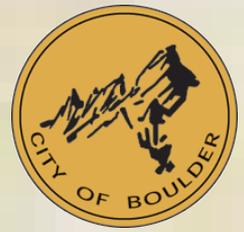
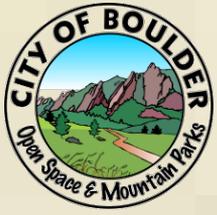


# City of Boulder Bison Donation Evaluation



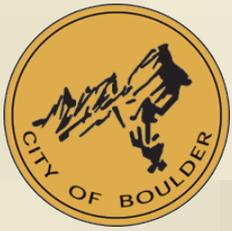
Open Space Board of Trustees  
Public Hearing and Recommendation  
May 23, 2012





# Bison Project Team

- Josh Bilbao
- Jake Cseke
- Don D'Amico
- John D'Amico
- Mike Patton
- Andy Pelster
- Jim Reeder
- Lynn Riedel
- Eric Stone
- Heather Swanson



# Background

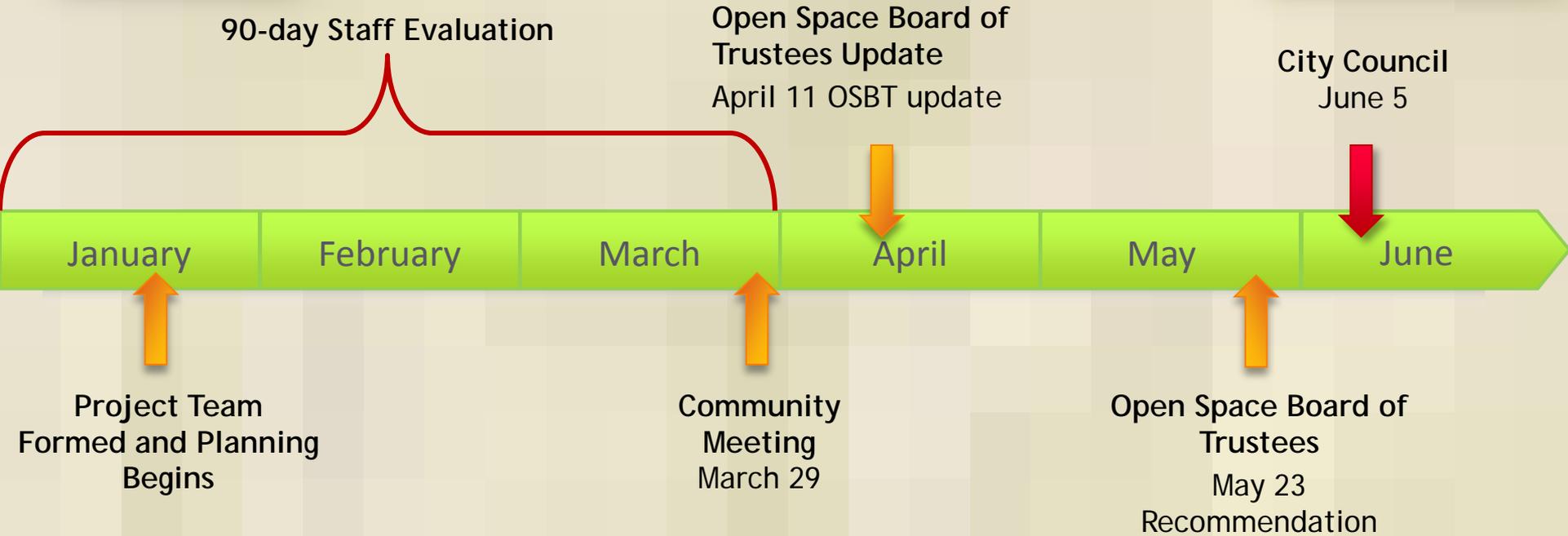
- October, 2010  
Ted's Montana Grill Opens in Boulder
- October, 28 2011  
Offer of Donation Announced
- December 1, 2011  
City Council Meeting  
Staff directed to evaluate donation

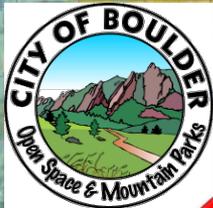


**Ted Turner to donate buffalo herd to roam Boulder open space: CNN founder working with city to place 20 bison along U.S. 36**  
Boulder Daily Camera

