

Trend Study 16R-2-04

Study site name: Price Pipeline South Native .

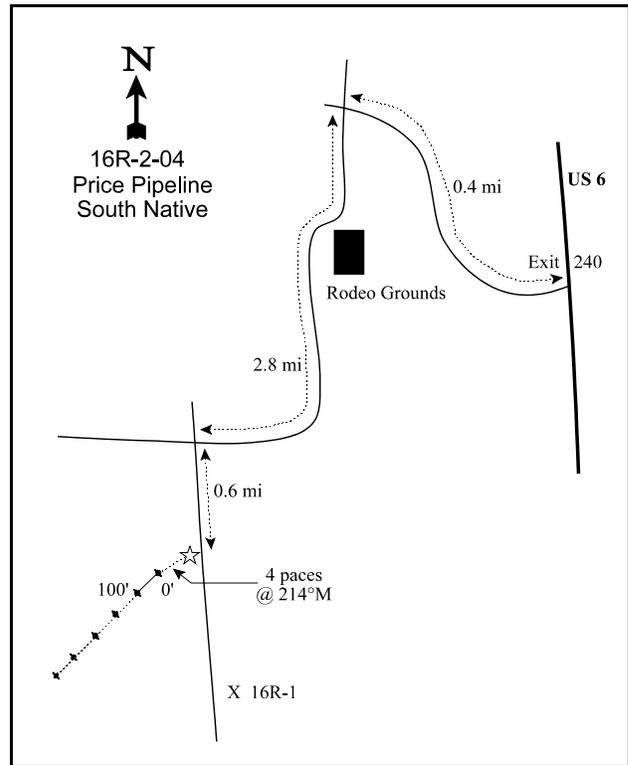
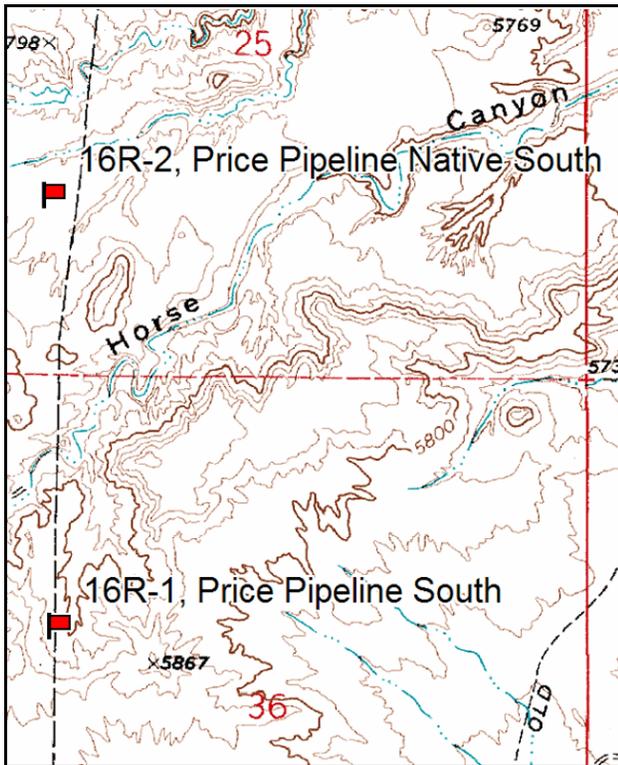
Vegetation type: Desert Shrub .

Compass bearing: frequency baseline 250 degrees magnetic.

Frequency belt placement: line 1 (11ft), line 2 (34ft), line 3 (59ft), line 4 (71ft), line 5 (95ft).

LOCATION DESCRIPTION

Take exit 240 off of US 6 and head west 0.4 miles to an intersection. Turn left at this intersection and go 2.8 miles, through the rodeo grounds to another intersection. Go 0.6 miles to a witness post on the right. From the witness post walk 4 paces at 214 degrees magnetic to the 0-foot stake. The study site is marked by green, steel fenceposts approximately 12-18 inches in height.



Map name: Price .

Diagrammatic Sketch

Township 14S , Range 9E , Section 25

GPS: NAD 27, UTM 12S 4380411 N, 511302 E

DISCUSSION

Price Pipeline South Native - Trend Study No. 16R-2

The “Price pipeline south native” study is paired with 16R-1 and monitors the native undisturbed community near a natural gas pipeline. This study is 0.6 miles north of 16R-1 on a desert shrub flat with 3% slope and a northerly aspect. Elevation is about 5,800 feet. This site is located in a rain shadow and has low site potential. Wildlife use was light in 2004. Pellet group data estimated 7 elk days use/acre (18 edu/ha). Livestock use was estimated at 12 cow days use/acre (30 cdu/ha).

