

Bison Behavioural Management and Handling Facilities Design By Dr. Marshall Patterson

General Considerations:

Any reasonable attempt to design and construct handling facilities for bison should begin with a solid understanding of normal bison behavioural characteristics and tendencies. Many humans assume that bison are wild creatures. In my opinion, this assumption is misleading. I believe that bison in the natural state behave the way they do as an extension of the environment they are in.

Bison raised on ranches or farms can behave very differently than bison in wild herds, simply because they have been taught to react to human interaction without reverting to instinctive behaviour.

However, it is important not to kid ourselves. Bison are extremely athletic, powerful and potentially aggressive. Any human who chooses to put himself in a penning system to handle bison should proceed only if he understands the behaviour of bison, the features of the handling system that provide some level of safety to the operator(s) and is confident that the person or team of people he is working with know how to – and are willing to – react appropriately when for any reason a situation arises where someone's safety is threatened.

You will notice in the previous paragraph that there is a reference to an operator putting himself in a penning system to handle bison. This means that the human operator is at ground level in the pens with the bison.

This is not realistic in dealing with wild bison that are assembled for some reason or attempting to work with ranch or farm raised bison that have never been subjected to behavioural training or are being handled in a penning system that does not incorporate the design features that provide some level of protection or escape for the operator(s).

Systems designed for handling wild bison or to eliminate direct exposure of the operator(s) to the bison work well to protect the operator(s). In doing so, they do not necessarily protect the bison from injury while being assembled, sorted or processed.

On this basis, you as the operator need to be willing to make a decision regarding what type of system you wish to implement. If your desire is to handle ranch or farm raised bison without any direct exposure of the operator(s) to the bison then the design will incorporate walkways into, around the perimeters of, or above the system. Gates are manipulated with pulleys, levers or hydraulics.

If your desire is to reduce the risk of your bison being injured or killed while being handled and you are willing to be in the pens and alleyways with them then **before you proceed**, you and any member of your team must accept the risk that you may be hurt or killed at any point in time as you engage in the process.

These are the same types of decisions farmers and ranchers raising other species make consciously or subconsciously every they enter a pasture, corral, barn or stall to work their animals.

Instinctive Behaviour:

Bison are distinct from other species of ranch-raised stock in that they revert very quickly to instinctive behaviour when they perceive they are threatened.

For the purposes of these discussions, instinctive behaviour is defined as an innate or intuitive impulse, or in simpler terms, behaviour that is triggered as an automatic reflex or action to a situation.

The two most commonly recognized forms of instinctive behaviour are referred to as “flight” and “fight.”

Bison are evolved as herbivores, or forage consumers, and therefore, do not normally exhibit aggressive or predatory behaviour. Under most circumstances when bison perceive a threat they will attempt to withdraw or flee (flight). Having made this choice, if bison cannot succeed in fleeing or feel trapped to the point of not being able to escape then they will fight (aggressive behaviour).

There are exceptions to these generalizations. Bison strongly express other instinctive behaviours depending on the circumstances. Not surprisingly, these circumstances are often related to reproductive performance. Bison cows are extremely protective of their calves. Bison bulls are commonly aggressive during the breeding season. On this basis it is obvious that operators should avoid handling their bison during the calving and breeding seasons if at all possible.

Because of their rather remarkable physical abilities bison will attempt to escape from a threat either through or over physical barriers that other species would not even attempt to challenge.

One of the solutions to avoiding this type of reaction is training your bison not to feel threatened when you are around them on foot. (Refer to the article entitled “Preparation of Bison for Public Sale Venues” in the September 2001 [SaskBISONews](#).)

One of the other solutions is to adopt what I refer to as the **6 R’s** of bison handling philosophy within the framework of an “**Opportunity Based Approach.**”

The **6 R’s** are:

- **Reduce the size of the group** you intend to work with
- **Reduce the speed** of any bison you are working with
- **Ripple effect** – never underestimate its importance
- **Release** – enable your bison to perceive that by their chosen movement they are releasing or relieving pressure on themselves
- **Retreat** if things are not going well
- **Reward** your bison when you are finished

1) Reduce the size of the group you intent

The number of animals in any particular group most effectively managed is age and sex dependent. Generally speaking, cow calf pairs and breeding bulls three years of age and older are most effectively managed as individual units.

Weaned calves, yearlings and bred heifers most often respond most effectively to the operator if you sort down to groups of 5 or 3 which is invariably better the 2, 4 or 6. This

is because with 3 or 5 there is one individual that does not succeed in pairing up and will therefore be more prone to take cues from you in terms of which direction of movement you desire the group to go.

Avoid getting too many animals in a pen or alleyway. If you cannot maintain eye contact with virtually all animals in a group you are working with then you have limited ability to affect their range of motion.

2) Reduce the speed of the group you are working with

Speed kills when handling or sorting bison. Speed is your greatest enemy. Bison that are moving at high rates of speed have reverted to instinctive behaviour and will hit barriers in an attempt to force their way through them. Even if the animals at the front of the group perceive a barrier and at the last moment decide to attempt to stop, the animals moving at a high rate of speed directly behind them will force them into the barrier.

3) Remember the significance of the Ripple Effect

Bison have a very strict social order. This social order is enforced by aggressive physical contact between individual bison. Bison are also extremely perceptive. Subtle changes in posture by an operator will elicit a response by the bison closest to you. As this bison moves the bison near this bison react and start to move.

This rippling effect can be seen moving through the group you are working with. If other operators of your team are initiating a ripple effect somewhere else in the group, these ripple effects will collide and create confusion or in the worst case scenario, chaos.

4) Release Pressure

Enable your bison to move away from you as they advance through your system. Do not put you or them in a situation where you are forcing them in a particular direction. As soon as you start to force them, they perceive that they are going to be trapped. As soon as this begins to happen they revert to escape mentality. If they cannot escape, aggression is their next option. Your pen and alleyway design needs to facilitate an opportunity for the bison to perceive that by responding to your presence they move from unit to unit by choice to relieve pressure on themselves.

5) Retreat

When your bison start to reach speeds at which they are not responding to your presence or they are crowding into corners and exerting physical pressure on one another, step back. Continue to relieve pressure until they settle. Give them time to think. If they are stirred up and continue to react negatively as you re-engage it is likely time for a time-out. Go to the house and have a coffee. Do not return to the pens until you have calmed down and can proceed with a positive, deliberate, patient approach.

6) Reward

When you are finished working with your bison, have a higher quality food reward set out for them in a paddock large enough where all animals within the group are comfortable. Leave them in this paddock until it is obvious that the memories of being handled are no longer important. Never turn your bison out immediately after being handled. If you do this, their last memory will be of escaping as fast as they could and they will carry this attitude forward into your next handling session. Never have your squeeze chute set up to release your animals directly from the squeeze into their pasture.

If you have any questions or comments, Dr. Patterson can be contacted through the Saskatchewan Bison Association office at (306) 585-6304.