

COAL CREEK OUTSIDE EXCLOSURE

This transect is located upstream of the Coal Creek enclosure. The stream channel is incised but has an established floodplain in the incised area. The outside bank of the meanders are cutbanks that vary from 4 to 8 feet high. Point bars are well developed on the inside of the meanders.

In 1996 when the transect was established the location was heavily grazed and plant identification was difficult. The transect was reread in 1999 before it was scheduled to be grazed. Two additional species were found on the 1999 reading that had not been identified in 1996. Reed Canarygrass was not found in 1996 even though it was found in a transect inside the enclosure. The other plant found in 1999 was Eleocharis rostrata or spiked bullrush. Both species appear in healthy riparian areas and could indicate improving conditions.

There was no change in the percentage of SEDGE Community and no change in the percentage of UPLAND. The BAREGROUND decreased but was replaced with plants that fall in the category of OTHER. Willows were found in the belt transect both readings but all willows were less than one foot tall and heavily hedged.

COAL CREEK OUTSIDE EXCLOSURE		LOCATION: T28 R119 Sec 13 SWNW		
This transect will be repeated in 1999 and 2001				
Community Type	Observed 1996	Observed 1999	Observed 2001	5 year objective to be reached in 2001
SEDGE COMMUNITIES	54	53		75
WILLOW	0	0		10**
UPLAND	25	24		0
BARE GROUND	7	0		
OTHER	9	23		10
BALTIC RUSH	5			5

OTHER SPECIES includes Redtop, Meadow Barley, Horsetail, Poa, Reed Canarygrass, and Spike Rush

Willow density on this transect in 1996 was 3 willows.

Willow density on this transect in 1999 was 1 willow.

** composed of overstory and rooted plants.

LOWER COAL CREEK

This transect is located on Coal Creek just above the confluence with Huff Creek. The transect will not be reread until 2001. This transect was one that was not expected to change significantly in the short term.

LOWER COAL CREEK		LOCATION: T28 R119 Sec 27 SENE		
This transect will be repeated in 2001				
Community Type	Observed 1996	Observed 2001	Observed	5 year objective to be reached in 2001
SEDGE COMMUNITIES	52			70
WILLOW	0.5			10**
SPIKE RUSH	29			15
BALTIC RUSH	13			3
OTHER	5			2
BARE GROUND/GRAVEL	0.5			

OTHER includes Tufted Hairgrass, Reed Canarygrass, Redtop, Poa

Willow density for this transect in 1996 was 55 willow plants. Three plants were taller than 3 feet.

** composed of overstory and rooted plants

LOWER LITTLE MUDDY OUTSIDE

This transect is located downstream of the Little Muddy Exclosure #1 (northern most exclosure). This stream channel is incised and is only beginning to form a floodplain in the incised channel. In the 1996 when the transect was established there were many sloughing banks and cutbanks that were 8 to 10 feet high. Point bars were beginning to form.

SEDGE communities increased in the 1999 reading. This was due to point bars developing and more sedge filling in on the point bars. The UPLAND increase is probably due to some of the slough banks, which were recorded in 1996 as bare ground, having eroded away and being recorded as upland in 1999. BAREGROUND decreased significantly and was probably replaced with sedge and upland.

LOWER LITTLE MUDDY OUTSIDE EXCLOSURE		LOCATION: T27 R119 SEC 1 NENW		
Transect will be repeated in years 1999 and 2001				
Community Type	Observed 1996	Observed 1999	Observed 2001	5 year objective to be reached in 2001
SEDGE COMMUNITIES	40	49		70
WILLOWS	0	0		5**
UPLAND	37	43		10
BARE GROUND	18	2		0
OTHER	5	6		15

OTHER includes Redtop, Meadow Barley, Poa, Baltic Rush

No Willow were present on this transect in 1996.

No Willow were present in 1999.