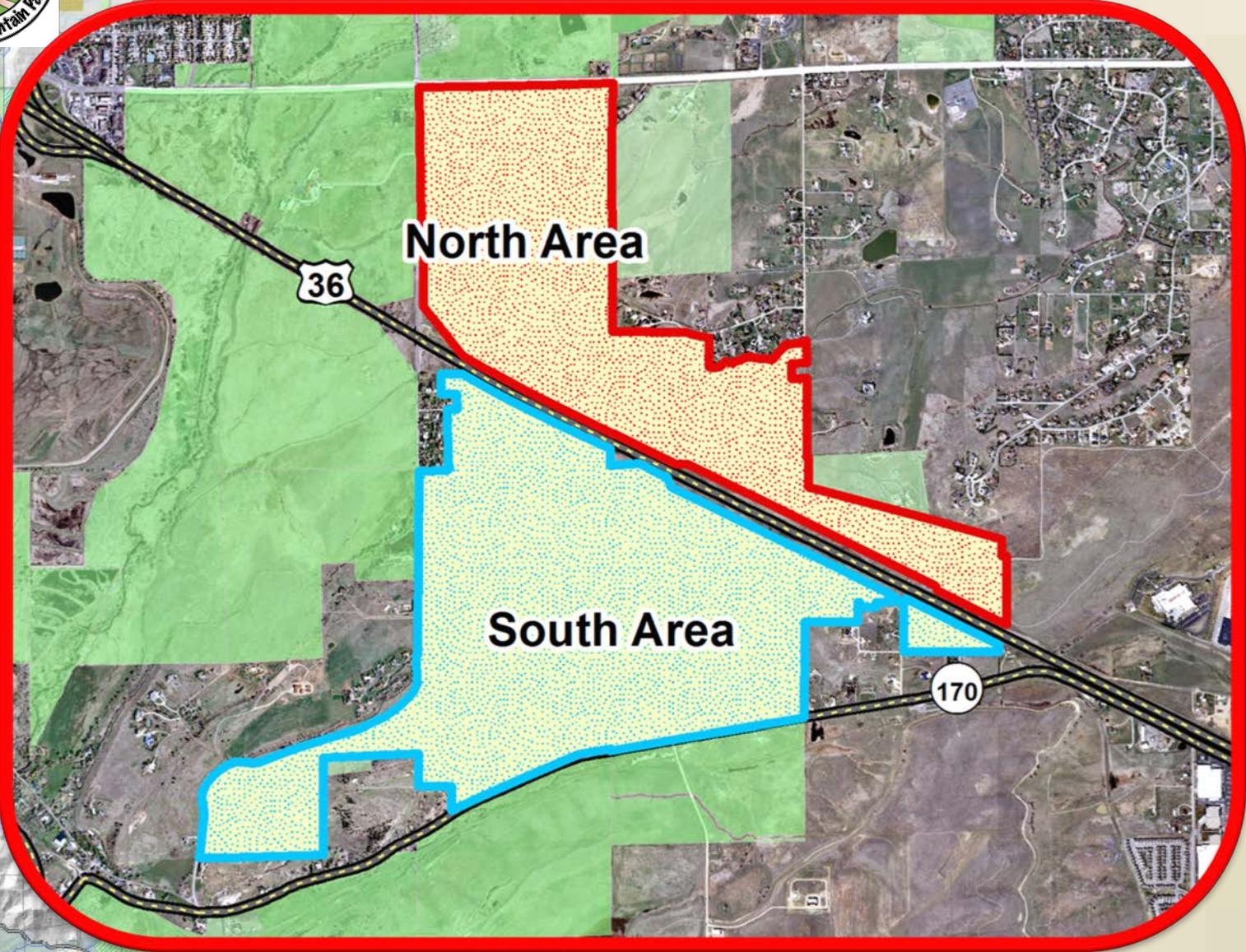


# Timeline





# Evaluation Sites



North Area

36

South Area

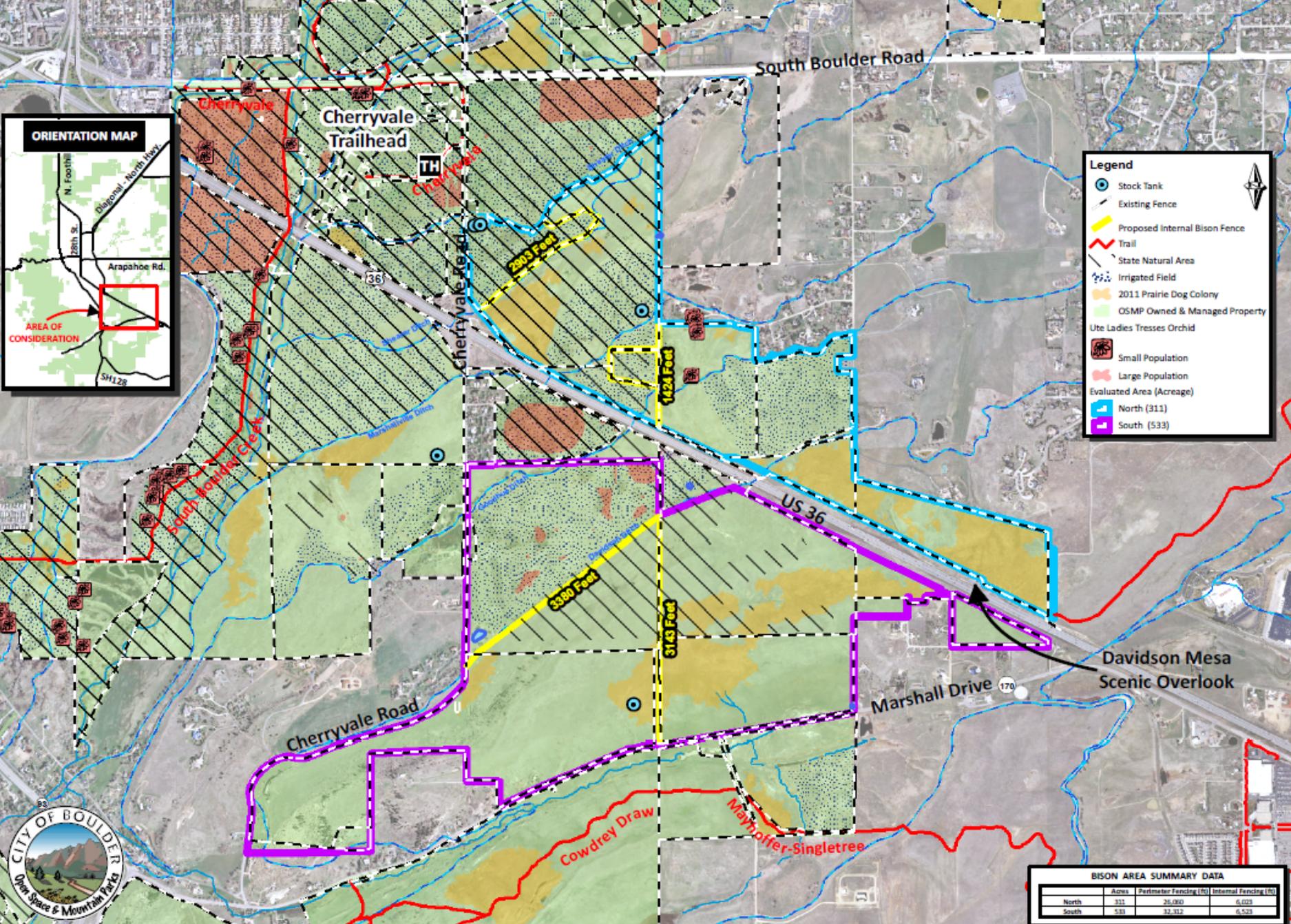
170

# BISON DONATION ANALYSIS FOR OSMP OWNED AND MANAGED LANDS



**Legend**

- Stock Tank
- Existing Fence
- Proposed Internal Bison Fence
- Trail
- State Natural Area
- Irrigated Field
- 2011 Prairie Dog Colony
- OSMP Owned & Managed Property
- Ute Ladies Tresses Orchid
- Small Population
- Large Population
- Evaluated Area (Acreage)
- North (311)
- South (533)



**BISON AREA SUMMARY DATA**

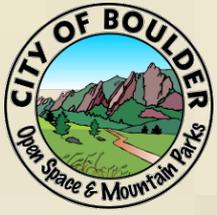
	Acreage	Perimeter Fencing (ft)	Internal Fencing (ft)
North	311	26,080	6,023
South	533	32,312	6,523



