

# Antelope Creek Freese Scale Ranking 2016

\*Note: Split Cow Island parcels out from Antelope Creek in 2016 because of future campground and NVC on Antelope Creek in 2017.

1. Soil and Vegetation Management - Rank: 3
  - a. Reason: No tillage; Good establishment of native plants
  - b. Management Action:
  
2. Herbivory Pattern - Rank: 1
  - a. Reason: Unnatural hydrology; Interior fences and corrals; Rest-rotation grazing system
  - b. Management Action: Remove interior fences; Bigger management units; Reduce habitat fragmentation
  
3. Fire - Rank: 1
  - a. Reason: Unnatural fire pattern
  - b. Management Action: Reintroduce semi-natural fire pattern and fire frequency
  
4. Hydrology - Rank: 3
  - a. Reason: Stock ponds
  - b. Management Action:
  
5. Temporal Ecological Variability - Rank: 2
  - a. Reason: Unnatural hydrology patterns, fire patterns, and drought cycles; Interior fences; Rest-rotation grazing system
  - b. Management Action: Reintroduce fire; Expansion of prairie dog towns; Allow bison to graze in their natural behavior patterns
  
6. Herbivorous Mammals - Rank: 2
  - a. Reason: Low wildlife populations
  - b. Management Action: Work on public tolerance for higher wildlife populations; Introduce bison 2018; Restrict hunting pressure
  
7. Fate of Ungulate Production - Rank: 1
  - a. Reason: Low wildlife populations due to overharvest and disease
  - b. Management Action: Manage bison population without artificial selection or removal of animals starting in 2016
  
8. Big Predators - Rank: 1

- a. Reason: 1 large predator (cougar) of 3 (grizzly bears and wolves) present;  
Low cougar populations
  - b. Management Actions: Habitat accumulation; Increase prey populations;  
Protein on the ground; Increase public tolerance
9. Habitat Fragmentation - Rank: 1
- a. Reason: Roads (Highway 191); Power lines; Fences; Reservoirs
  - b. Management Actions: Bury power lines; Abandon roads; Remove fences;  
Remove manmade structures
10. Size of Management Units - Rank: 1
- a. Reason: 8,025 acres out 3.5 million acres
  - b. Management Action: Find connector piece to Dry Fork; Remove all interior  
fences

# Burnt Lodge

## Freese Scale Ranking

### 2016

1. Soil and Vegetation Management - Rank: 4
  - a. Reason: Crested wheatgrass fields; Water pipelines; Rest-rotation grazing system; Interior fences
  - b. Management Action: Abandon grazing system; Remove interior system; Remove artificial water system; Reintroduce bison; Reestablish native grass stands
2. Herbivory Pattern - Rank: 2
  - a. Reason: Rest-rotation grazing; Lots of interior fences
  - b. Management Action: Remove interior fences; Bigger management units; Reduce habitat fragmentation
3. Fire - Rank: 3
  - a. Reason: Semi-natural fire pattern
  - b. Management Action: Reintroduce semi-natural fire pattern and fire frequency
4. Hydrology - Rank: 4
  - a. Reason: Stock dams
  - b. Management Action: Restore natural stream flows by removing stock dams
5. Temporal Ecological Variability - Rank: 1
  - a. Reason: Rest-rotation grazing system; Artificial watering system
  - b. Management Action: Abandon grazing system; Removing artificial watering system
6. Herbivorous Mammals - Rank: 2
  - a. Reason: Low wildlife populations; Livestock present
  - b. Management Action: Work on public tolerance for higher wildlife populations; Introduce bison; Restrict hunting pressure
7. Fate of Ungulate Production - Rank: 1
  - a. Reason: Low wildlife populations due to overharvest; Livestock present
  - b. Management Action: Reduce hunting pressure; Reintroduce bison
8. Big Predators - Rank: 1
  - a. Reason: 1 large predator (cougar) of 3 (grizzly bears and wolves) present; Low cougar populations

