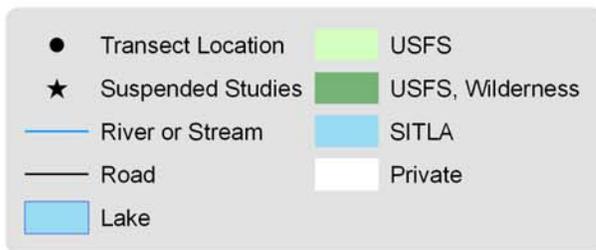
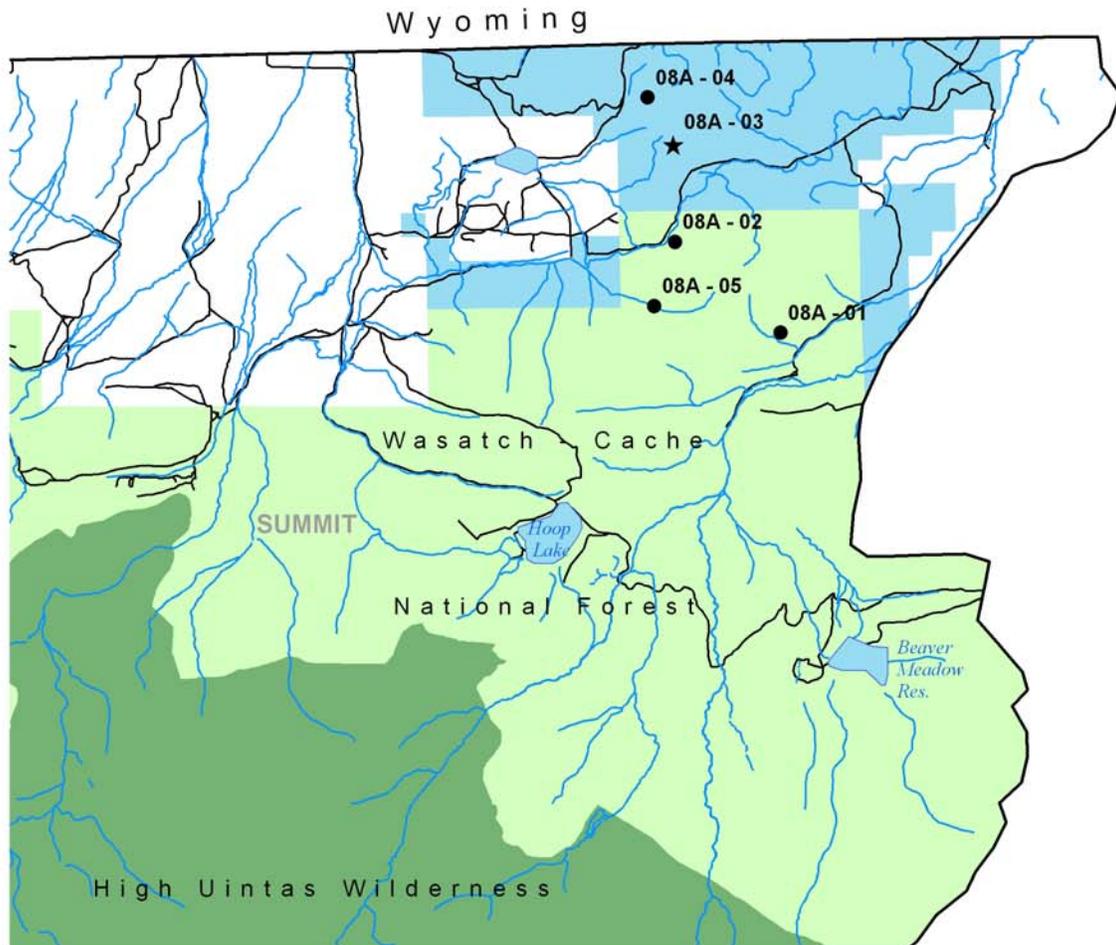
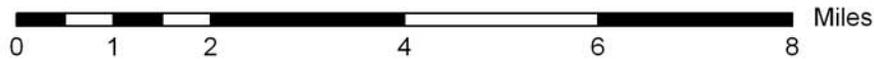


Management Unit 8A



Unit Location



WILDLIFE MANAGEMENT UNIT 8A - NORTH SLOPE, SUMMIT

Boundary Description

Summit County - Boundary begins at the junction of Highway SR-150 and the Summit-Duchesne county line (summit of the Uinta Mountains); north along SR-150 to the Utah-Wyoming state line; east along this state line to the Brunt Fork-Birch Creek drainage divide; south along this drainage divide to the Burnt Fork-Sheep Creek drainage divide; south along this drainage divide to the Summit-Duchesne county line (summit of the Uinta Mountains); west along this county line to SR-150 and beginning point.