# Grassland Plan Context

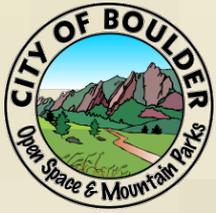
- Extirpated Species
  - Work with agency responsible
  - When OSMP can make a significant contribution to recovery
  - In the context of meeting other Grassland Plan objectives



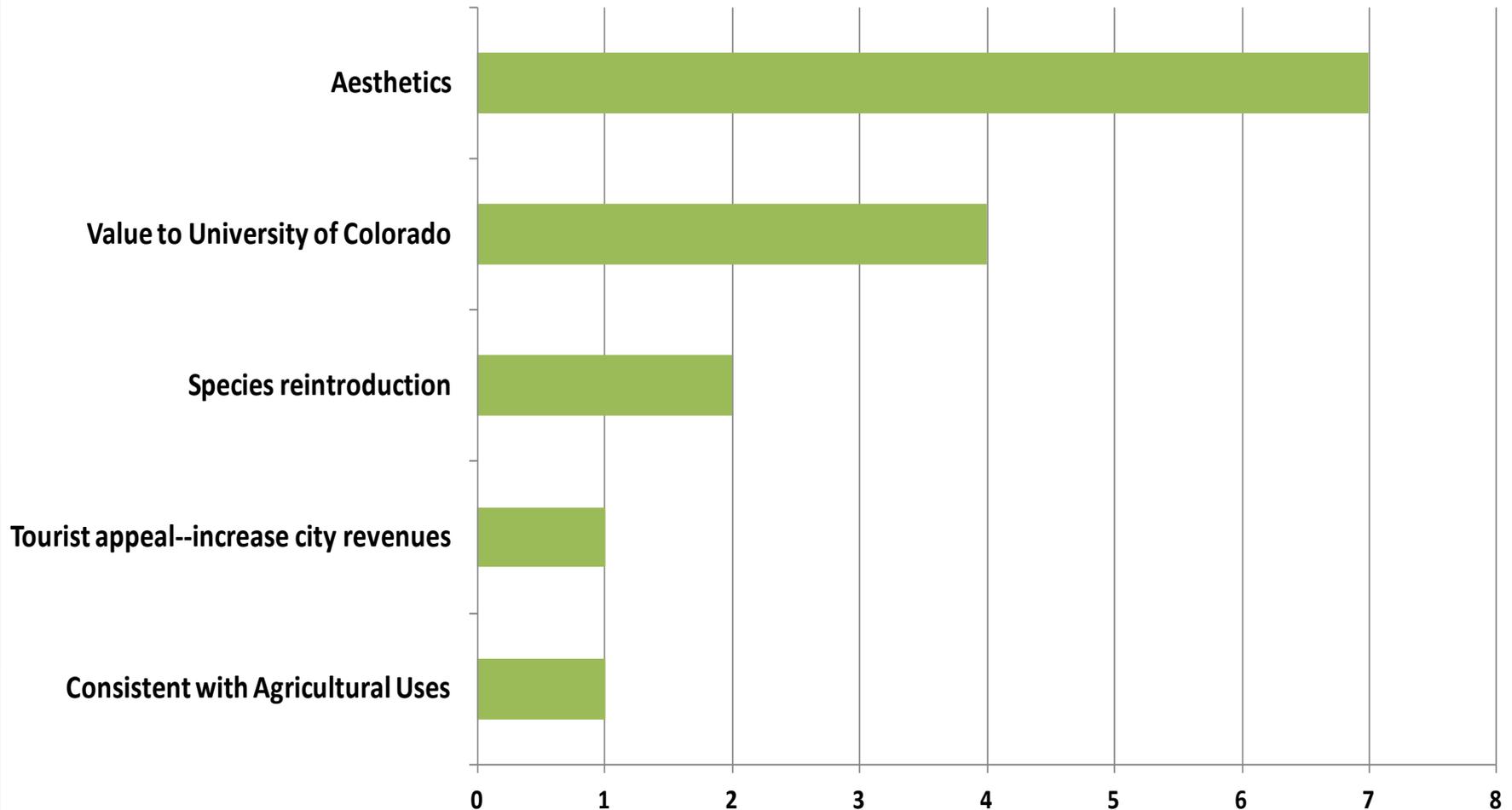


# Site Visits

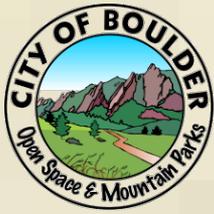




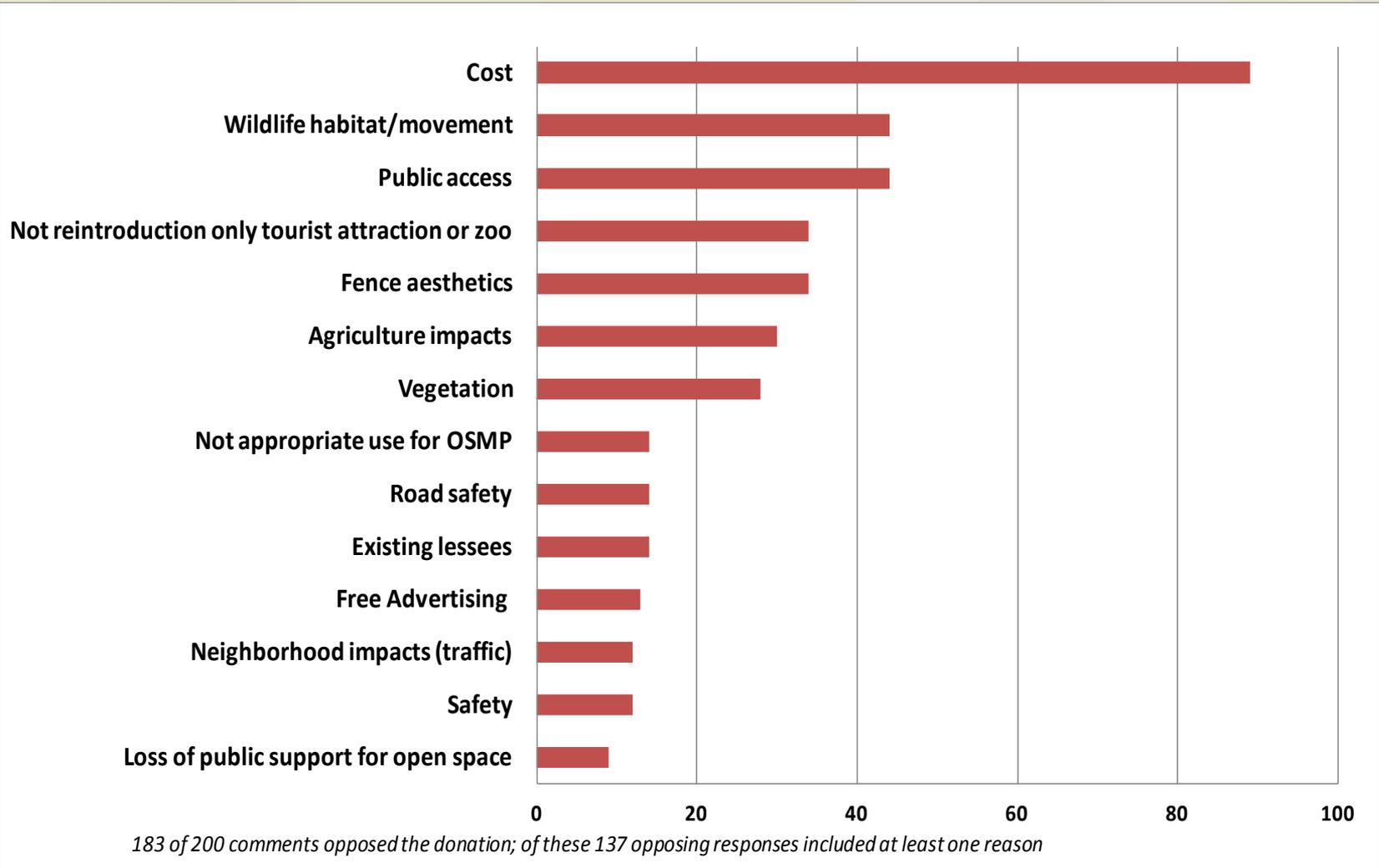
# Supporting Comment (n=17)

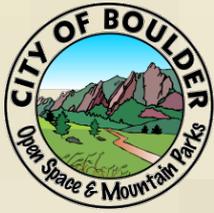


17 of 200 comments supported the donation; 10 supporting responses included at least one reason



# Opposing Comments (n=183)





# Evaluation Factors

## Overall Factors

Cost

Management flexibility

## Agricultural Factors

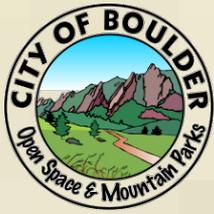
- Safety
- Effects upon tenants
- Lease revenue
- Bison ranching operation
  - Pastures/forage
  - Water availability

## Community Factors

- Safety
- Enjoyment of bison
- Visitor access
- Neighborhood effects
- Cultural landscape

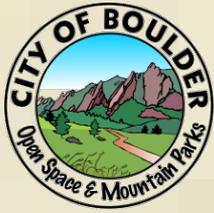
## Ecological Factors

- Habitat fragmentation
- Xeric tallgrass prairie
  - Grassland birds
  - Butterflies and skippers
- Ute ladies-tresses orchid
- Prairie dog management



# Cost Model

Item Descriptions	Sites	
	North of 36	South of 36
<b>Acreage</b>	<b>311</b>	<b>533</b>
<b>START UP COSTS</b>		
<b>Fencing</b>		
External Fencing length (ft) (Cost per foot below )	26,060	32,312
<b>\$11.00</b>	\$ 286,660.00	\$ 355,432.00
Internal Fencing length (ft) (Cost per foot below )	6,023	6,523
<b>\$3.50</b>	\$ 66,253.00	\$ 71,753.00
<b>TOTAL FENCING</b>	<b>\$ 352,913.00</b>	<b>\$ 427,185.00</b>
<b>Other/Non-Fencing</b>		
Corral (high)	74,200	74,200
Corral (low)	\$ 53,200	\$ 53,200