- b. Management Actions: Habitat accumulation; Increase prey populations; Protein on the ground; Increase public tolerance
9. Habitat Fragmentation - Rank: 1
- a. Reason: Roads; Fences; Reservoirs
  - b. Management Actions: Abandon roads; Remove fences; Remove manmade structures; Clean up dumps
10. Size of Management Units - Rank: 1
- a. Reason: 10,374 acres out 3.5 million acres
  - b. Management Action: Find connector piece to Sun Prairie and Timber Creek; Remove all interior fences

## Cow Island Parcels Freese Scale Ranking 2016

1. Soil and Vegetation Management - Rank: 4
  - a. Reason: Small amount of cropland; Weeds apparent
  - b. Management Action: Restore irrigation to natural hydrology; Reestablishing native grasses from non-native stands (crested wheatgrass, diffuse knapweed, leafy spurge, Canada thistle, alfalfa, sweet clover, etc); Reestablishing riparian areas; Reducing annual weeds; Put biological control out for diffuse knapweed
2. Herbivory Pattern - Rank: 1
  - a. Reason: Unnatural hydrology; Interior fences; Rest-rotation grazing system
  - b. Management Action: Remove interior fences; Bigger management units; Reduce habitat fragmentation
3. Fire - Rank: 1
  - a. Reason: Unnatural fire pattern
  - b. Management Action: Reintroduce semi-natural fire pattern and fire frequency
4. Hydrology - Rank: 3
  - a. Reason: Spring development; Irrigation diversions
  - b. Management Action: Restore natural stream flows by breaching dams, spreading out dikes, opening head gates, and filling in canals
5. Temporal Ecological Variability - Rank: 2
  - a. Reason: Unnatural hydrology patterns, fire patterns, and drought cycles; Interior fences; Rest-rotation grazing system
  - b. Management Action: Stream restoration; Reintroduce fire; Allow bison to graze in their natural behavior patterns
6. Herbivorous Mammals - Rank: 2
  - a. Reason: Low wildlife populations
  - b. Management Action: Work on public tolerance for higher wildlife populations; Introduce bison 2016; Restrict hunting pressure
7. Fate of Ungulate Production - Rank: 1
  - a. Reason: Low wildlife populations due to overharvest and disease
  - b. Management Action: Keep property out of Block Management program; Manage bison population without artificial selection or removal of animals

8. Big Predators - Rank: 1
  - a. Reason: 1 large predator (cougar) of 3 (grizzly bears and wolves) present; Low cougar populations
  - b. Management Actions: Habitat accumulation; Increase prey populations; Protein on the ground; Increase public tolerance
  
9. Habitat Fragmentation - Rank: 2
  - a. Reason: Fences; Irrigation (dikes, head gates, canals, etc.)
  - b. Management Actions: Spread dikes; Remove fences; Remove manmade structures; Clean up dumps; [Removed 2 miles of fence and cleaned up homestead areas](#); [Main road in not passable](#)
  
10. Size of Management Units - Rank: 1
  - a. Reason: 779 acres out 3.5 million acres
  - b. Management Action: Find connector piece to other APR land units; Remove all interior fences

