destructiveness. Animal Programs staff coordinated with the zoo's welders, carpenters, mechanics, and grounds crew to discuss both trailer set-up and safety modifications. Given the potential for the bison to damage the trailer once the doors were closed behind them, the carpenters lined the entire trailer with two layers of one-inch plywood, including the windows. A 'Dutch' door at the front of the trailer, which was part of the original trailer design, was lined in such a way that the door was still usable to call animals into the trailer. The original trailer set-up had two swinging doors on the back with a built-in ramp that folded up over the doors.

Due to safety concerns involved with closing a swinging door behind an adult bison, our welders and carpenters fit the trailer with a set of sliding doors that could be operated from outside the animal's enclosure. The door track was wider than some of the gates the trailer would be passing through so welders modified the track to fold in on itself once the doors were closed. Each door was fitted with a metal tongue along the bottom, which fit into a steel track along the bottom of the doorframe to add extra security to the door. A steel plate was also welded at the top of the doorframe to take pressure off of the door track in the event of force from inside the trailer. Once the doors were closed they were secured shut with a butterfly pin as well as a steel bar that slid across the doors and fit into a hinged receiver. A piece of steel along the midsection of each door helped guide the bar as it was slid from one side to the next, as well as adding strength and rigidity to the wood doors. Once the cross bar was fit through the receiver on each side, pins were inserted to keep it in place. The ramp could then be folded up and chained to the bar during transport.

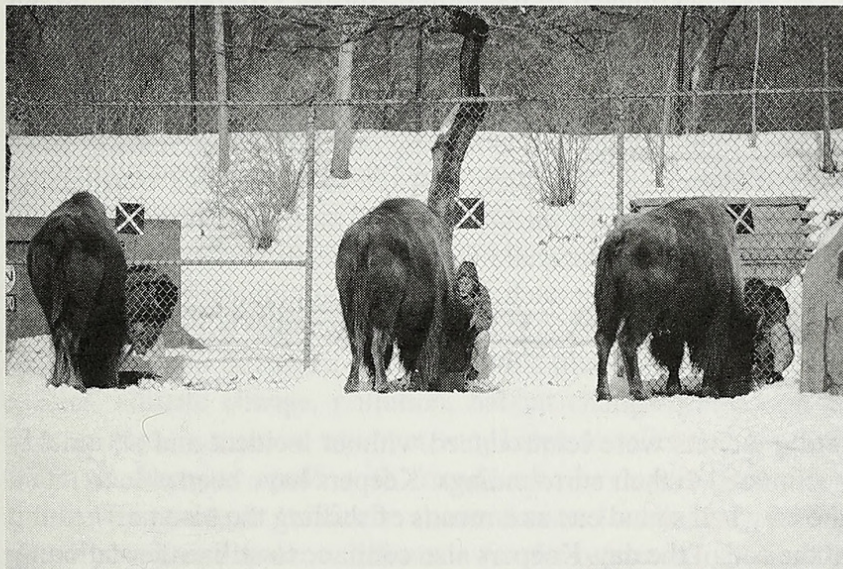
While crews were busy modifying the trailer, keepers were busy starting the training process. Stationing the bison became first priority since it would give keepers more control of the herd before beginning other behaviors. Keepers clipped several black rubber grain pans to the chain-link fence line and began using a two-inch PVC pipe, cut vertically, as a 'chute' to pour the bison's daily grain ration into the food pan as reinforcement. At this time keepers also began ringing a cow bell at the start of each session as a cue that it was time for training and that each animal should go to a station.



The bison began responding to the sound of the cow bell within just a few days. Since we had more feeding stations set up than bison, we also began clipping visual cues (black plastic squares with a white X taped across the front) to the fence above the grain pans at the beginning of each session to mark which stations would be used that day.

One of the main obstacles the keepers had to overcome in the training process was dealing with the social interaction amongst herd members. Due to time constraints, keepers decided not to focus on a cooperative feeding strategy, but rather stationed the most dominant animals first and the most subordinate animal last. That being said, animals were only reinforced by the keeper with whom they started the session to avoid displacement. Proper timing of reinforcement was crucial to keep animals occupied and engaged during the session. This strategy was very successful, with one major drawback - it required us to have one keeper for each animal being trained, which often caused a strain on staffing.