Soil textural is classified as loam. Soil depth is moderate with an estimated effective rooting depth of just over 12 inches. The soil has a slightly alkaline pH (7.4). Very few rocks were found in the profile. Phosphorus is low at 9.2 ppm. Organic matter was also low at 1%. This soil is susceptible to erosion because there is very little protective cover. Relative percent bare ground cover was 80% in 1997 and 78% in 2004. An erosion class index in 2004 rated erosion on this site as moderate. Gullies and pedestaling are evidence of ongoing erosion.

The most abundant browse species is winterfat. Density has remained stable at about 7,600 plants/acre. In 1997, 31% of the population was considered young. Only 1% were classified as young in 2004. A high amount of seedlings were found in both 1997 and 2004. Six percent of the population were classified as decadent in 2004. Only light to moderate use was observed. Winterfat cover increased from about 3% in 1997 to almost 4% in 2004. Density of budsage dropped 89% to only 240 plants/acre in 2004 and Gardner saltbush density in was nearly half of what it was in 1997.

The herbaceous understory is sparse and has declined since 1997. Sum of nested frequency for Sandberg bluegrass, bottlebrush squirreltail, and sand dropseed was significantly lower in 2004. Only two perennial grasses were sampled in 2004 and cover dropped from a little over 1% in 1997 to only about 0.1% in 2004. Halogeton is the most dominant forb. It increased significantly from 1997 and makes up 49% of the total vegetation cover. Annual forbs made up 31% of the total vegetation cover in 1997 and this increased to 63% in 2004.

2004 TREND ASSESSMENT

Trend for soil is stable but very poor condition. The slope is not steep, but erosion is classified as moderate. Relative percent bare ground is very high and there is little vegetation to hold soil. The trend for browse is slightly down. The most abundant species, winterfat, is stable. Recruitment is low, but seedlings are abundant. Decadence is very low at 6%. Density and cover for both budsage and Gardner saltbush has declined since 1997. The herbaceous understory is down and wasn't in good condition in 1997. Perennial grasses declined to nearly nothing with only two species being sampled in 2004. Forbs are dominated by halogeton, which makes up 71% of the herbaceous cover and 49% of the total vegetation cover. The Desirable Components Index (see methods) rating was fair in 1997 as winterfat had many young plants and decadence was low. The rating dropped to poor in 2004 as there were very few young shrubs encountered. This is not an important winter range for wildlife.

TREND ASSESSMENT

soil - stable (3)

browse - down slightly (2)

herbaceous understory - down (1)

1997 winter range condition (DC Index) - 38 (fair) desert shrub type

2004 winter range condition (DC Index) - 17 (poor) desert shrub type

HERBACEOUS TRENDS --
 Management unit 16R, Study no: 2

Type	Species	Nested Frequency		Average Cover %	
		'97	'04	'97	'04
G	<i>Agropyron cristatum</i>	3	-	.03	-
G	<i>Bromus tectorum</i> (a)	_b 26	_a -	.06	-
G	<i>Hilaria jamesii</i>	-	6	-	.06
G	<i>Oryzopsis hymenoides</i>	25	19	.22	.04
G	<i>Poa secunda</i>	_b 84	_a -	.88	-
G	<i>Sitanion hystrix</i>	_b 20	_a -	.13	-
G	<i>Sporobolus cryptandrus</i>	_b 16	_a -	.07	-
Total for Annual Grasses		26	0	0.06	0
Total for Perennial Grasses		148	25	1.34	0.10
Total for Grasses		174	25	1.40	0.10
F	<i>Chorispora tenella</i> (a)	_a -	_b 53	-	.48
F	<i>Cymopterus</i> spp.	-	8	-	.01
F	<i>Eriogonum inflatum</i>	2	-	.00	-
F	<i>Halogeton glomeratus</i> (a)	_a 88	_b 404	.52	7.13
F	<i>Lappula occidentalis</i> (a)	_a 67	_b 115	.12	1.26
F	<i>Lactuca serriola</i>	1	-	.00	-
F	<i>Oenothera caespitosa</i>	-	7	-	.04
F	<i>Plantago patagonica</i> (a)	_b 385	_a 26	2.27	.18
F	<i>Ranunculus testiculatus</i> (a)	_a -	_b 8	-	.05
F	<i>Salsola iberica</i> (a)	43	44	.11	.17
F	<i>Sphaeralcea coccinea</i>	_a 12	_b 27	.02	.55
Total for Annual Forbs		583	650	3.03	9.28
Total for Perennial Forbs		15	42	0.03	0.61
Total for Forbs		598	692	3.07	9.90