## Dry Fork (including Roncka and Schmoeckel) Freese Scale Ranking 2016

1. Soil and Vegetation Management - Rank: 3
  - a. Reason: Old cropland (crested wheatgrass fields) and CRP; Irrigation diversions; Irrigated hay meadows (smooth brome/alfalfa); BLM is fine (lots of BLM); Canada thistle in Midale field; [Finished seeding all cropland acres](#)
  - b. Management Action: Restore irrigation to natural hydrology; Reestablishing native grasses from non-native stands (crested wheatgrass, cheatgrass, alfalfa, sweet clover, etc); Reestablishing riparian areas; Reducing annual weeds
2. Herbivory Pattern - Rank: 2
  - a. Reason: Unnatural hydrology; Lots of interior fences; Rest-rotation grazing system
  - b. Management Action: Remove interior fences; Bigger management units; Reduce habitat fragmentation
3. Fire - Rank: 1
  - a. Reason: Unnatural fire pattern
  - b. Management Action: Reintroduce semi-natural fire pattern and fire frequency
4. Hydrology - Rank: 3
  - a. Reason: BLM stock ponds; Irrigation diversions (no head gates unlike SP); Everything opened
  - b. Management Action: Restore natural stream flows by breaching dams, spreading out dikes, opening head gates, and filling in canals
5. Temporal Ecological Variability - Rank: 1
  - a. Reason: Unnatural hydrology patterns, fire patterns, and drought cycles; Interior fences; Rest-rotation grazing system
  - b. Management Action: Stream restoration; Reintroduce fire; Expansion of prairie dog towns; Allow bison to graze in their natural behavior patterns
6. Herbivorous Mammals - Rank: 2
  - a. Reason: Low wildlife populations
  - b. Management Action: Work on public tolerance for higher wildlife populations; Introduce bison 2017; Restrict hunting pressure
7. Fate of Ungulate Production - Rank: 1
  - a. Reason: Low wildlife populations due to overharvest and disease

- b. Management Action: Manage bison population without artificial selection or removal of animals starting in 2016
8. Big Predators - Rank: 1
- a. Reason: 1 large predator (cougar) of 3 (grizzly bears and wolves) present; Low cougar populations
  - b. Management Actions: Habitat accumulation; Increase prey populations; Protein on the ground; Increase public tolerance
9. Habitat Fragmentation - Rank: 1
- a. Reason: Roads; Power lines; Fences; Reservoirs; Irrigation (dikes, head gates, canals, etc.); [Refenced 5 miles with wildlife friendly and added 3 miles of wildlife friendly fencing](#)
  - b. Management Actions: Bury power lines; Spread dikes; Breach dams; Abandon roads; Remove fences; Remove manmade structures; Clean up dumps
10. Size of Management Units - Rank: 1
- a. Reason: 37,874 acres out 3.5 million acres
  - b. Management Action: Find connector piece to White Rock; Remove all interior fences



PN Ranch  
Freese Scale Ranking  
2016

1. Soil and Vegetation Management - Rank: 3
  - a. Reason: Reseeded 80 acres to native species; Old croplands; CRP and hay fields; Stulc hay lease
  - b. Management Action: Restore pivots to native species; Reestablishing native grasses from non-native stands (crested wheatgrass, cheatgrass, alfalfa, sweet clover, etc.); Reducing annual weeds
  
2. Herbivory Pattern - Rank: 2
  - a. Reason: Unnatural hydrology; Lots of interior fences; Rest-rotation grazing system; Natural water sources with Arrow Creek, Dog Creek, and Judith River; Large pastures
  - b. Management Action: Remove interior fences; Bigger management units; Reduce habitat fragmentation
  
3. Fire - Rank: 1
  - a. Reason: Unnatural fire pattern
  - b. Management Action: Reintroduce semi-natural fire pattern and fire frequency
  
4. Hydrology - Rank: 3
  - a. Reason: Unchecked flows and unaltered stream banks on Arrow Creek, Dog Creek, and Judith River; Few stock ponds; 2 pivots
  - b. Management Action: Stop use of or remove pivots
  
5. Temporal Ecological Variability - Rank: 1
  - a. Reason: Water line; 2 pivots; Unnatural fire patterns; Interior fences; Rest-rotation grazing system
  - b. Management Action: Remove water line and pivots; Reintroduce fire; Allow bison to graze in their natural behavior patterns
  
6. Herbivorous Mammals - Rank: 3
  - a. Reason: Low wildlife populations, but higher than other APR units
  - b. Management Action: Work on public tolerance for higher wildlife populations; Restrict hunting pressure
  
7. Fate of Ungulate Production - Rank: 1
  - a. Reason: Low wildlife populations due to overharvest and disease
  - b. Management Action: Manage bison population without artificial selection or removal of animals