Squeeze Shoot/Scale	\$ 12,500	\$ 12,500
Building for Hay Storage (High: hay barn)	\$ 77,500	\$ 77,500
Building for Hay Storage (Low: pole barn)	\$ 40,000	\$ 40,000
Water Development		\$ 40,000.00
Bison Viewing Pullout	\$ 6,000.00	\$ 6,000.00
<b>START UP COSTS LOW</b>	<b>\$ 464,613.00</b>	<b>\$ 578,885.00</b>
<b>START UP COSTS HIGH</b>	<b>\$ 523,113.00</b>	<b>\$ 637,385.00</b>
<b>LESSEE RUN OPERATION</b>		
<b>Additional Start Up Costs</b>		
Staff Time	\$ 8,000.00	\$ 8,000.00
<b>Additional Annual Costs</b>		
Lease Administration	\$ 1,000.00	\$ 1,000.00
Fence/Facility Maintenance & Replacement Costs	\$ 5,000.00	\$ 5,000.00
<b>ADDITIONAL COSTS: LESSEE RUN</b>	<b>\$ 14,000.00</b>	<b>\$ 14,000.00</b>
<b>LESSEE RUN LOW</b>	<b>\$ 473,613.00</b>	<b>\$ 587,885.00</b>
<b>LESSEE RUN HIGH</b>	<b>\$ 531,113.00</b>	<b>\$ 645,385.00</b>
<b>OSMP STAFF RUN OPERATION</b>		
<b>Additional Start Up Costs</b>		
Vehicle (full sized pick up-purchase)	\$ 28,000.00	\$ 28,000.00
Computer/Office	\$ 3,000.00	\$ 3,000.00
<b>Additional Annual Costs</b>		
Staff Time	\$ 78,000.00	\$ 78,000.00
Vehicle (replacement cost at 7-year duty cycle)	\$ 4,000.00	\$ 4,000.00
Vehicle (annual operational cost @ \$.33/mile)	\$ 3,000.00	\$ 3,000.00
Residence	\$ 20,000.00	\$ 20,000.00
Feeding (12 head for four months)	\$ 3,960.00	\$ 3,960.00
Veterinary Costs (disease testing, vaccination,)	\$ 1,000.00	\$ 1,000.00
Fence/Facility Maintenance & Replacement Costs	\$ 5,000.00	\$ 5,000.00
<b>TOTAL ADDITIONAL COSTS: STAFF RUN</b>	<b>\$ 114,960.00</b>	<b>\$ 114,960.00</b>
<b>OSMP STAFF RUN LOW</b>	<b>\$ 579,573.00</b>	<b>\$ 693,845.00</b>
<b>OSMP STAFF RUN HIGH</b>	<b>\$ 638,073.00</b>	<b>\$ 752,345.00</b>



