



# Enhancing the health and safety of range bison herd workers



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# Specific Aims

1. **Characterize injuries, working conditions and hazards to workers** handling bison under reservation 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

# Injuries, working conditions and hazards to range bison herd workers

## Reservation Sites Evaluated

Herd	Location	No.
Standing Rock Sioux Tribe	ND	2
Fort Peck Assiniboine and Sioux Tribes	MT	2
Taos Pueblo Tribe	NM	1
Oglala Sioux Tribe	SD	3
Sitting Bull College	ND	1
Rosebud Sioux Tribe	SD	1

# Injuries, working conditions and hazards to range Bison Herd Workers

## Non-Reservation Sites Evaluated

Herd	Location	No.
Crane Trust	NE	1
Neal Smith National Wildlife Refuge	IA	1
Custer State Park	SD	1



## Bison herd on SD reservation



# Gathering Bison





# Roundup



# Handling Facilities

- Optimal for health management practices
- Close contact with the animals



# Handling Practices

- “High-stress” bison handling methods
  - Bison typically become aggressive and dangerous
  - Worker and animal safety compromised

















High stress practices may lead to injuries and damaged equipment



# Animal flow

- [https://youtu.be/zCXbp\\_eMcdqU](https://youtu.be/zCXbp_eMcdqU)





# Dust







# Injuries, working conditions and hazards to Range Bison Herd Workers

<b>Hazard</b>	<b>Reservation</b>	
	<b>Yes</b>	<b>No</b>
High Stress bison handling practices	7/7	0/2
Squeeze chute	5/7	1/2
Ready chute design	3/7	1/2
Dusty conditions	3/7	0/2
Unsafe round-up methods	2/7	0/2
Inadequate confinement practices	2/7	0/2
Lack of Personnel Safety barrier	2/7	0/2