8. Big Predators - Rank: 1
  - a. Reason: 1 large predator (cougar) of 3 (grizzly bears and wolves) present; Low cougar populations
  - b. Management Actions: Habitat accumulation; Increase prey populations; Protein on the ground; Increase public tolerance
  
9. Habitat Fragmentation - Rank: 2
  - a. Reason: Roads and power lines east of the Judith River; Low traffic and no power lines west of Judith River; Fences; Reservoirs
  - b. Management Actions: Bury power lines; Abandon roads; Remove fences; Remove manmade structures where/when possible
  
10. Size of Management Units - Rank: 2
  - a. Reason: 47,318 acres out 3.5 million acres
  - b. Management Action: Find connector pieces to buy; Remove all interior fences

# Sun Prairie

## Freese Scale Ranking

### 2016

1. Soil and Vegetation Management - Rank: 3
  - a. Reason: Crested wheatgrass fields; Irrigation and tillage; Overseeding alfalfa and crested wheatgrass into the prairie uplands
  - b. Management Action: Restore irrigation to natural hydrology; Reestablishing native grasses from non-native stands (crested wheatgrass, cheatgrass, alfalfa, sweet clover, etc); Reestablishing riparian areas; Removal of several dikes; [Continued prairie dog expansion work](#); [Put in elk food plots](#)
2. Herbivory Pattern - Rank: 3
  - a. Reason: Unnatural hydrology; Some interior fences (BLM Telegraph Creek Allotment)
  - b. Management Action: Remove interior fences; Larger management units; Reduce habitat fragmentation; [EA still in progress with Malta BLM office](#)
3. Fire - Rank: 2
  - a. Reason: Unnatural fire pattern; Periodic patch fires
  - b. Management Action: Reintroduce semi-natural fire pattern and fire frequency
4. Hydrology - Rank: 2
  - a. Reason: Breach 4 dams; Some stream restoration; Breached 3 spreader dikes; Opened all head gates; 10,000 of 30,000 acres still need work
  - b. Management Action: Restore natural stream flows by breaching dams and spreading out dikes
5. Temporal Ecological Variability - Rank: 2
  - a. Reason: Unnatural hydrology patterns, fire patterns, and drought cycles; Stream restoration; Removed fences; Abandon rest/rotation grazing system
  - b. Management Action: Stream restoration; Reintroduce fire; Expansion of prairie dog towns; Allow bison to graze in their natural behavior patterns
6. Herbivorous Mammals - Rank: 3
  - a. Reason: Low wildlife populations (besides bison)
  - b. Management Action: Work on public tolerance for higher wildlife populations; Allow bison herd to grow and mature; Reduce hunting pressure on Sun Prairie
7. Fate of Ungulate Production - Rank: 4

- a. Reason: Unnatural age population for bison; Low wildlife populations due to overharvest
  - b. Management Action: Manage bison population without artificial selection or removal of animals; Removed property from Block Management Program to increase wildlife populations; Bison left to die on land
8. Big Predators - Rank: 1
- a. Reason: 1 large predator (cougar) of 3 (grizzly bears and wolves) present; Low cougar populations
  - b. Management Actions: Habitat accumulation; Increase prey populations; Protein on the ground; Increase public tolerance
9. Habitat Fragmentation - Rank: 2
- a. Reason: Roads; Power lines; Fences; Reservoirs; Irrigation (dikes, head gates, etc.)
  - b. Management Actions: Bury power lines; Spread dikes; Breach dams; Abandon roads; Remove fences; Remove manmade structures; [Removed 8 miles of fence south of Sun Prairie on CMR along Road 201](#)
10. Size of Management Units - Rank: 2
- a. Reason: 31,547 acres out 3.5 million acres
  - b. Management Action: Find connector piece to Sun Prairie North; Remove all interior fences