# Cost Scenarios

## Startup and first year

### Operator

Lessee

City/OSMP Staff

Low

North: \$470,000

North: \$580,000

South: \$590,000

South: \$690,000

Level of  
Investment

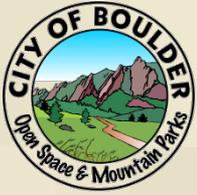
High

North: \$530,000

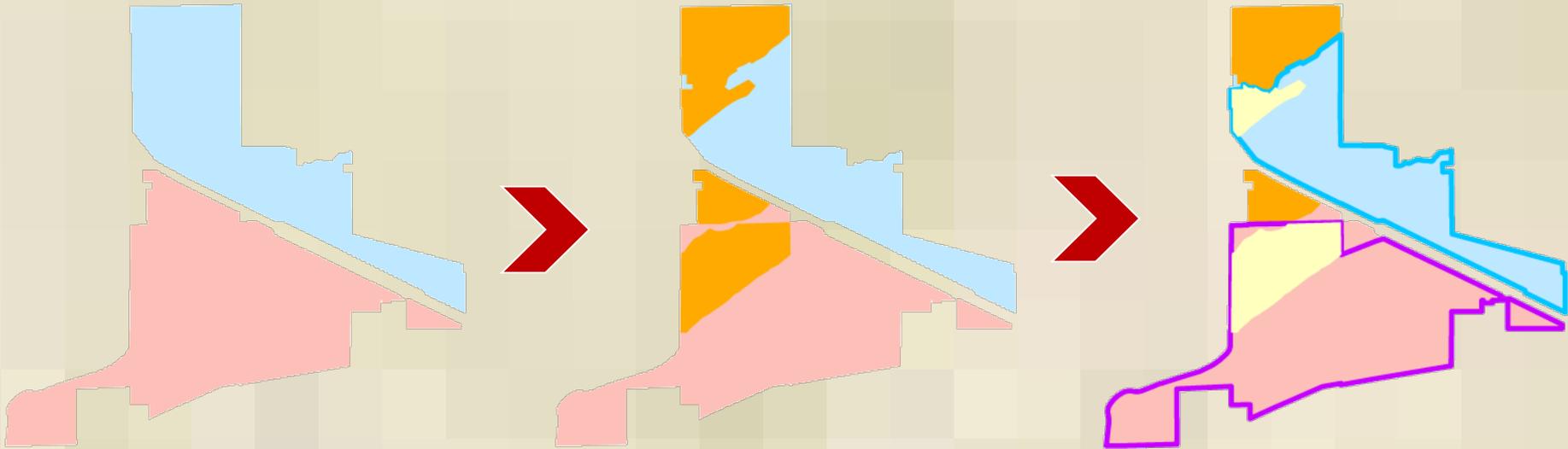
North: \$640,000

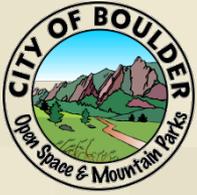
South: \$650,000

South: \$750,000

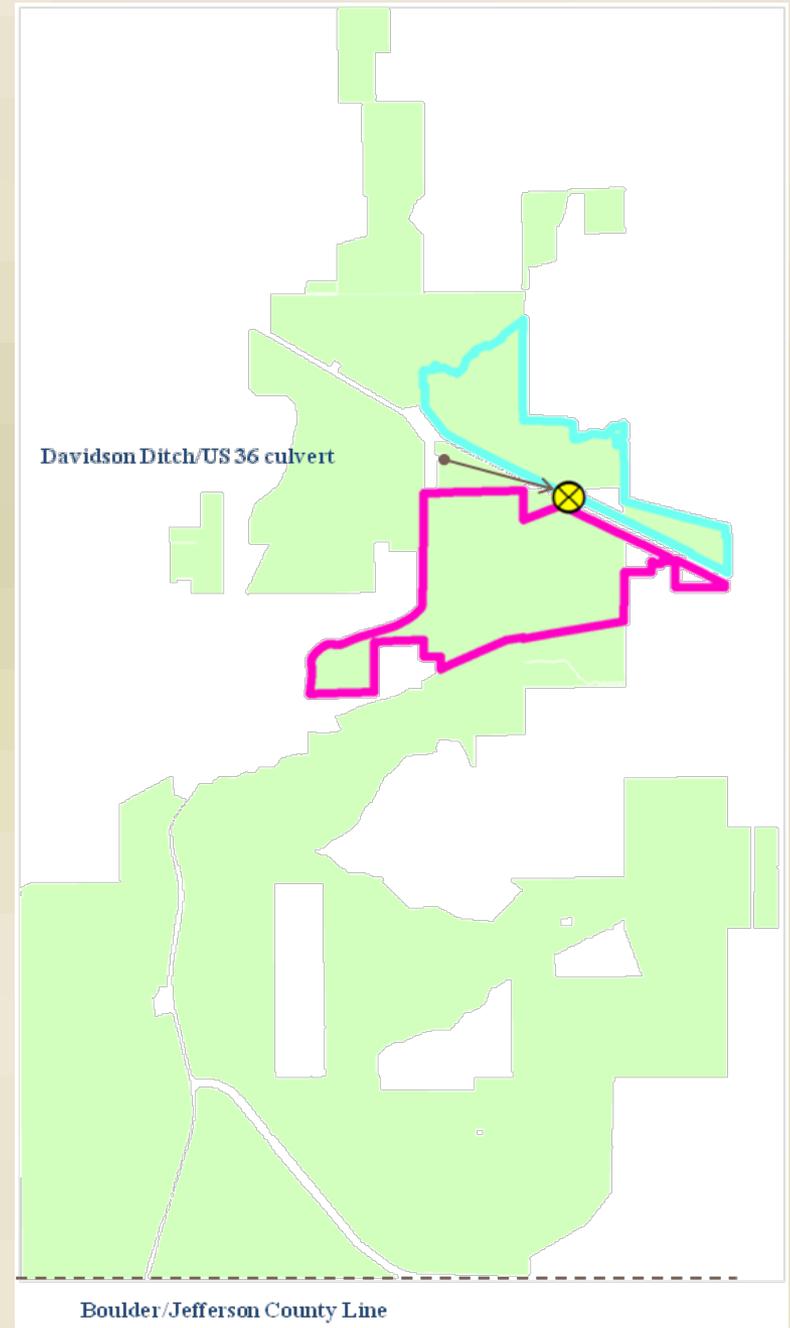


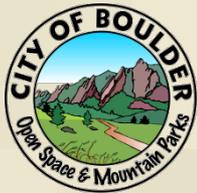
# Effects Upon Lessees





# Effects Upon Lessees





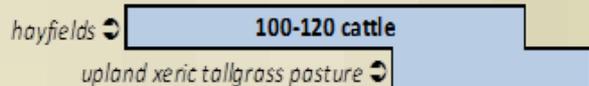
# Cattle and Bison Grazing Regimes

Nov    Dec    Jan    Feb    Mar    Apr    May    Jun    Jul    Aug    Sep    Oct

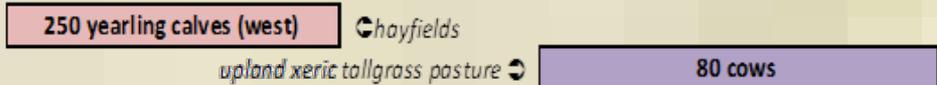


## CATTLE

South



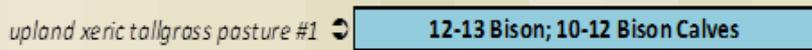
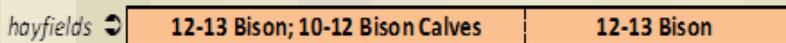
North

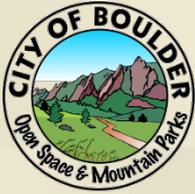


## BISON

North or South

*Dormant S*





# Cattle and Bison Grazing Regimes

	#	Type	AU	Feed	Mo.	AUM	AU per Year
<b>CATTLE</b>							
South	110	Cow Calv Pr	1.2	0.5	4	264	22
<b>Total AU/Year NOW</b>							22
North	250	Yrlngs	0.6	0.25	3	112.5	9.375
	80	Cow Calf Pr	1.2	0.5	3	144	12
<b>Total AU/Year NOW</b>							21.4

	#	Type	AU	Feed	Mo.	AUM	AU per Year
<b>BISON</b>							
Cows and calves April-Nov	12	Bison Calv Pr	1.2	1	8	115.2	9.6
Cows and calves Dec & Jan	12	Bison Calve Pr	1.2	0.5	2	14.4	1.2
Cows Feb & March	12	Bison	1	0.5	2	12	1.0
Bull Dec-March	1	Bull Bison	1.2	0.5	4	2.4	0.2
Bull April-Nov	1	Bull Bison	1.2	1	8	9.6	0.8
<b>Total AU/Year in Bison Ranching Scenario</b>							12.8

