

2nd ANNUAL BISON WORKER SAFETY & HERD HEALTH ROUNDTABLE

AUGUST 26, 2020

RAPID CITY,
SOUTH DAKOTA



ROUNDTABLE PARTICIPANTS

Arnell Abold, InterTribal Buffalo Council
Jamie Arrive, Ute Indian Tribe
Sidney Bailey, 4 Mile Creek Ranch
Angela Bessmer, Ponca Tribe of Nebraska
Michael Boswell, Prairie Band Potawatomi Nation
Martin Bredthauer, Straight Arrow Bison Ranch
Christopher Brown, Kwahn Corporation of the Pit River Tribe
Kevin Burnison, Sac and Fox Nation of Missouri in Kansas and Nebraska
Danielle Buttke, National Park Service
Shanna Carpenter, Ponca Tribe of Nebraska
Liz Chamberlain, South Heartland District Health Department
Victoria Champaign, Ponca Tribe of Nebraska
Eddie Childers, Badlands National Park
Dave Cronauer, Forest County Potawatomi Community
Alyssa Damke, University of Nebraska Medical Center; CS-CASH
Megan Davenport, InterTribal Buffalo Council
Jimmy Doyle, Rosebud Economic Development Corporation
Ellen Duysen, University of Nebraska Medical Center; CS-CASH
Peg Elofson, Ponca Tribe of Nebraska
Mortiz Espy, 777 Ranch
Jeff Ewelt, ZooMontana
Mike Faith, Standing Rock Sioux Tribe Chairman
Tom Fast Wolf, Oglala Sioux Parks and Recreation Authority
Jared Finley, Kalispel Tribe
Lindsay Forepaugh, Rocky Hollow Buffalo Company
Alison Gienapp, Ponca Tribe of Nebraska
Mack Hawkins, Badlands National Park
Troy Heinert, InterTribal Buffalo Council, South Dakota State Senator
Whit Hibbard, Editor Stockmanship Journal
Ed Iron Cloud, Bison Herdsman
Jennifer Jackson, Wind Cave National Park
David Johnson, Ponca Tribe of Nebraska
Lee Jones, US Fish and Wildlife Service
Clayton Kelling, University of Nebraska—Lincoln; SVMBS
Davis King, Yankton Sioux Tribe
Steven Kreycik, Ponca Tribe of Nebraska
Georja Kriebs, Ponca Tribe of Nebraska
Jesse Lasater, Southern Ute Indian Tribe
Taylor Little Whiteman, Oglala Sioux Parks and Recreation Authority
Cadrien Livingston, Gallagher Insurance
Jenika Long, Ponca Tribe of Nebraska
Jennifer Malaterre, InterTribal Buffalo Council Board of Directors
Nick Mauro, Ponca Tribe of Nebraska