Management Unit Description

The North Slope, Summit Wildlife Management Unit is located along the north slope of the Uinta Mountains in Summit County. Unit 8A is a subunit of the North Slope Wildlife Management Unit. The other subunit, 8B, covers Daggett County. Elevation of Unit 8A ranges from 7,500 feet to over 13,000 feet. Habitat varies from sagebrush and mountain brush communities to alpine tundra above the timberline which includes vast expanses of lodgepole pine. Several major drainages are located within the unit including Bear River, Black's Fork, Smith's Fork, Henry's Fork and Burnt Fork. Deer winter range on the Utah side of the border is a major limiting factor on the unit, with many deer wintering in Wyoming.

In previous reports, the four trend study sites in this unit were included in Herd Unit 9 - Daggett. The study areas in Herd Unit 8A emphasize areas around Widdop Mountain and the Bald Range which are just west of the herd units' eastern boundary and the Burnt Fork-Birch Creek drainage divide. This area is considered important winter range for elk, which summer on the north slope of the High Uinta mountains. There is approximately 358,000 acres of crucial elk summer range on the unit, 92% of which is administered by the U.S. Forest Service. Private land owners own the remaining 8%. There is also about 44,600 acres of crucial elk winter range on the unit. The majority of the winter range, just under 50%, is privately owned, 36% is administered by the Forest Service and the state owns approximately 15%.

The key areas for elk winter range are found on the mountain mahogany slopes of Phil Pico Mountain, Bald Range, Widdop Mountain, and Jessen Butte. These areas are mostly public land, although there is a considerable amount of private land in the Birch Creek and Beaver Creek drainages below the U.S. Forest Service boundary. The state of Utah owns several large sections, containing the study areas on Phil Pico Mountain and the Bald Range. Phil Pico Mountain was included with this unit at the outset of studies in the area, but is now within sub-unit 8B and will be discussed in that section. The study sites on Widdop Mountain are in the Wasatch-Cache National Forest.

Range Trend Studies

To meet the need for vegetation trend data on key elk winter ranges on the North Slope of the Uinta Mountains east of Beaver Creek, four interagency range trend studies were established in the area in September 1988 and have continued to be monitored through 2010. All range trend studies in the unit [Widdop Mountain South Slope (8A-1), Widdop Mountain North Slope (8A-2), Bald Range (8A-4) and Telephone Hollow (8A-5)] sample true (birchleaf) mountain mahogany communities. These studies provide a good representation of a majority of the true mountain mahogany winter range in the area. The majority of the studies are located on south-facing slopes, except for the Widdop Mountain North Slope study which is situated on a north slope. These slopes tend to be moderately steep with rocky soil, typical of the dry, coarse, shallow soils.

The study sites receive moderate to heavy use by elk in the winter. Deer use is light to moderate in the winter with some summer use. Most of the sites also show light winter use by moose, and year round antelope use. Degree of winter use by antelope and deer is dependent on weather conditions. All areas are permitted for

livestock grazing. While the valleys are often heavily used by cattle, on-site observations indicate light use or no use on the steep, mountain brush hillsides.