# Recommendations:

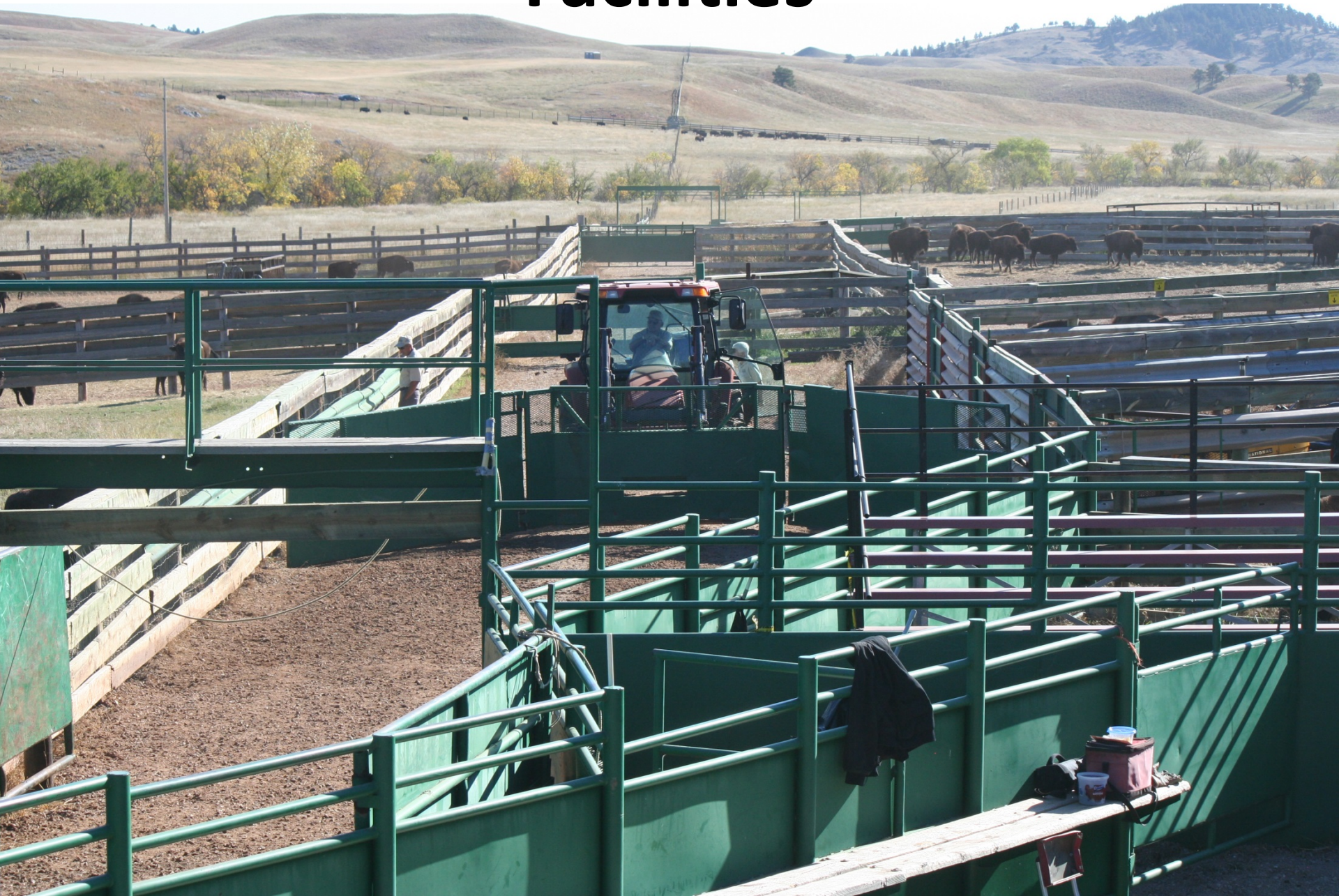
## Gathering and Handling Bison

- **“Low-stress”**  
**bison handling**  
**methods**
  - **Minimize risk to workers and to animals**
  - **Basis: Apply pressure and release**





# Facilities





# Functional Facilities





# Worker Safety Barrier Fences

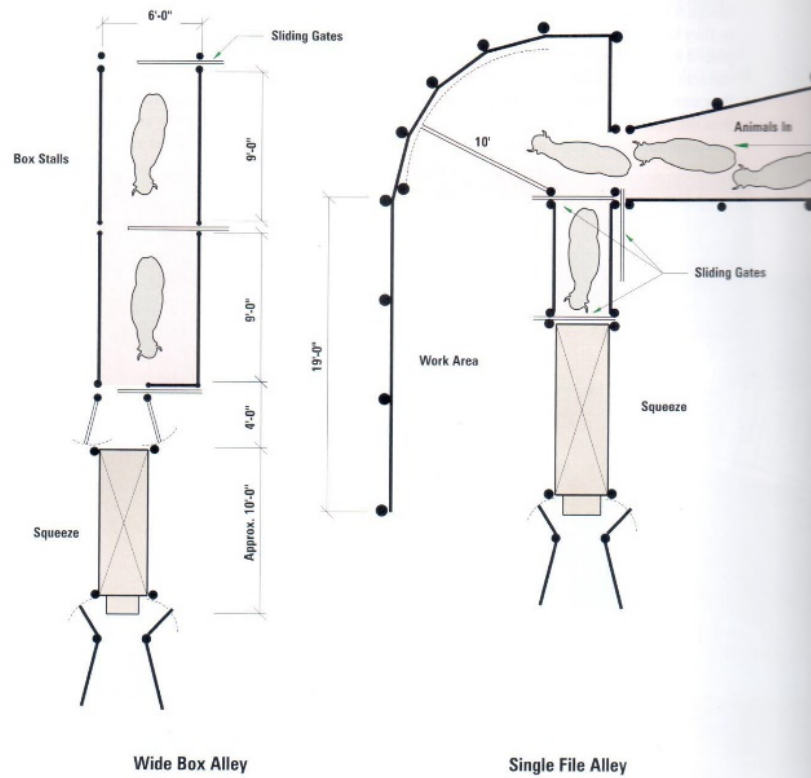


# Squeeze Chute





# Ready Chute



# Summary: Enhancing Worker Safety

1. Provide functional facilities
2. Implement **best practices**
  - Low stress animal handling
  - Worker safety
3. Gathering animals
4. Sort animals
5. Ready chute
6. Squeeze chute
7. Worker safety barrier fence
8. Secure gates and panels
9. Control dust
10. Train and manage workers

# Bison Worker Safety & Health Roundtable



## Bison Worker Safety & Herd Health Roundtable

March 26, 2019

Holiday Inn – Downtown, 1420 Cuming St, Omaha, NE 68102

### Agenda

Time	Topic	Presenter
8:00	Breakfast	Holiday Inn Downtown/Airport
9:00	Introductions & Welcome	Christina Topliff <i>University of Nebraska – Lincoln</i>
9:30	InterTribal Buffalo Council	Arnell Abold <i>InterTribal Buffalo Council</i>
10:00	Break	
10:15	Worker Safety Project Overview	Clayton Kelling <i>University of Nebraska – Lincoln</i> Risto Rautiainen & Lucia Finocchiaro <i>University of Nebraska Medical Center</i>
11:15	Bison Handling Facility Discussion	Mary Miller <i>Ordway Prairie</i> Rob Magnan <i>Fort Peck Assiniboine and Sioux Tribes</i> Michael Thompson <i>Oglala Sioux</i>
12:00	Lunch	Holiday Inn Downtown
1:00	Low-Stress Handling Research	Jacob Salter & Joshua Weise <i>Crane Trust</i>
2:00	Worker Orientation Practices	Lee Jones <i>Neal-Smith Wildlife Refuge</i>
2:30	Herd Health	Don Woerner <i>American Bison Center</i>
3:30	Break	
3:45	Roundtable Discussion of Best Practices	All
4:45	Surveys & Evaluation	All
5:00	Adjourn	

- Omaha, March 26, 2019
- 29 attendees
- Managers of bison herds, safety and health experts
- Practical information shared and discussed
- Intent to arrange further meetings







# Thank you!



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