ROUNDTABLE PARTICIPANTS CONTINUED

Misha Mazurkewycz, Ponca Tribe of Nebraska

Bret Morton, National Park Service; Wind Cave National Park

Jayme Murray, Cheyenne River Sioux Tribe

Julius Murray, Ute Indian Tribe

Jill Vansickle, University of Nebraska Medical Center; CS-CASH

Kristi Olney, Yakama Nation

Athena Ramos, University of Nebraska Medical Center; CS-CASH

Risto Rautiainen, University of Nebraska Medical Center; CS-CASH

Paul Roghair, Badlands National Park

Mystera Samuelson, University of Nebraska Medical Center

Paul Santavy, FWS—Charles M. Russell National Wildlife Refuge

Kate Schoenecker, USGS; Medano Zapata Ranch

Greg Schroeder, Wind Cave National Park

Eric Selchert, InterTribal Buffalo Council

Joseph Shepard, Forest County Potawatomi

Terry Stentz, University of Nebraska Medical Center; College of Public Health

Kalon Strickland, Santee Sioux Nation

Michael Thompson, Oglala Sioux Parks and Recreation Authority

Richard Two Bears, 4 Mile Creek Ranch

Mike Tyndall, Omaha Tribe

Joshua Wiese, The Crane Trust

Don Woerner, Veterinarian for Ft Peck Tribal Bison Herds

Todd Wyatt, University of Nebraska Medical Center; CS-CASH

Phil Viarrial, Pueblo of Pojoaque



ROUNDTABLE AGENDA



University of Nebraska
Medical Center™
BREAKTHROUGHS FOR LIFE™

2nd Annual Bison Worker Safety & Herd Health Roundtable

August 26, 2020

Live Event Rapid City South Dakota and Via Zoom

Agenda

Presentation	Presenter
8:00 Breakfast	Holiday Inn, Rushmore Center
8:30 Welcome and Introductions	Clayton Kelling - University of Nebraska Lincoln School of Veterinary Medicine
9:00 CS-CASH/UNL Bison Worker Safety Project Introductions	Clayton Kelling – Univ. of NE – Lincoln Arnell Abold – InterTribal Buffalo Council Risto Rautiainen – University of Nebraska Medical Center
9:45 Break	
10:00 Low Stress Bison Handling	Whit Hibbard - Editor - Stockmanship Journal
11:15 Holistic Management	Moritz Espy - 777 Ranch, Rapid City SD
11:45 Bison Behavior	Mystera Samuelson –University of Nebraska Medical Center
12:15 Lunch	
1:15 Corral Design - Low Cost Fixes	Greg Schroeder – Chief of Natural Resources - Wind Cave National Park
1:45 Cheyenne River Buffalo Herd Safety Strategies	Jayme Murray – Herd Manager – Cheyenne River Sioux Tribe, SD
2:15 Pueblo of Pojoaque Herd Safety Strategies	Phil Viarrial – Bison Program Director Pueblo of Pojoaque, NM
2:45 Break	
3:00 Safe Transportation of Bison	Troy Heinert - Troy Heinert Trucking Services
3:30 Animal Health Related to Worker Safety	Clayton Kelling – Univ. of NE - Lincoln
4:00 Roundtable Discussion All	All
4:50 Surveys/Evaluation	Jill Oatman – University of Nebraska Medical Center



Thank you to all who presented and participated at the 2nd Annual Bison Worker Safety and Health Roundtable. During this meeting enduring partnerships were established, and best practices that were discussed can be implemented to protect the safety and health of bison herd workers and their animals.

INTRODUCTION

Bison production in the United States has increased due to a rising demand for bison meat and the reestablishment of Native American bison herds. Larger herd sizes, increased handling and transporting of animals and in some instances an inexperienced workforce, have led to greater risk exposure to those handling bison. In an effort to reduce these risks the CS-CASH has partnered with the University of Nebraska School of Veterinary Medicine and the InterTribal Buffalo Council to research bison worker hazards and provide education and guidance on best practices to bison herd managers throughout the United States.

With the goal of collecting information on current handling practices and safety concerns, experts were brought together for a second roundtable meeting held in Rapid City, South Dakota on August 26, 2020. This year's meeting looked a bit different in the midst of the COVID-19 pandemic. The roundtable discussion was available both online via zoom as well as in-person. To protect the health of in-person attendees, CDC health and safety precautions were followed, including social distancing measures and the wearing of face coverings.

Participants included tribal and non-tribal bison herd managers, worker safety experts, researchers, and other stakeholders. Expert speakers presented topics including Worker Safety, Safe Transportation of Bison, Bison Handling Facilities and Corral Design, Bison Behavior, Low Stress Handling, Holistic Management, and Herd Health Related to Worker Safety.

The roundtable discussion focused on bison herd health and emergency preparedness plans for safe herd movement. A survey of participants was designed to provide a better understanding of the perception of risk and worker training needs. A program evaluation was also conducted. The following summary highlights the speaker presentations, roundtable discussion and the results of the participant survey.