SUMMARY
WILDLIFE MANAGEMENT UNIT 8A - NORTH SLOPE, SUMMIT

Community Types

Deer winter range within a unit is summarized into three categories based on ecological potentials which include low potential, mid-level potential and high potential. Low potential sites include desert shrub, Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*) and Cliffrose (*Cowania mexicana* ssp. *stansburiana*) communities. Mid-level potential sites include mountain big sagebrush (*A. tridentata* ssp. *vaseyana*) communities. High potential sites include mountain brush communities. Black sagebrush (*A. nova*) and basin big sagebrush (*A. tridentata* ssp. *tridentata*) communities are placed within the low potential or mid-level potential scales based on precipitation and elevation. Deer summer range is summarized separately from winter range as a fourth category and typically includes aspen (*Populus tremuloides*) and high elevation mountain brush communities. There were four interagency range trend studies sampled in Unit 8A during the summer of 2010. All four of the range trend studies in the unit [Widdop Mountain South Slope (8A-1), Widdop Mountain North Slope (8A-2), Bald Range (8A-4) and Telephone Hollow (8A-5)] sample true (birchleaf) mountain mahogany (*Cercocarpus montanus*) communities and are categorized as high potential sites for deer winter range, though none of the sites are actually classified as deer winter range. All four of the studies are classified as crucial elk winter range and three of the studies (8A-2, 8A-4 and 8A-5) are considered to be in crucial deer summer range that is also fawning habitat.

Precipitation

Vegetation trends are dependent upon annual and seasonal precipitation patterns. Precipitation and Palmer Drought Severity Index (PDSI) data for the unit were compiled from the National Oceanic and Atmospheric Administration (NOAA) Physical Sciences Division (PSD) as part of the Northern Mountains (Division 5). The Northern Mountains had a historic annual mean precipitation of 19.11 inches from 1895 to 2010. The mean annual PDSI of the Northern Mountains displays a cycle of several wet years followed by several drought years, over the course of study years in the unit. Wetter than normal years in the Northern Mountains included 1982-1986, 1993, 1995-1999 and 2005, and drought years included 1987-1992, 2000-2003 and 2007 (Figure 1 and Figure 2) (Time Series Data 2011).

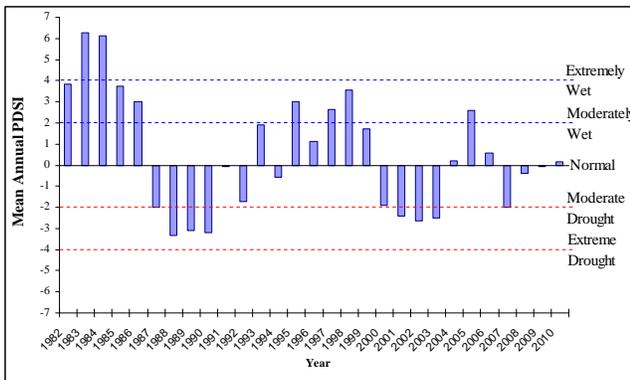


Figure 1. The 29 year mean annual Palmer Drought Severity Index (PDSI) for the Northern Mountains (Division 5). The PDSI is based on climate data gathered from 1895 to 2010. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet and negative deviations indicate drought. Classification of the scale is ≥ 4.0 = Extremely Wet, 3.0 to 3.9 = Very Wet, 2.0 to 2.9 = Moderately Wet, 1.0 to 1.9 = Slightly Wet, 0.5 to 0.9 = Incipient Wet Spell, 0.4 to -0.4 = Normal, -0.5 to -0.9 = Incipient Dry Spell, -1.0 to -1.9 = Mild Drought, -2.0 to -2.9 = Moderate Drought, -3.0 to -3.9 = Severe Drought and ≤ -4.0 = Extreme Drought (Time Series Data 2011).

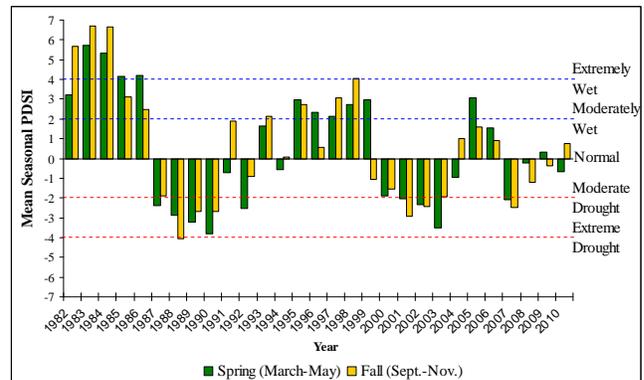


Figure 2. The 29 year mean spring (March-May) and fall (Sept.-Nov.) Palmer Drought Severity Index (PDSI) for the Northern Mountains (Division 5). The PDSI is based on climate data gathered from 1895 to 2010. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet and negative deviations indicate drought. Classification of the scale is ≥ 4.0 = Extremely Wet, 3.0 to 3.9 = Very Wet, 2.0 to 2.9 = Moderately Wet, 1.0 to 1.9 = Slightly Wet, 0.5 to 0.9 = Incipient Wet Spell, 0.4 to -0.4 = Normal, -0.5 to -0.9 = Incipient Dry Spell, -1.0 to -1.9 = Mild Drought, -2.0 to -2.9 = Moderate Drought, -3.0 to -3.9 = Severe Drought and ≤ -4.0 = Extreme Drought (Time Series Data 2011).