** composed of overstory and rooted plants

UPPER LITTLE MUDDY

This transect is upstream of Little Muddy Exclosure #3. The stream is incised with a moderately developed floodplain. The stream has some rock armoring but not enough to control the stream cutting. Cutbanks on the outside of meanders are 4 to 6 feet high. Point bars were forming in 1996 but were not vegetated as indicated by the amount of BAREGROUND and OTHER communities that were recorded in 1996.

SEDGE communities increased significantly on this transect in 1999 with corresponding reductions in BAREGROUND and OTHER communities. UPLAND increased but corresponded to a decrease in horsetail which was usually found along the cutbanks below uplands. In 1999 there was also active cutting in the lower part of the transect that may have helped increase the UPLAND community. The decrease in OTHER was probably conversion to sedge community .

UPPER LITTLE MUDDY		LOCATION: T 27 R119 SEC 24 NWNW		
Transect will be repeated in Years 1999 and 2001				
Community Type	Observed 1996	Observed 1999	Observed 2001	5 year objective to be reached in 2001
SEDGE COMMUNITIES	22	39		50
WILLOW	0	0		5**
UPLAND	18	29		5
BARE GROUND	14	4		5
HORSETAIL	11	3		0
OTHER	35	25		35

OTHER includes Redtop, Meadow Barley, Tufted Hairgrass, Baltic Rush, Reed Canarygrass, Silver Sagebrush

No willow plants were present on the transect in 1996

No willow plants were present on the transect in 1999

** composed of overstory and rooted plants

LOWER STONER CREEK

This transect is located downstream from the confluence of the North and South forks of Stoner Creek. This stream is a low volume, low energy stream. The stream is slightly incised but has a well developed floodplain. Cutbanks on meanders are 2 to 4 feet high. Point bars are well developed.

The changes in the readings on this transect were not significant. Sedge species were not split out in the 2000 reading. There was a slight reduction in the total percentage of sedge along the transect but the decrease is not significant. No change occurred in the UPLAND component which may mean this is the lowest level possible for this stream. OTHER communities increased and Baltic Rush disappeared as a dominant species. This change is not significant and may be a result of natural variation in the stream. Willows were not found in the transect in either reading. Willows are present just downstream of the transect. Willows would not be expected to suddenly appear in the transect since there is good sedge cover and no open gravel bars that would allow willows to establish.

LOWER STONER CREEK		LOCATION: T28 R119 SEC 36 NWSE		
Transect will be repeated in year 2000				
Community Type	Observed 1996	Observed 2000	Observed 2001	5 year objective to be reached in 2001
<i>SEDGE COMMUNITIES</i>	60	73		75
<i>NEBRASKA SEDGE</i>	18	X		****
<i>WILLOW</i>	0	0		5**
BALTIC RUSH	8	*(4)		0
UPLAND	7	7		5
BARE GROUND	1	0		0
OTHER	6	18		15

OTHER includes Redtop, Baltic Rush, Poa, Tufted Hairgrass

No willows on the transect in 1996.

No willows on the transect in 1999

*Baltic Rush was not recorded as a dominant plant in 2000 data but was recorded in 4% as a sub-dominant

X Sedge species were not recorded completely separate in 2000 so this number may be lower than actual

** composed of overstory and rooted plants

HUFF CREEK OUTSIDE EXCLOSURE

This transect is located downstream of the Huff Creek Fish Survival Exclosure. This stream channel is slightly incised with cut banks of 2 to 3 feet. Some of the cut banks were sloughing off on the outside of the meanders. The floodplain is well developed with prominent point bar development. There is some development of undercut banks on parts of the stream.

The SEDGE community did not change. UPLAND decreased slightly and BAREGROUND increased slightly. The largest change occurred in the TUFTED HAIRGRASS community. This maybe due to the undercut banks which tend to have Tufted Hairgrass on the greenline. Willows were found in the belt transect in 1996. The willows recorded in 1996 were still there but were outside the belt transect and were heavily hedged and less than 1 foot tall.