ROUNDTABLE PRESENTATIONS AND DISCUSSION

Introduction and Welcome

Clayton L. Kelling
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Range Bison Herd Health

The Bison Worker Safety and Health project grew out of work by a five-state ruminant consortium that included researchers from South Dakota State University and funding from USDA/NIFA. Bison roundups were conducted to identify, weigh, determine pregnancy status, body condition as well as measure other indicators of bison health. During these roundups worker safety became a concern. As close contact with the bison is necessary to maintain optimal herd health it was determined that guidance on best practices for safe handling of these animals be established. With the goal of reducing the potential for injury in bison herd workers, a project was written in collaboration with the Central States Center for Agricultural Safety and Health. The project entitled “Enhancing the Health and Safety of Range Bison Herd Workers” commenced in September 2016.

The overall hypothesis of the project:

Risk of injury during bison handling can be mitigated by implementing best practices

Specific Aims:

1. Characterize injuries, working conditions and hazards to workers handling bison under field conditions
2. Develop and implement intervention strategies to mitigate worker safety risks by providing best practices for range bison herds
3. Assess outcomes and impacts of intervention strategies



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Summary of Arnell's comments.

The ITBC represents 69 Tribes located throughout 19 states and serves over 900,000 enrolled Tribal members. Over 20,000+ buffalo have been returned to Tribal lands through ITBC contributions. The ITBC continues to grow membership by at least two new member Tribes per year.

Services:

- Annual herd development grant (apply for grant to manage herds)
- Surplus bison program
- Technical assistance
- Cultural and scientific education on the reintroduction of buffalo
- Marketing of buffalo for sustenance and tribal economy
- Outreach and education

ITBC's Partnerships with Public Lands

- Working with National parks (Badlands, Wind Cave, Yellowstone)
- Seat on the Interagency Bison Management Plan at Yellowstone
 - Bring animals out to tribal land
- Preserving and protecting cultural connections (restoring culture—returning buffalo)
- Range of resources to connect (scientific research, infrastructure, and range improvements, etc.)

Economic Development and Expansion

- Assist marketing strategies
- Help start up tribal herds—keep moving forward

Outreach and Education

- Teach people what it means to have buffalo on their land and in their communities
- Utilizing all parts of the buffalo
- Handling procedure
- Outdoor classroom
- Technical services

Buffalo Restoration = Cultural Revitalization + Indian Tribal Health

- Cooking demonstrations
- Redistribute stories from traditions
- Tribal hunts

Funding improvement efforts:

- Policy advocacy efforts
 - National Bison Legacy Act 2016 and the Indian Buffalo Management Act (current)
- Continual push for funding for buffalo restoration
- Share genetics information and restore bison across Indian tribal landscape
- From the ITBC's interactions: wildlife conservation organizations and bison working groups are looking for more tribal input regarding NPS regional strategy meetings, and quarantines in Yellowstone.

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Enhancing the Health and Safety of Range Bison Herd Workers

On-site Safety and Health Assessment Tools

- Herd management survey
- Safety checklist to review potential hazards
 - Handling facility, work areas, equipment, tools
 - Pastures, fencing, structures
 - Medications, chemicals, PPE
- Feedback and follow-up visit
- “One Health” approach = the health and safety of people, animals, and the environment are interconnected

Box Stall/ Ready Chute Designs

- Single file versus wide box alley
- Solid versus partially open walls
- Minimize time the animals are separated

Squeeze Chute and Handling Practices

- Reduce speed of bison where they enter the squeeze chute and crash gate
- Minimize close contact with the animals
- Avoid “high-stress” handling practices as these may lead to injuries and damaged equipment

Observed Hazards

- High-stress bison handling methods
- Squeeze chute
- Ready chute design
- Dusty conditions
- Unsafe roundup methods
- Inadequate confinement practices
- Lack of personnel safety barrier

Hazard Mitigation Recommendations

- Low-stress bison handling methods
 - Minimize risk to workers and to animals
 - Basis- apply pressure and release
- Facility/ ready chute/ squeeze chute design
- Safety consideration in each task (tailgate safety training, safety meetings pre-roundup, orientation trainings for new employees, ATV safety, safety in working with horses, and PPE usage)

