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.); Referenced 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
1. **Total Score:** 24/70

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.); Referenced 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