## Sun Prairie North Freese Scale Ranking 2016

1. Soil and Vegetation Management - Rank: 1
  - a. Reason: Extensive dirt work; Cropland; Poor range condition (applies to deeded acreage); [Koss reseeded farmland \(305 ac\)](#)
  - b. Management Action: Restore irrigation to natural hydrology; Reestablishing native grasses from non-native stands (crested wheatgrass, cheatgrass, alfalfa, sweet clover, etc); Reestablishing riparian areas; Reducing annual weeds
  
2. Herbivory Pattern - Rank: 2
  - a. Reason: Unnatural hydrology; Lots of interior fences; [Removed 4 miles of old fence and installed 6 miles of wildlife friendly fence; Heavily stocked deeded acres with bison](#)
  - b. Management Action: Remove interior fences to reduce habitat fragmentation; Bigger management units
  
3. Fire - Rank: 1
  - a. Reason: Unnatural fire pattern
  - b. Management Action: Reintroduce semi-natural fire pattern and fire frequency
  
4. Hydrology - Rank: 1
  - a. Reason: **DAM**; Spreader dikes; Canals; Head gates; Reservoir not functional; Some head gates and canals breached
  - b. Management Action: Restore natural stream flows by breaching dams, spreading out dikes, opening head gates, and filling in canals
  
5. Temporal Ecological Variability - Rank: 1
  - a. Reason: Unnatural hydrology patterns, fire patterns, and drought cycles; Stream restoration; Removed fences; Abandon rest/rotation grazing system; Started EA process; [Bison on deeded acres](#)
  - b. Management Action: Stream restoration; Reintroduce fire; Expansion of prairie dog towns; Allow bison to graze in their natural behavior patterns
  
6. Herbivorous Mammals - Rank: 3
  - a. Reason: Low wildlife populations
  - b. Management Action: Work on public tolerance for higher wildlife populations; Restrict hunting pressure
  
7. Fate of Ungulate Production - Rank: 3
  - a. Reason: Low wildlife populations due to overharvest

- b. Management Action: Keep property out of Block Management program; Manage bison population without artificial selection or removal of animals starting in 2016
8. Big Predators - Rank: 1
- a. Reason: 1 large predator (cougar) of 3 (grizzly bears and wolves) present; Low cougar populations
  - b. Management Actions: Habitat accumulation; Increase prey populations; Protein on the ground; Increase public tolerance
9. Habitat Fragmentation - Rank: 1
- a. Reason: Roads; Power lines; Fences; Reservoirs; Irrigation (dikes, head gates, canals, etc.)
  - b. Management Actions: Bury power lines; Spread dikes; Breach dams; Abandon roads; Remove fences; Remove manmade structures; Clean up dumps
10. Size of Management Units - Rank: 1
- a. Reason: 20,689 acres out 3.5 million acres
  - b. Management Action: Find connector piece to Sun Prairie and White Rock; Remove all interior fences

# Timber Creek

## Freese Scale Ranking

### 2016

1. Soil and Vegetation Management - Rank: 3
  - a. Reason: Overseeding alfalfa and crested wheatgrass into the prairie uplands
  - b. Management Action: Reestablishing native grasses from non-native stands (crested wheatgrass, cheatgrass, alfalfa, sweet clover, etc); Reestablishing riparian areas
2. Herbivory Pattern - Rank: 2
  - a. Reason: Unnatural hydrology; Interior fences; Rest-rotation grazing system
  - b. Management Action: Remove interior fences; Larger management units; Reduce habitat fragmentation
3. Fire - Rank: 1
  - a. Reason: Unnatural fire pattern; Periodic patch fires
  - b. Management Action: Reintroduce semi-natural fire pattern and fire frequency
4. Hydrology - Rank: 2
  - a. Reason: Stock ponds and dams
  - b. Management Action: Restore natural stream flows by stock ponds and dams
5. Temporal Ecological Variability - Rank: 1
  - a. Reason: Unnatural hydrology patterns, fire patterns, and drought cycles; Stream restoration; Removed fences; Abandon rest/rotation grazing system
  - b. Management Action: Stream restoration; Reintroduce fire; Expansion of prairie dog towns; Allow bison to graze in their natural behavior patterns
6. Herbivorous Mammals - Rank: 1
  - a. Reason: Low wildlife populations; Livestock present
  - b. Management Action: Work on public tolerance for higher wildlife populations
7. Fate of Ungulate Production - Rank: 1
  - a. Reason: Low wildlife populations due to overharvest; Livestock present
  - b. Management Action: Manage bison population without artificial selection or removal of animals;
8. Big Predators - Rank: 1
  - a. Reason: 1 large predator (cougar) of 3 (grizzly bears and wolves) present; Low cougar populations