ROUNDTABLE DISCUSSION

- Dust is an issue during bison capturing
- Dust mitigation strategies
 - Hose down alleyways (Is there a local firetruck available?)
 - Limestone gravel
 - Sawdust/ hay/ fine clay
 - Leave a little manure layer to hold moisture



Low Stress Bison Handling

Proper Bison Handling = Healthier and Safer Conditions for Workers and Bison

- Protecting bison health is important in preventing the loss of robust genetics in a population
- Important for the sustainability and propagation of the species

There is a direct correlation between the quality of animal handling and safety

- Worker training makes all the difference in low-stress handling protocol
- Properly trained workers in low-stress handling allows for smooth, calm, and low-stress corralling

Principals of Low-Stress Bison Handling = Orienting Vs. Operational

Orienting Principles

- Keep bison in a normal frame of mind
- Bison should not be forced to do anything they do not want to do or are not ready to do
- Using their natural instincts, set up every situation so our idea becomes their idea
- Bison want to avoid pressure and they need to experience release from pressure

Operational Principles

- Bison want to see what is pressuring them
- They want to see where you want them to go
- They want to go by you or around you
- Under excess pressure, they want to go back where they came from

Techniques and Purposes

- Zigzag- drive bison straight ahead
- "T"- establish direction
- Forward-parallel- slow bison down
- Reverse-parallel- speed bison up
- Rocking- turn, drive bison away from you
- In and out- drive bison ahead perpendicular to you

ROUNDTABLE DISCUSSION

- Rocking technique works best in alley ways, catwalks, and can also work in emptying smaller pens
- Avoid treating animals as pets as this increases the risk for injury by animals
- Implementing principals and techniques of low-stress handling has the potential to double processing rate
- Large difference between animal behavior when walkway is elevated versus ground level
 - Catwalks put workers at a predatory level which bison do not like
 - When bison look up, their feet stop moving
 - Walkways on ground level are preferred

"There is a direct correlation between the quality of animal handling and safety"
Whit Hubbard

Moritz Espy
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Holistic Management—A New Framework for Decision Making

Holistic Goal = Ecological approach with animals, land, and people in mind

- Quality of life
- Forms of production
- Future resource base
- Using animals on the ground and animal impact (promote earthworms, dung beetles, birds, etc.)
- Gardening effect

Summary of Moritz's comments

Holistic management is trying to mimic nature using nature. Holistic plans and goals must be interconnected to achieve the vision or goal. Develop feedback loop and monitor the plan to keep on track. Regarding invasive plants, use herd density to mitigate invasive plant species growth. High density herds will trample and kill invasive plants. Promote native plant growth as another method to prevent invasive plant growth and propagation.

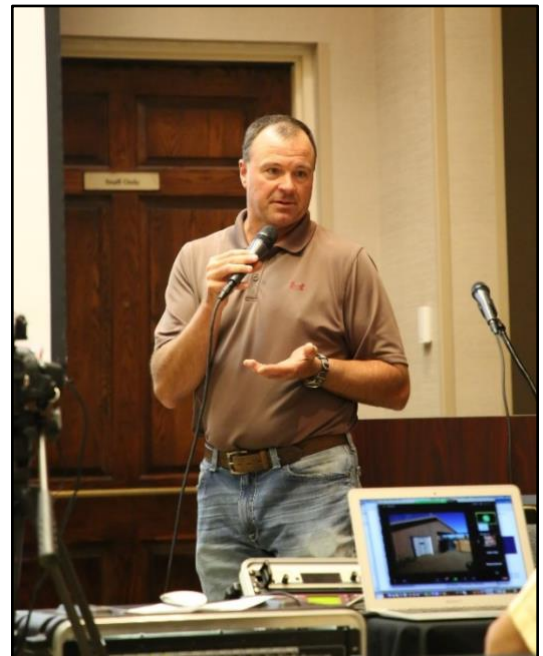


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Corral Design and Low-Cost Fixes