HUFF CREEK OUTSIDE ENCLOSURE		LOCATION: T28 R119 SEC 34 SWSE		
This transect will be repeated in the years 1998 and 2000				
Community Type	Observed 1996	Observed 1998	Observed 2000	5 year objective to be reached in 2001
SEDGE COMMUNITIES	41	40	42	70
WILLOW	0	0	0	5**
UPLAND	30	26	26	10
OTHER	5	5	5	5
BARE GROUND	1	2	0	0
TUFTED HAIRGRASS	13	19	17	5
BALTIC RUSH	10	8	10	5

OTHER includes Redtop, Meadow barley, Elk sedge

BARE GROUND includes some Canada thistle that grows on bare banks.

Willow density on this transect in 1996 was 3 willow plants.

No willows occurred in the belt transect in 2000 but the 3 found in 1996 were still present.

** composed of overstory and rooted plants

UPPER HUFF CREEK

This transect is located in the upper part of Huff Creek about 1 2 miles upstream from the Huff Creek Fish Survival Enclosure. The stream is slightly incised on the lower end with a well developed floodplain on the upper half. This reach of stream is in an area of geologic controls of meander movement to the east. The meanders are against the base of a ridge and the outside bank of the meanders are steep slopes up to 50' high. Other cutbanks on meanders vary from 3 to 12 feet. The point bars are very well to moderately developed.

This transect was read three times. Between 1996 and 1998 SEDGES increased slightly but the increase is not significant. In both 1996 and especially in 1998 Carex appeared as a subdominant species in the field data. In 1998 Carex was recorded at 24% as a subdominant. BALTIC RUSH also increased slightly. UPLAND decreased slightly. BARE GROUND increased. Significant changes occurred between 1998 and 2000 with sedge communities doubling in percentage. Most of the increase came on point bars and along silt deposits of straight segments. TUFTED HAIRGRASS and BALTIC RUSH decreased which is not significant since Carex would invade silt deposited along stream banks that were recorded as Tufted Hairgrass or Baltic Rush in previous readings. One community that was recorded in 2000 that is significant is the WILLOW. It is only 0.2% of the greenline but these plants are located on the toe slope of one of the high cutbanks and should persist and expand along this bank.

UPPER HUFF CREEK		LOCATION: T29 R119 SEC 15 SWNW		
This transect will be repeated in the year 1998 and 2000				
Community Type	Observed 1996	Observed 1998	Observed 2000	5 year objective to be reached in 2001
SEDGE COMMUNITIES	18	22	44	45
WILLOW	0	0	0.2	10**
POA COMMUNITIES	12	4	11	5
TUFTED HAIRGRASS	28	27	10	10
BALTIC RUSH	11	14	4	5
UPLAND	20	18	26	10
OTHER	8	8	1	15
BARE GROUND	3	7	4	0

OTHER includes Redtop, Meadow Barley

Willow density on this transect in 1996 was 3 willow plants

Willow density on this transect in 1998 was 11 willow plants

Willow density on this transect in 2000 was 20 willow plants

** composed of overstory and rooted plants

SOUTH FORK RAYMOND CANYON

This transect is located mid-drainage in the South Fork of Raymond Creek. The transect is near a spring and in a location where two different perennial tributaries enter the South Fork so there is a community type for water. The stream channel is incised and the upper portion is a straightened channel. The incision is about three feet deep over most of the reach. The banks are beginning to ease back and form toe slopes that can support vegetation as is indicated by the decrease in UPLAND and the increase in OTHER community types. The component of the OTHER community type that increased was primarily in Redtop and Poa. The SEDGE community increased but the amount of increase is not significant.

SOUTH FORK RAYMOND CREEK	LOCATION: T26 R119 SEC 4 SE
Transect will be repeated in Year 1998 and 2000	

Community Type	Observed 1996	Observed 1998	Observed 2000	5 year objective to be reached in 2001
SEDGE COMMUNITIES	2	2	6	30
WILLOW		0.5	0.7	5**
UPLAND	57	59	39	25
BARE GROUND	10	8	2	5
WATER	2	1	1	2
OTHER	29	30	51	33

OTHER includes Redtop, Meadow Barley, Baltic Rush, Tufted Hairgrass, Poa

There were no willows in the belt transect but notes indicate two willows in the overall transect in 1996.