Values with different subscript letters are significantly different at alpha = 0.10

BROWSE TRENDS --

Management unit 16R, Study no: 2

Type	Species	Strip Frequency		Average Cover %	
		'97	'04	'97	'04
B	Artemisia frigida	5	0	.03	-
B	Artemisia spinescens	41	7	.68	.00
B	Atriplex confertifolia	1	0	-	-
B	Atriplex gardneri	73	56	1.77	.91
B	Ceratoides lanata	74	66	2.68	3.74
B	Cercocarpus ledifolius	0	1	-	-
B	Gutierrezia sarothrae	8	1	.03	-
B	Opuntia spp.	4	6	-	-
Total for Browse		206	137	5.21	4.66

CANOPY COVER, LINE INTERCEPT --

Management unit 16R, Study no: 2

Species	Percent Cover
	'04
Atriplex gardneri	.90
Ceratoides lanata	3.46
Opuntia spp.	.08

KEY BROWSE ANNUAL LEADER GROWTH --

Management unit 16R, Study no: 2

Species	Average leader growth (in)
	'04
Ceratoides lanata	3.7

BASIC COVER --

Management unit 16R, Study no: 2

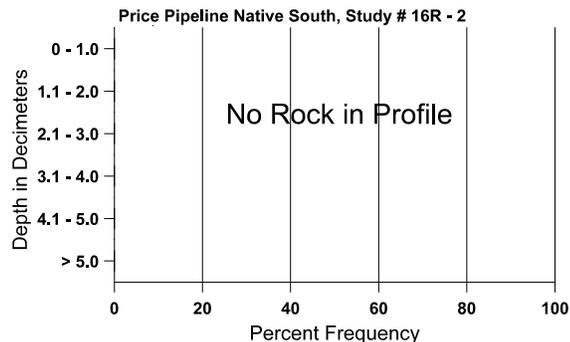
Cover Type	Average Cover %	
	'97	'04
Vegetation	10.61	15.95
Rock	0	.03
Pavement	.08	.17
Litter	5.93	6.80
Cryptogams	1.51	.58
Bare Ground	71.30	82.50

SOIL ANALYSIS DATA --

Management unit 16R, Study no: 2, Study Name: Price Pipeline Native South

Effective rooting depth (in)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	ds/m
12.1	62.7 (10.8)	7.8	30.7	42.7	26.6	1.0	9.2	198.4	1.7

Stoniness Index



PELLET GROUP DATA --

Management unit 16R, Study no: 2

Type	Quadrat Frequency		Days use per acre (ha)
	'97	'04	
Sheep	4	10	-
Rabbit	5	3	-
Grouse	-	-	-
Elk	9	2	7 (18)
Deer	3	6	-
Cattle	7	8	12 (30)

BROWSE CHARACTERISTICS --

Management unit 16R, Study no: 2

		Age class distribution (plants per acre)					Utilization					
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)
Artemisia frigida												
97	120	-	20	100	-	-	0	0	-	-	0	13/11
04	0	-	-	-	-	-	0	0	-	-	0	-/-
Artemisia spinescens												
97	2120	-	420	1700	-	60	60	8	0	-	0	6/12
04	240	-	-	160	80	340	8	42	33	17	25	6/7

		Age class distribution (plants per acre)					Utilization						
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)	
<i>Atriplex confertifolia</i>													
97	40	-	-	40	-	20	0	0	-	-	0	13/26	
04	0	-	-	-	-	-	0	0	-	-	0	-/-	
<i>Atriplex gardneri</i>													
97	4020	-	720	3180	120	360	.49	0	3	2	2	3/11	
04	2400	20	120	2080	200	300	28	18	8	4	5	4/7	
<i>Ceratoides lanata</i>													
97	7660	1620	2340	5300	20	-	40	9	0	.26	.26	5/11	
04	7600	1500	60	7120	420	6720	32	7	6	3	3	7/9	
<i>Cercocarpus ledifolius</i>													
97	0	-	-	-	-	-	0	0	-	-	0	-/-	
04	140	-	-	140	-	100	0	0	-	-	0	-/-	
<i>Gutierrezia sarothrae</i>													
97	280	-	-	280	-	-	0	0	-	-	0	9/12	
04	40	-	-	40	-	780	0	0	-	-	0	6/6	
<i>Opuntia spp.</i>													
97	80	-	-	80	-	-	0	0	0	-	0	5/14	
04	120	-	-	80	40	40	0	0	33	17	17	5/11	
<i>Tetradymia spinosa</i>													
97	0	-	-	-	-	-	0	0	-	-	0	-/-	
04	0	-	-	-	-	-	0	0	-	-	0	18/33	