Factors to think about:

- *Light*—Bison work differently during the morning hours compared to the afternoon hours due to sunlight. It is beneficial to have light shining into the chute. Keep squeeze chute facing north so the sun is always shining, and this will ensure that bison are moving towards the light. White reflects light so paint chute enclosures white, so it is brighter and more inviting to the bison.
- *Sound*—Reduce noise by applying white spray foam insulation on solid metal panels, walls, etc. Post signage for humans to be quiet
- *Predators*
- *Visibility*—Where should we be seen and where should we not be seen? Pay attention to where walls should be open and should be solid.
- *Direction of Flow*—Bison like to go back to where they came from so locate alleyway gate next to the gate entrance where they came into the capture facility. Long alleyway leading up to squeeze chute is designed for two reasons; 1) animal sorting and 2) reducing handling time.



Bison Behavior in Context—Leveraging Ethology and Cognition to Improve Productivity and Workplace Safety in Agricultural Settings

Umwelt definition: How an animal perceives the world based on its sensory capabilities

Ethology and Cognition

- An animal's umwelt shapes their cognition by filtering sensory information to include specific cues relevant to that species' evolutionary history
- Animals think in "species-specific" pictures, smells, sounds, etc.
- Understanding and leveraging these principles effectively in the captive and agricultural environments can enhance productivity, promote worker safety and inform decision making

What We Know About Bison Ethology

- Bison rely on herding instinct to survive in the wild and remain in a group whenever possible
- Easily stressed when separated
- Select open habitats—big open spaces so they can escape and/or exhibit circling behavior
- Hormone oscillations tend to make females more aggressive during spring and summer
- Males tend to be more aggressive during late summer and early fall
- Sexually mature between 2-4 years old (hormonal changes during this time will cause increased aggression in both sexes)

Bison Umwelt

- *Hearing*—Acute hearing capabilities, low-frequency ranges, high-frequency sounds are less likely to be perceived by bison
- *Vision*—Bison have relatively poor vision, but visual cues are just as important for consideration in animals with low visual acuity. Bison have color vision and are evolutionary designed to look for white, sign stimuli, and movement.
- *Scent*—Acute sense of smell which is key to detecting predators in the wild

Dominance and Social Structure

- Avoid combining sexually mature males with cow herds prior to and during calving season, especially in confined areas.

Leveraging ethology to work for you

- Worker education regarding natural bison behavior helps them make safer decisions in the moment
 - Positioning one's body such that they are not casting a shadow across the chute, being conscientious of noise production and scent, and troubleshoot unique situations and identify threats before an incident occurs

The ABC's of Behavior (Applied Behavior Analysis)

A= Antecedent

B= Behavior

C= Consequences

- Perception Matters
- Worker Education & Management
 - Workers need to feel empowered to build their knowledge base, but also discuss challenges openly
 - Worker injuries and reporting
 - This approach will:
 - Improve accountability through reporting
 - Help managers identify challenges that otherwise would likely go unnoticed
 - Reduce workplace injuries
 - Reduce turnover
 - Improve overall productivity and animal welfare

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Safe Transportation of Bison

Preparation

- Adequate equipment for the job
- Visual inspection of truck, trailer, and loading facility
 - Well-maintained
 - Adequate brakes to handle weight of the load
 - Working lights, turn signals, mirrors
- Enough drivers to reach destination during the required timeframe
- Required transportation paperwork
- Skill and confidence in your abilities

Pick-ups, Trucks, and Trailers

- Well ventilated steel or aluminum trailers
- Slam latches are recommended
- Cut gates to separate load by size, sex, age, or destination
- Ropes to pull gates shut from outside of trailer when possible
- Sliding rear gate is recommended