There were six willows in the transect in 1998 including the two noted in 1996.

There were six willows in the transect in 2000 with three noted as seedlings.

** composed of overstory and rooted plants

LOWER RAYMOND CANYON

This transect is located about mid way down Raymond Creek between the confluence of the north and south forks and the mouth of the canyon. The reach of stream is deeply incised on both ends with some floodplain development in the middle section. The cutbanks along this section are from 5 to 15 feet high. Some of the banks are beginning to ease back and vegetation is beginning to form along the toe slope of these banks. Willows are found on the terrace above the incised channel. This root system can supply suckers and seeds that can increase the WILLOW community. The UPLAND community decreased due to the increase in OTHER community type which was composed of primarily Redtop and Poa.

LOWER RAYMOND CANYON	LOCATION: T26 R119 SEC 5 NWNW
Transect will be repeated in year 2000	

Community Type	Observed 1996	Observed 2000	Observed 2001	5 year objective to be reached in 2001
WILLOW COMMUNITIES	7	17.5		15
CAREX COMMUNITIES	0	0.4		20
UPLAND COMMUNITIES	41	8		30
BARE GROUND	27	20		0
OTHER	25	54		35

OTHER includes Redtop, Poa, Forb species, Tufted Hairgrass, Horsetail

UPLAND COMMUNITIES include communities with ckokecherry, Rosier Dogwood, Sagebrush grass, annual weeds and grass

A total of 64 willows plants were observed on the transect in 1996. Two of the willows were large patches of Coyote Willow that were counted as one plant.

A total of 80 willow plants were observed on the transect in 2000. 57 plants were less than 3 feet tall, 21 plants were 3 to 6 feet tall and 2 plants were over 6 feet.

** composed of overstory and rooted plants

FIRST CREEK

This transect is located on First Creek in the southern end of the allotment. This transect is on a deeply incised narrow channel with several seeps that flow from the bank of the incised channel. The banks in 1996 were sloughing off as indicated by the high percentage of poa and bare ground. The bank along the seeps was trampled out in 1996 and was recorded as bare ground. In 1999 the slough banks began to stabilize and species such as redtop and sedges had invaded the slough banks as well as the seeps. The UPLAND community decreased because upland types were replaced by communities occupying sites below the upland types. There were no willows on the transect.

FIRST CREEK		LOCATION: T25 R119 SEC 2 NWNE		
This transect will be repeated in 1999 and 2001				
Community Type	Observed 1996	Observed 1999	Observed 2001	5 year objective to be reached in 2001
SEDGE COMMUNITIES	22	29		60
WILLOW	0	0		5**
POA COMMUNITIES	34	26		15
UPLAND	23	18		10
BARE GROUND	14	10		5
OTHER	7	17		5

OTHER includes Poa species, Redtop, Meadow Barley, Baltic Rush, Horsetail

No willows were found on this transect in 1996.

No willows were found on the transect in 1999.

** composed of overstory and rooted plants

MILL CREEK FEDERAL

This transect is located on Mill Creek just below the confluence of the South Fork of Mill Creek. This reach of stream is slightly incised with a well developed floodplain. There are some cutbanks on meanders that are 2 to 4 feet high occurring against the land form.

The primary sedge that grows in this area is Nebraska sedge but other species of sedge may be included in the SEDGE community type. The SEDGE community decreased but not significantly. The UPLAND type also decreased. The HORSETAIL community type did not change but since horsetail usually occurred on the toe slope of cutbanks this is not significant. The OTHER community types increased but no species really stood out as the cause of the increase.