The keepers' next goal was to begin shifting the bison from one yard to the next by passing through a two-stall barn instead of the normal shift gate. Keepers had better visual access and better control over shifting by using the barn as opposed to the shift gate. After allowing the bison a few days to acclimate to the barn, they were only allowed to shift from one yard to the other by moving through the barn. Shifting the bison through the barn helped facilitate another goal - desensitizing each bison to be separated from the herd. By combining the stationing behavior with better visual access during shifting, keepers were able to accomplish this goal in a few short weeks.



**Figure 1:** Training team members Amy, Roger, and Diane station the bison during a training session. (Photo: Jim Schulz, CZS staff photographer)

About two months before the bison were scheduled to move, keepers began working on the task of trailer training each bison. The process began by simply allowing the animals to have access to the trailer and feeding a portion of their hay ration inside the trailer. Within one week, each animal was observed spending time inside the trailer, though the more dominant animals were observed inside more often. During each training session keepers would station an animal in the trailer by setting up their

food pan inside the trailer and calling them from the Dutch door. Focus was placed on training the dominant animal first, then working down to the most subordinate animal. While keepers did wiggle and occasionally move the trailer doors with the animals inside, the doors were never closed while an animal was inside during training.

About one week before bison were scheduled to move to the new exhibit, the 0.2 calves were introduced to the group. The decision to do the introduction at this time was based, in large part, on the fact that keepers were more familiar with the current housing and felt better able to respond in an emergency. While the introduction went very smoothly, the introduction of the calves did have an impact on trailer training; most notably, the subordinate animals, especially Becky, refused to separate from the calves for training, or any other reason. The subordinate animals were also suddenly reluctant to shift through the barn and would only pass through a gate between the yards. Fortunately we had planned to move the two dominant animals a week before the rest of the group and those individuals continued to respond well to training. Also an unexpected plus was the fact



that the adults allowed the calves to step into the trailer with them to gain access to hay so the calves quickly became very comfortable entering the trailer.



**Figure 2:** Trailer training the male bison.

*(Photo: Jim Schulz, CZS staff photographer)*

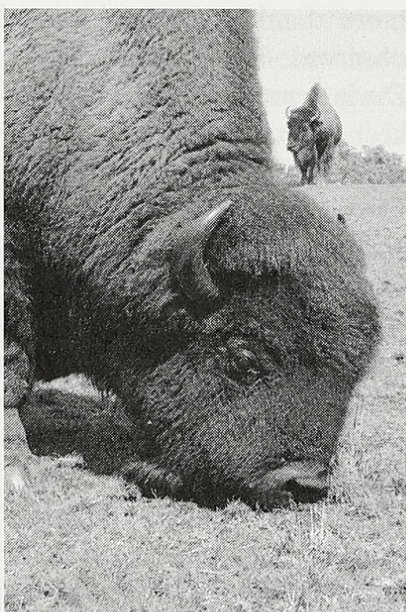
Animal programs and veterinary staff agreed to offer each animal a mild sedative before transport. The decision to medicate was based partly on the potential for the bison to damage the trailer once contained inside, and partly on the fact that keepers felt that if an attempt to contain a bison within the trailer failed they did not have enough time to recover the behavior by the exhibit opening deadline. All herd members were given a long-acting sedative three days before transport. The adult members were also given a shorter acting drug the night before transport. (Note: Considering that the move went so

smoothly, and that each animal was so well acclimated to the trailer, Animal Programs staff do not feel that sedatives would be necessary in future transports with similar training.)

The coordinated efforts of multiple departments and team members resulted in the successful move of each animal. Keepers had to be slightly more flexible while loading the subordinate females since they were still reluctant to shift without the calves, and were still not reliable about transferring through the barn. Despite this set back, each of the herd members loaded onto the trailer voluntarily and all stayed surprisingly calm during transport. The male even re-entered the trailer after off-loading to finish his grain! A well-coordinated team approach, with open communication throughout, was critical in making this move possible.

## Conclusion

Upon arrival at the new exhibit, herd members were reintroduced without incident and all quickly acclimated to their surroundings. Keepers have been able to retain the cow bell sound cue as a means of shifting the bison off-exhibit at the end of the day. Keepers also continue to utilize the stationing behavior as a means to separate the adult male and calves from the adult females so they can all receive separate diet amounts. This behavior will also be used in the future to allow keepers to weigh individual animals.



**Figure 3:** 1.1 bison grazing in their new exhibit *(Photo: Jim Schulz, CZS staff photographer)*

## Acknowledgements

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