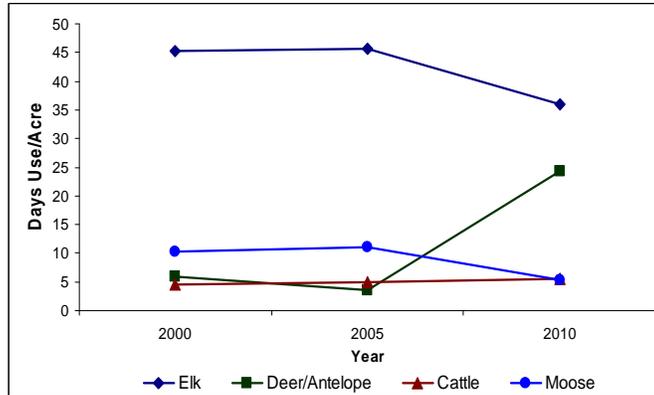


Figure 3. Mean days use/acre of animals by year for WMU 8A, North Slope, Summit.

Mountain Brush Communities (High Potential)

Utilization: Pellet group transect data indicates that elk predominantly use the area. The mean elk days use/acre on the unit has been moderately heavy over the course of the study years. The mean deer/antelope days use/acre has been mostly light on the unit, though use by deer-antelope increased substantially in 2010. The increase in deer/antelope use was due to a large increase in deer-antelope pellets on just one study, Widdop Mountain South Slope (8A-1). There may have been some misidentification between elk and deer/antelope pellets on this study in 2010. Grazing, managed by the U.S. Forest Service, is common in the area, but cattle use appears to be light on the mahogany slopes where the studies are located. Moose appear to use the study areas with regular frequency, but use is light (Figure 3).

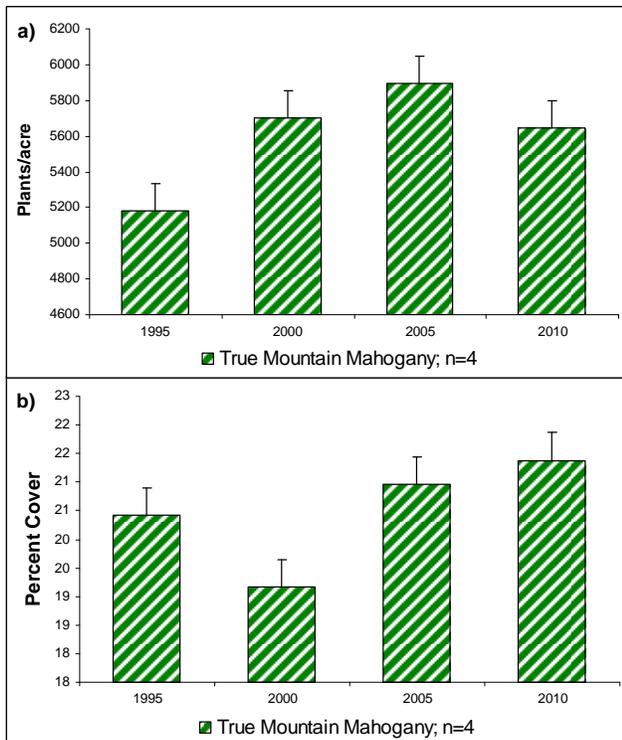


Figure 4. a) Mean density of true mountain mahogany (*Cercocarpus montanus*) by year for WMU 8A, North Slope, Summit. b) Mean cover of true mountain mahogany by year for WMU 8A.