# BISON DONATION ANALYSIS FOR OSMP OWNED AND MANAGED LANDS - VISITOR ACCESS

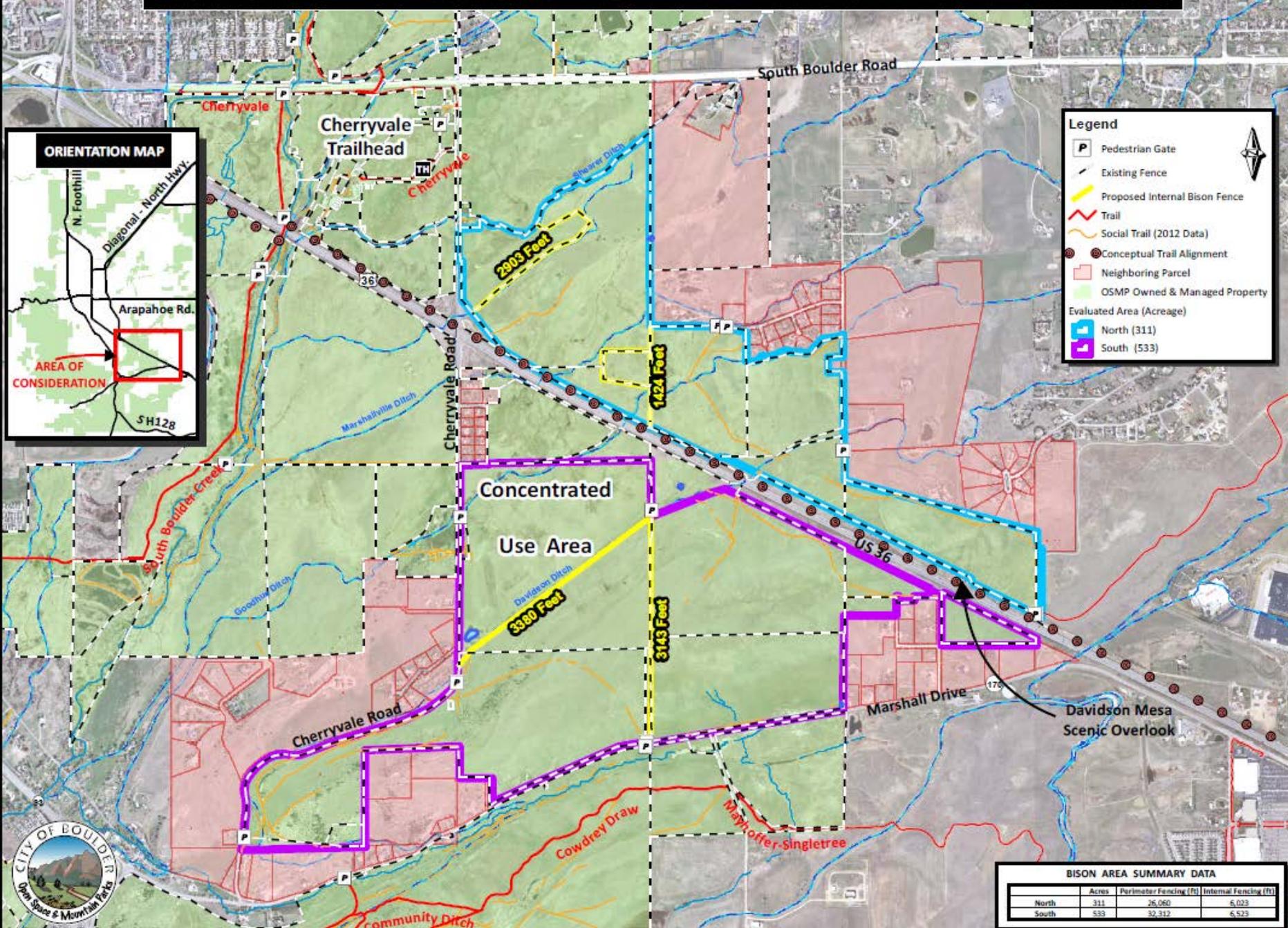


**Legend**

- Pedestrian Gate
- Existing Fence
- Proposed Internal Bison Fence
- Trail
- Social Trail (2012 Data)
- Conceptual Trail Alignment
- Neighboring Parcel
- OSMP Owned & Managed Property

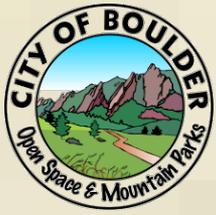
Evaluated Area (Acreage)

- North (311)
- South (533)

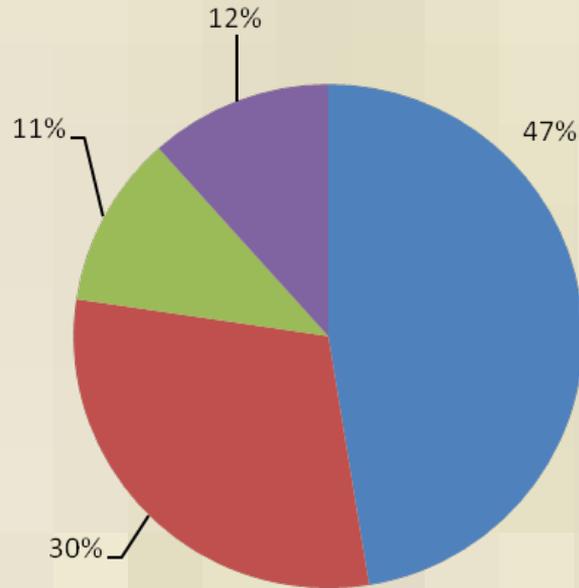


**BISON AREA SUMMARY DATA**

	Acres	Perimeter Fencing (ft)	Internal Fencing (ft)
North	311	26,060	6,023
South	533	32,312	6,523