- b. Management Actions: Habitat accumulation; Increase prey populations; Protein on the ground; Increase public tolerance
9. Habitat Fragmentation - Rank: 2
- a. Reason: Roads; Fences; Reservoirs; Irrigation (dikes, head gates, etc.); Large pasture sizes
  - b. Management Actions: Bury power lines; Spread dikes; Breach dams; Abandon roads; Remove fences; Remove manmade structures
10. Size of Management Units - Rank: 3
- a. Reason: 157,955 acres out 3.5 million acres
  - b. Management Action: Find connector piece to Sun Prairie North; Remove all interior fences



# White Rock

## Freese Scale Ranking

### 2016

1. Soil and Vegetation Management - Rank: 1
  - a. Reason: Cropland; Irrigation diversion; Beaver Creek dams; Irrigated hay meadows (smooth brome/alfalfa)
  - b. Management Action: Restore irrigation to natural hydrology; Reestablishing native grasses from non-native stands (crested wheatgrass, cheatgrass, alfalfa, sweet clover, etc); Reestablishing riparian areas; Reducing annual weeds
2. Herbivory Pattern - Rank: 1
  - a. Reason: Unnatural hydrology; Lots of interior fences; Rest-rotation grazing system
  - b. Management Action: Remove interior fences; Bigger management units; Reduce habitat fragmentation
3. Fire - Rank: 1
  - a. Reason: Unnatural fire pattern
  - b. Management Action: Reintroduce semi-natural fire pattern and fire frequency
4. Hydrology - Rank: 1
  - a. Reason: BLM stock ponds; Dams on Beaver Creek (5 of 6 breached, #6 headgate removed); Irrigation diversions
  - b. Management Action: Restore natural stream flows by breaching dams, spreading out dikes, opening head gates, and filling in canals
5. Temporal Ecological Variability - Rank: 1
  - a. Reason: Unnatural hydrology patterns, fire patterns, and drought cycles; Interior fences; Rest-rotation grazing system
  - b. Management Action: Stream restoration; Reintroduce fire; Expansion of prairie dog towns; Allow bison to graze in their natural behavior patterns
6. Herbivorous Mammals - Rank: 2
  - a. Reason: Low wildlife populations; Livestock present
  - b. Management Action: Work on public tolerance for higher wildlife populations; Restrict hunting pressure
7. Fate of Ungulate Production - Rank: 1
  - a. Reason: Low wildlife populations due to overharvest and disease
  - b. Management Action: Keep property out of Block Management program; Manage bison population without artificial selection or removal of animals

8. Big Predators - Rank: 1
  - a. Reason: 1 large predator (cougar) of 3 (grizzly bears and wolves) present; Low cougar populations
  - b. Management Actions: Habitat accumulation; Increase prey populations; Protein on the ground; Increase public tolerance
  
9. Habitat Fragmentation - Rank: 1
  - a. Reason: Roads; Power lines; Fences; Reservoirs; Irrigation (dikes, head gates, canals, etc.); [Refenced 22 miles of perimeter fence to wildlife friendly fencing](#)
  - b. Management Actions: Bury power lines; Spread dikes; Breach dams; Abandon roads; Remove fences; Remove manmade structures; Clean up dumps
  
10. Size of Management Units - Rank: 1
  - a. Reason: 38,543 acres out 3.5 million acres
  - b. Management Action: Find connector piece to Sun Prairie North and Dry Fork; Remove all interior fences