Loading the Trailer

- Know the cut sizes of your trailer and load accordingly depending on the size of animal to be hauled
- The wider the trailer the better the animals will ride
- Load adult animals a little tighter depending on weather conditions
 - For bulls—give at least 3 feet of space
 - For calves—give about 1 foot
 - For older animals—you can make it so they are almost touching one another
- Do not mix adults and calves in the same compartment
 - Keep separate by age and sex

Transporting

- During warmer months or in warmer climates, it is better to drive when it is cooler outside
- Getting them moving quickly and keeping them moving is key
- Try to avoid unnecessary or prolonged stops
- Stopping increases risk of animals getting injured
- It is best to load once and unload at destination

Unloading

- Always inspect the pen before unloading, set up gate and accept different cuts
- It is best to unload in the daylight or to a lighted corral
- Do not let your guard down (even if it appears the animals have calmed down)
 - Same safety protocols that were performed to load should be performed when unloading
- Try to keep new bison isolated from your existing herd as per your quarantine protocols
- Stay in contact with receiving location
 - Be mindful of tribal ceremonies on arrival

ROUNDTABLE DISCUSSION

- Bring plenty of food and water on long hauls, >20 hours = approaching danger zone
- When a bison's water source is changed, the minerals and trace elements obtained also changes. Use electrolytes like orange Gatorade to supplement and entice animals to drink
- When hauling calves, bring mineral tubs, line trailer with hay, and stop for water



"It all starts on the ground"
Troy Heinert

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Animal Health Related to Worker Safety

Animal Identification

- Teeth and horn morphology used to approximate age
- Cull non-productive animals
 - Breeding soundness exam
 - Scrotal circumference (correlated with fertility)
 - Semen evaluation

Animal Nutrition and Health

- Meet nutritional requirements
 - Body condition 5-point scale (strive for intermediate of 3)
 - Impact of body condition on reproductive efficiency
- Trace minerals
 - Copper balance in bison
 - Variation is common between and within different areas
- Parasitism is prevalent
 - Moderate to heavy levels of endoparasites
 - Coccidia, moniezia, strongyles (highest), trichuris

Handling Bison

- Provide adequate facilities and use appropriate procedures
- Implement a parasite control program

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Cheyenne River Buffalo Herd Safety Strategies

- Alleyway designed so workers never have to get down into the pens with the bison
- Main goal is to keep employees safe and work bison with the least amount of stress as possible

Phil Viarrial
Pueblo of Pojoaque

Pueblo of Pojoaque Herd Safety Strategies

- Corral system is built into 2-3 smaller corrals
- Minimize the number of people involved in bison roundup to promote worker and animal safety
- Organize herds into smaller groups
- Crash gates recommended for safety

ROUNDTABLE DISCUSSION

- To get a good idea of herd health, perform parasite monitoring by collect 10-20 fecal samples from animals from various ages, refrigerate (do not freeze) samples and examine microscopically
- Discussion of fire safety plans and strategies to protect bison herds included the following suggestions: reach out to other ranchers for help, perform a back burn, have a slaughter and disposal plan, plan for the topography of the area, and know how to prep the land

Participant Survey

A survey was sent to all participants that asked questions related to perception of risk, training, low-stress handling, ATV safety, personal protective equipment, and environment and facilities. Results of the survey are shown below.

PERCEPTION OF RISK, INJURIES, AND HAZARDOUS TASKS

- 100% of the survey participants believed that bison handlers are at risk of being injured while working with bison
- 41% of the survey participants believed that bison handlers themselves think they are at risk of being injured while working with bison

TRAINING

- 88% of respondents indicated that there is a need for safety training for bison handlers

Training Topic Preferences

- Maintaining proper environment for low stress bison handling (93%)
- Low stress bison handling techniques (80%)
- Safe use of animal medication and needles (33%)
- Use of proper personal safety equipment (20%)
- Safe use of all-terrain vehicles (ATVs) (27%)
- Worker prevention (27%)
- Other suggested topics
 - Animal behavior assessments
 - Nutrition plans to promote herd health

Training Style Preferences

- Use of training manuals (71%)
- Use of distance learning (videos and webinars) (36%)
- Professional training on-site



PERSONAL PROTECTIVE EQUIPMENT (PPE)

Unique hazards associated with bison handling include the large size of the animals, lack of domesticity, cold, dusty, and possibly icy environmental working conditions and, in some cases, facilities in need of updates. The use of personal protective equipment should be considered to reduce the risk to worker's eyes, lungs, hands, feet, and skin.