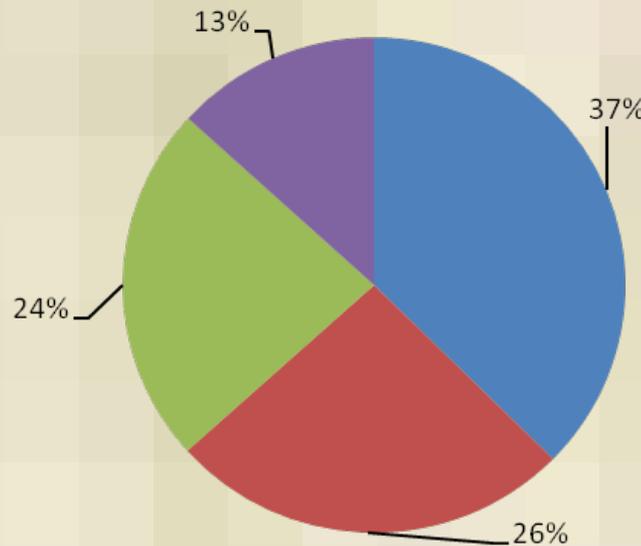


# Cover of Evaluation Sites



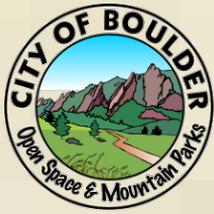
## North Area

- Xeric Tallgrass Prairie
- Mixed Grass Prairie Mosaic
- Hayfield
- Other



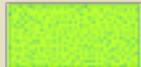
## South Area

- Xeric Tallgrass Prairie
- Mixed Grass Prairie Mosaic
- Hayfield
- Other



# Colorado Tallgrass Natural Area

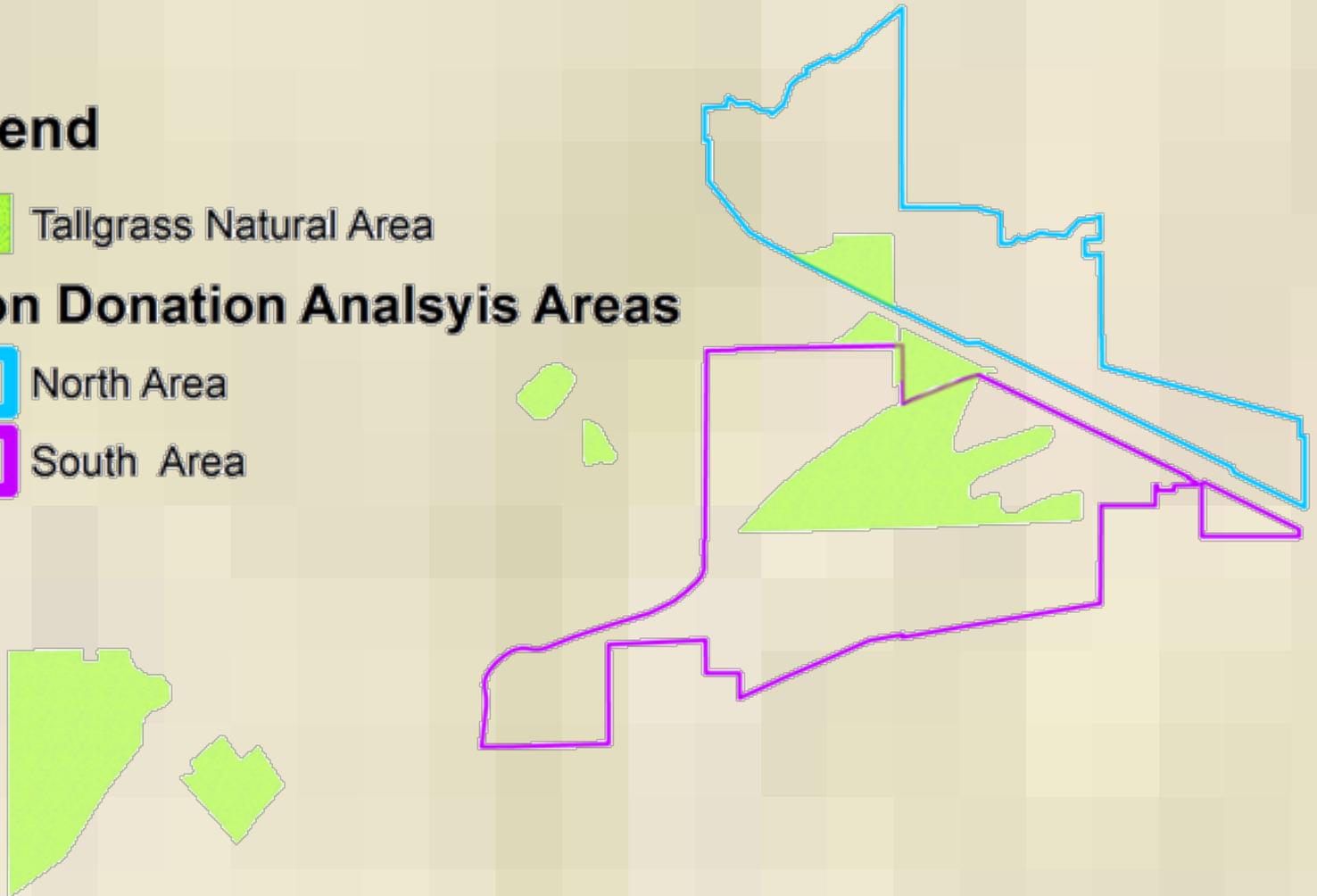
## Legend

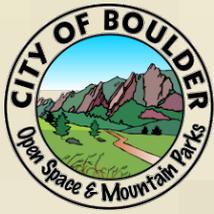
 Tallgrass Natural Area

## Bison Donation Analysis Areas

 North Area

 South Area





# South Boulder Creek Natural Area

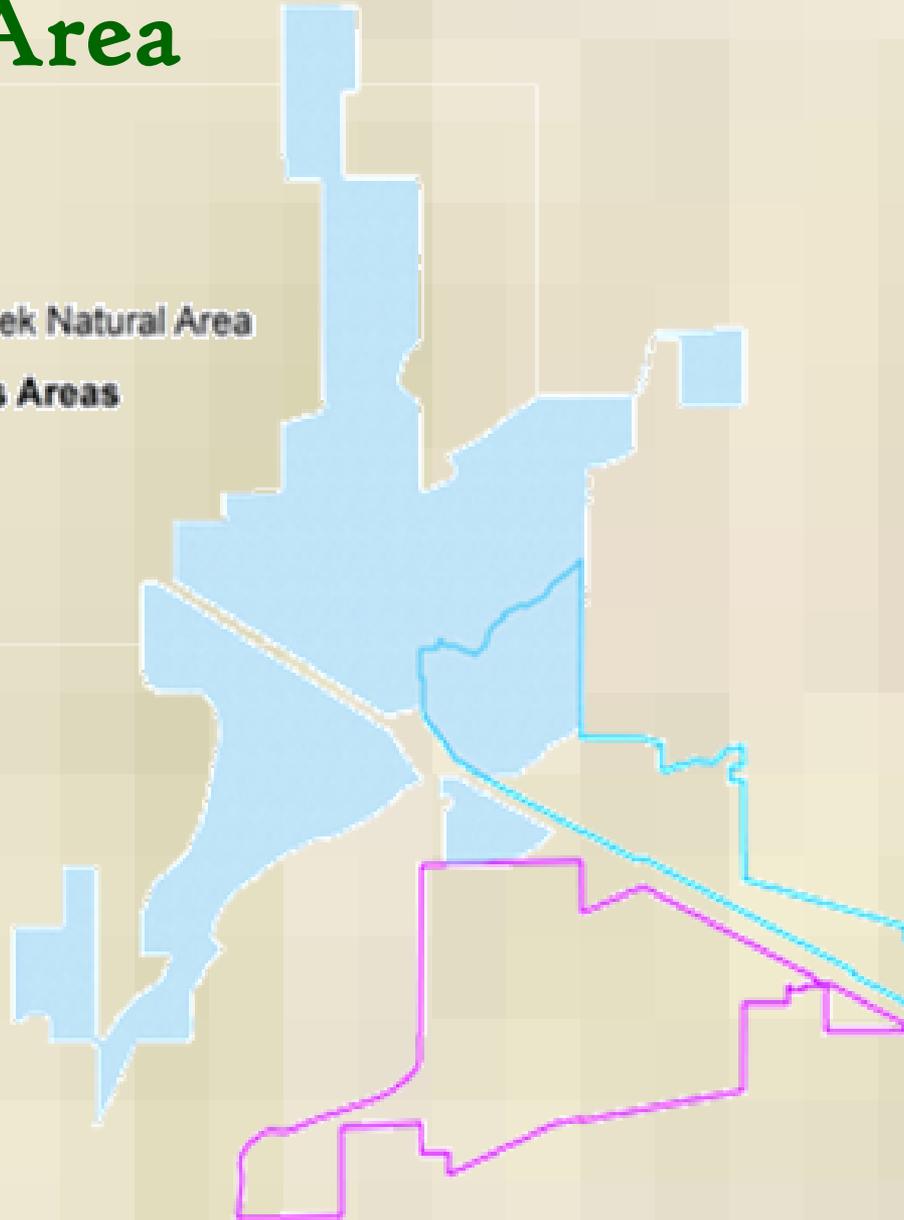
## Legend

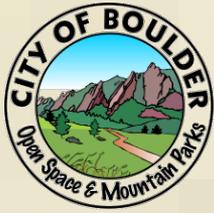
 South Boulder Creek Natural Area

### Bison Donation Analysis Areas

 North Area

 South Area





# Evaluation Factors

## Overall Factors

Cost



Management flexibility



## Agricultural Factors

- Safety 
- Effects upon tenants 
- Lease revenue 
- Bison ranching operation
  - Pastures/forage
  - Water availability

## Community Factors

- Safety 
- Enjoyment of bison 
- Visitor access 
- Neighborhood effect 
- Cultural landscape 

## Ecological Factors

- Habitat fragmentation 
- Xeric tallgrass prairie 
  - Grassland birds
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