MILL CREEK FEDERAL		LOCATION: T26 R119 SEC 35 NENE		
Transect will be repeated in Years 1998 and 2001				
Community Type	Observed 1996	Observed 1998	Observed 2001	5 year objective to be reached in 2001
NEBRASKA SEDGE COMMUNITIES	25	20		55
WILLOW	0	0		5**
UPLAND	23	17		15
BARE GROUND	3	3		3
OTHER	39	49		17
HORSETAIL	10	11		5

OTHER includes Redtop, Meadow Barley, Poa, Baltic Rush

No willows were found in the belt transect but there were three willow in the vicinity of the transect.

There were four willows in the belt transect in 1998 with five other willows noted outside of the belt.

** composed of overstory and rooted plants

MILL CREEK STATE

This transect is located below the Reed Road crossing about 2 mile above the confluence of Muddy Creek. This reach of stream is deeply incised with a well developed floodplain in the incision. The outside of the meanders are cut banks from 8 to 20 feet high. During the 1996 reading grazing was very heavy and plant identification was difficult therefore the Redtop was not properly identified until later.

The decrease in SEDGE and the increase in UPLAND may be due to the movement of the stream. Two of the large cutbanks sloughed off between 1996 and 1998 and increased the length of the transect by 70 feet. These cutbanks did not revegetate so they were recorded as upland. Overall there was no change in this transect.

MILL CREEK STATE		LOCATION: T26 R118 SEC 31 NWSW		
Transect will be repeated in Years 1998 and 2001				
Community Type	Observed 1996	Observed 1998	Observed 2001	5 year objective to be reached in 2001
NEBRASKA SEDGE COMMUNITIES	17	10		55
WILLOW	0	0		10**
UPLAND	23	38		5
BARE GROUND	13	8		0
HORSETAIL	19	14		5
OTHER	17	21		10
BALTIC RUSH	11	9		15

OTHER includes: Meadow Barley, Poa, Spike Rush, Redtop

There were 16 willow plants in the belt transect in 1996. All plants were severely hedged and none were over 12" tall. There were 21 willow plants in the belt transect in 1998

** composed of overstory and rooted plants

MUDDY CREEK

This transect is located on Muddy Creek just below the confluence with Second Creek. The stream reach is incised with a moderately developed floodplain. Point bars are developing on parts of the reach. The cutbanks are from 4 to 8 feet high.

SEDGE community stayed the same. UPLAND decreased because some of the cutbanks are easing back and the toe slopes are now vegetated. HORSETAIL decreased for the same reason as UPLAND. The OTHER category increased significantly due to an increase in Redtop and Poa species.

MUDDY CREEK		LOCATION: T26 R118 SEC 20 SWNW		
Transect will be repeated in Year 2000				
Community Type	Observed 1996	Observed 2000	Observed	5 year objective to be reached in 2001
NEBRASKA SEDGE COMMUNITIES	10	11		40
WILLOW	0	0.1		5**
UPLAND	43	35		25
HORSETAIL	18	0		5
BALTIC RUSH	18	15		10
BARE GROUND	5	0		5
OTHER	6	39		10

OTHER includes Redtop, Meadow Barley, Poa, Forb species

There were three willow plants on the transect in 1996. All plants were less that 12" tall.

** composed of overstory and rooted plants

NORTH CORRAL CREEK

This transect is located in the upper part of North Corral Creek. This reach is a low volume and low energy stream. The stream is not incised at this point. This transect was scheduled be reread in 2001 since it is at or near its potential for vegetation.

NORTH CORRAL CREEK		LOCATION: T25 R119 Sec 2 NWNE		
This transect will be repeated in 2001				
Community Type	Observed 1996	Observed	Observed 2001	5 year objective to be reached in 2001
<i>SEDGE COMMUNITIES</i>	75			85
<i>WILLOW</i>				5**
POA	15			5
OTHER	10			5

OTHER includes Redtop, Poa species, Meadow Barley, and several species of forbs

Willows were not found on this transect in 1996.

** composed of overstory and rooted plants

Percentages shown have a range of +/- 10%