Fire Extinguisher Presence During Roundups

- 40% of participants reported that they know that a fire extinguisher should be present and that there is one on-site whenever possible

Wearing Dust Masks

- 50% of respondents indicated that they know that dust masks should be worn anytime that dust is present
- 70% of respondents believed masks were supplied and distributed to herd workers during roundups

Wearing Safety Gloves and Safety Glasses

- 80% of respondents reported that herd workers know they should be wearing gloves and reported that safety gloves were supplied to herd workers
- 60% indicated that gloves are worn whenever necessary
- 70% of respondents indicated that they know when safety glasses should be worn
- 90% reported that safety glasses are worn by herd workers whenever necessary
- 80% of respondents reported that safety glasses are supplied to herd workers

LOW STRESS HANDLING

- 80% of survey participants believe that bison handlers need training in how to implement low stress bison handling techniques
 - 50% of respondents believed that herd workers know about low stress bison handling techniques
 - 70% believed workers have been taught that it is not recommended to use high stress methods (E.g., poke, beat on, or use electric prods while moving bison) to move the bison
 - Over 60% of participants believed that handlers know that moving or flapping objects and shadows can increase the stress level of the animals
-

ALL-TERRAIN VEHICLES (ATVs)

ATVs are beneficial for hauling equipment out to the handling facilities but should not be used during roundup to drive bison. If terrain is challenging, fewer ATVs are recommended.

- 50% of respondents were aware of how to safely use ATV's and other off-road vehicles
 - 67% believed workers use best practices when using ATVs
-

ENVIRONMENT AND FACILITIES

- 70% of participants stated that their equipment needs repair and/or modification
- 80% stated that herd workers know that slip, trip, and fall hazards exist at the roundup
 - 60% of participants stated that slip, trip, and fall hazards during bison roundups can be eliminated by treating areas with sand and/or salt
- 55% of respondents know dust can be hazardous to their health and take advantage of safety interventions (such as wearing PPE) to prevent possible adverse health effects
- 80% of participants stated that handlers do know the hazards of working with bison and follow the rules to decrease these hazards
- 60% of participants believed handlers know how to properly dispose of syringes and needles, and dispose of them correctly
 - 80% reported that the proper containers for sharps disposal are available to workers and used appropriately



ROUNDTABLE EVALUATION

An evaluation survey was sent out to the attendees following the roundtable meeting

Evaluation Results

- 100% of participants would be interested in attending a future roundtable event that takes place at a bison handling site
- 85% indicated that they would be able to implement something they learned during the event into their herd health and worker safety practices including information on low-stress handling, corral design, bison behavior, and maintaining a healthy herd

Topics for 2021 3rd Annual Bison Worker Safety Roundtable

- Presentations by large producers and herd managers
- Veterinarian procedures that caretakers can learn to do themselves
- Developing emergency preparedness plans to protect bison herds and workers in the event of disaster
 - Blizzards, floods, tornados, wildfires, in-land hurricanes, etc.
- Marketing information
 - Representative from USDA
- Tribal historical and/or spiritual stories, songs, and ceremonies





Special guest, Chairman Mike Faith Jr., Standing Rock Sioux Tribe, shared his vision for worker safety with the Roundtable participants.

Plan on Attending the 3rd Annual Bison Worker Safety and Herd Health Roundtable in 2021!

Let us know what topics you would like to see discussed.

Let us know if you would like to be a presenter.

Document prepared by Central States Center for Agricultural Safety and Health
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