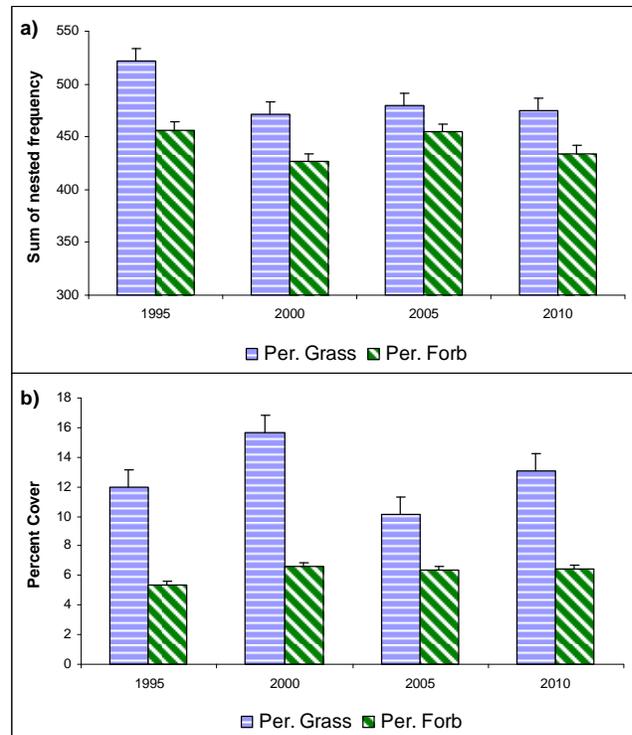


Figure 5. a) Mean perennial grass and perennial forb sum of nested frequency by year for WMU 8A, North Slope, Summit. b) Mean perennial grass and perennial forb cover by year for WMU 8A.

Browse: The cumulative median browse trend of the studies has remained stable over the course of the sample years (Figure 7). The dominant browse species on all four of the studies in Unit 8A is true mountain mahogany. The density of true mountain mahogany is high on all of the studies. The mean density of true mountain mahogany increased significantly in 2000 (Figure 4a). Cover of true mountain mahogany is also high on the unit. There was a significant decrease in cover in 2000, but cover increased again in subsequent sample years (Figure 4b). The decrease in cover in 2000 was primarily due to a decrease in cover on just one study, Bald Range (8A-4), with all of the other studies sampled actually increasing slightly in cover.

Herbaceous Understory: The median cumulative grass trend for the unit has remained fairly stable throughout the sample years (Figure 7). Grasses within these communities are fairly diverse and abundant. The annual species cheatgrass (*Bromus tectorum*) is not common within these communities. Cover of perennial grasses has fluctuated somewhat over the sample years with the highest mean cover in 2000, despite a significant decrease in the sum of nested frequency in that year (Figure 5a and Figure 5b).

The median cumulative forb trend for the unit decreased slightly in 1995, but remained relatively stable throughout the remaining sample years (Figure 7). Perennial forbs are also diverse within the sampled communities, but are not as abundant as perennial grasses. The sum of nested frequency of perennial forbs has fluctuated somewhat over the sample years, but cover has remained similar (Figure 5a and Figure 5b).

Deer Desirable Components Index (DCI): All four of the studies in this unit are categorized as high potential scale deer winter range, though none of the sites are actually classified as deer winter range. The deer DCI has remained relatively similar over the sample years with a ranking of good to excellent (Table 1 and Figure 6). There were no studies that were categorized as low or mid-level potential within Unit 8A.

Year	Preferred Browse Cover	Preferred Browse Decadence	Preferred Browse Young	Perennial Grass Cover	Annual Grass Cover	Perennial Forb Cover	Noxious Weeds	Total Score	Ranking
95	29.8	14.6	13.5	23.6	0.0	8.8	0.0	90.4	Good-Excellent
00	29.0	12.7	12.8	28.6	0.0	10.0	0.0	93.1	Excellent
05	30.0	13.5	14.4	20.3	0.0	9.4	0.0	87.6	Good
10	30.0	14.5	14.7	24.4	0.0	9.0	0.0	92.5	Excellent

Table 1. High potential sites mean deer DCI scores (n=4) by year for WMU 8A, North Slope, Summit. The deer DCI scores are divided into three categories based on ecological potentials which include low, mid-level and high.

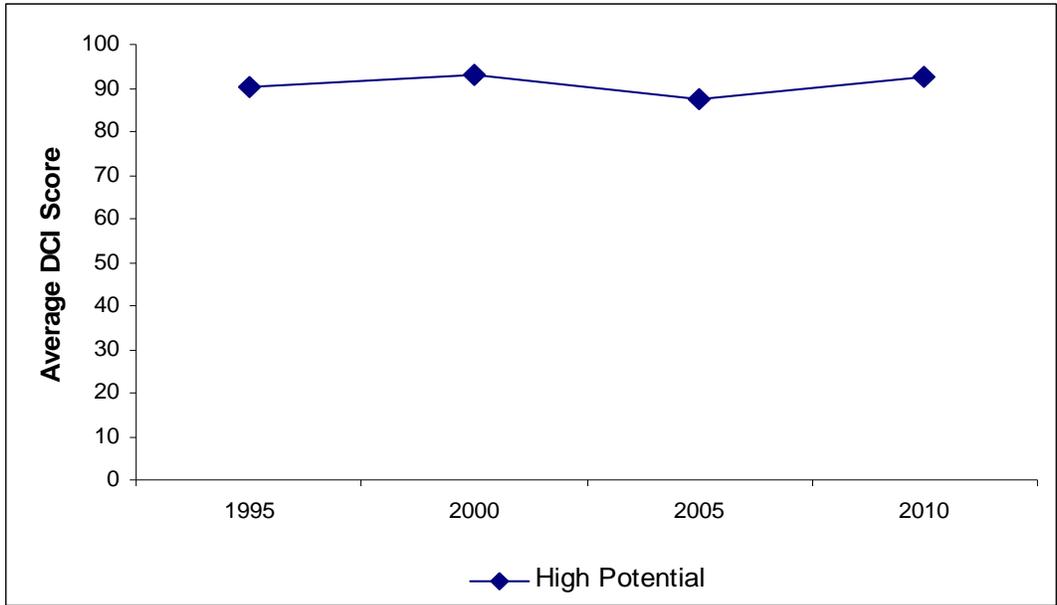


Figure 6. Mean high potential (n=4) scale deer DCI scores by year for WMU 8A, North Slope, Summit. The deer DCI scores are divided into three categories based on ecological potentials which include low, mid-level and high.

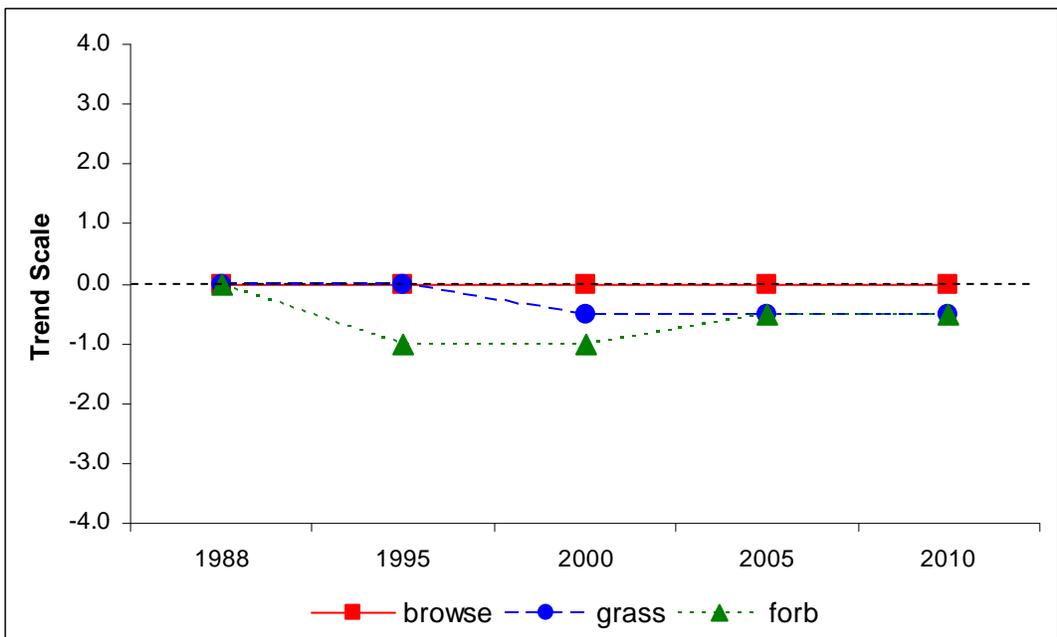


Figure 7. Cumulative median browse, grass and forb trends by year for WMU 8A, North Slope, Summit.