

Appendix 1
Actual Use and Monitoring Data by Pasture

FLAT PASTURE KEY AREA HV-01 MATRIX											
Range Site: 25XY019NV Loamy 8-10" (ARTRW/AGSP-STTH2) Key Species- Bluebunch Wheatgrass (AGSP) Thurber's Needlegress (STTH2) Utilization Objective: Do not exceed an average annual use of 50%, or 55% utilization in any one year.											
Year	Actual Use AUMs	Period of Use	KA Util (%)	Dates Read	KA Use Pattern Map Results	Dates Mapped	Pre-CAF Capacity (AUMs)	CAF	Post-CAF Capacity (AUMs)	Ecological Site/Prod adj/unadj	Key Species Frequency
2008	1356	4/6-7/1	AGSP-53% STTH2-61%	10/22/08	AGSP- Light STTH2- Light	12/2008	1111	0.70	1588	Not Read	Not Read
2007	Rested	Rested	No Data	NA	Not Mapped	NA	--	0.56	No Data	Not Read	Not Read
2006	2007	6/2-11/1	No Data	NA	Not Mapped	NA	No Data	0.86	No Data	Not Read	Not Read
2005	Rested	Rested	No Data	NA	Not Mapped	NA	--	1.50	No Data	Not Read	Not Read
2004	2440	3/18-7/15	No Data	NA	Not Mapped	NA	No Data	0.79	No Data	Late- 51 819 lbs/acre	AGSP- 15% STTH2- 17% ORHY- 2.5%
2003	Rested	--	--	NA	Not Mapped	NA	No Data	0.67	No Data	Not Read	Not Read
2002	901	8/25-11/20	AGSP-42% ORHY- 7%	2/7/03	Not Mapped	NA	1073	0.86	1247	Not Read	Not Read
2001	No Data	No Data	No Data	NA	Not Mapped	NA	No Data	0.37	No Data	Not Read	Not Read
2000	1537	4/11-7/5	No Data	NA	Not Mapped	NA	No Data	0.63	No Data	Not Read	Not Read
1999	Rested	Rested	--	--	Not Mapped	NA	--	0.50	No Data	Not Read	Not Read
1998	1390	5/1-7/23	AGSP- 35% STTH2- 38%	11/6/98	Not Mapped	NA	1829	1.43	1279	Not Read	Not Read
1997	426	7/14-10/5	AGSP- 21% STTH2- 23%	10/8/97	AGSP- Slight STTH2- Slight	10/8/97	926	1.01	917	Not Read	Not Read
1996	1349	4/1-6/18	No Data	NA	Not Mapped	NA	No Data	1.79	No Data	Not Read	Not Read
1995	134	05/01-07/05	AGSP-0% STTH2- 2%	08/08/95	Not Mapped	NA	3350	2.08	1611	Not Read	Not Read
1994	688	04/07-06/20	AGSP-13% STTH2-13%	10/05/94	Not Mapped	NA	2646	0.70	3780	Not Read	Not Read
1993	652	04/06-06/26	No Data	NA	Not Mapped	NA	No Data	0.93	No Data	Not Read	Not Read
1992	356	04/11-06/10	AGSP-14% STTH2-7%	06/25/92	Not Mapped	NA	1271	0.84	1513	Not Read	Not Read
1991	578	04/11-06/27	AGSP-16% STTH2-25%	07/26/91	AGSP-Light STTH2-Light	07/26/91	1156	0.75	1541	Not Read	Not Read
1990	711	04/02-06/16	AGSP-43% STTH2-31%	06/25/90	Not Mapped	NA	827	0.73	1133	Mid Seral- 48 358 lbs/acre 491 lbs/acre	AGSP- 6.0 STTH2- 16.0 ORHY- 9.0
1989	708	04/01-06/10	AGSP-39% STTH2-43%	11/06/89	AGSP-Mod STTH2-Mod	11/06/89	823	0.67	1228	Not Read	Not Read
1988	355	05/13-06/28	AGSP-16% STTH2-23%	07/14/89	AGSP-Light STTH2-Light	11/23/88	772	0.74	1043	Not Read	Not Read
1987	780	04/10-07/03	AGSP-41% STTH2-52%	11/13/87	AGSP-Mod STTH2-Mod	11/13/87	750	0.72	1042	Not Read	Not Read
1986	No Data	No Data	AGSP-31% STTH2-53%	11/13/86	AGSP-Mod STTH2-Mod	10/86	No Data	0.98	No Data	Late- 51 448 lbs/acre 457 lbs/acr	AGSP-17.5 STTH2-18.5 ORHY- 0.5
AVG	963	--	33%	--	--	--	1378	--	1494	--	--

**LOWER HUBBARD BASIN/DEVILS TABLE, UPPER HUBBARD BASIN, MIDDLE, COLD SPRINGS/COW BASIN PASTURE
KEY AREA HV-02 MATRIX**

Range Site: Originally determined as 25XY019NV Loamy 8-10" (ARTRW/AGSP-STTH2); however, this site is likely in a gradient of a number of different range sites.

Key Species- Indian Ricegrass (ORHY) The key species from 1986 to 1993 were Bluebunch Wheatgrass (AGSP) and Thurber's Needlegrass (STTH2)

Utilization Objective: Do not exceed an average annual use of 50%, or 55% utilization in any one year.

Year	Actual Use AUMs	Period of Use	KA Util (%)	Dates Read	KA Use Pattern Map Results	Dates Mapped	Pre-CAF Capacity (AUMs)	CAF	Post-CAF Capacity (AUMs)	Ecological Site/Prod adj/unadj	Key Species Frequency
2008	Rested	Rested	Not Read	NA	Not Mapped	NA	No Data	0.70	No Data	Not Read	Not Read
2007	2508	4/10-9/15	AGSP-31% STTH2-31%	11/6/07	Not Mapped	NA	4045	0.56	7224	Not Read	Not Read
2006	Rested	Rested	Not Read	NA	Not Mapped	NA	No Data	0.86	No Data	Not Read	Not Read
2005	2795	3/25-10/15	Not Read	NA	Not Mapped	NA	No Data	1.50	No Data	Not Read	Not Read
2004	1741	4/15-7/15	Not Read	NA	Not Mapped	NA	No Data	0.79	No Data	Mid-Seral- 40 2,303 lbs/acre 2,915 lbs/acre	ORHY- 27%
2003	Rested	--	Not Read	NA	Not Mapped	NA	No Data	0.67	No Data	Not Read	Not Read
2002	Rested	Rested	Not Read	NA	Not Mapped	NA	No Data	0.86	No Data	Not Read	Not Read
2001	No Data	No Data	Not Read	NA	Not Mapped	NA	No Data	0.37	No Data	Not Read	Not Read
2000	549	5/10-6/15	Not Read	NA	Not Mapped	NA	No Data	0.63	No Data	Not Read	Not Read
1999	2475	5/10-10/15	Not Read	NA	Not Mapped	NA	No Data	0.50	No Data	Not Read	Not Read
1998	973	4/1-7/22	Not Read	NA	Not Mapped	NA	No Data	1.43	No Data	Not Read	Not Read
1997	1875	4/5-10/20	ORHY-50% STTH2- 50%	10/8/97	AGSP- Mod. STTH2- Mod.	10/8/97	1875	1.01	1856	Not Read	Not Read
1996	495	5/2-7/15	Not Read	NA	Not Mapped	NA	No Data	1.79	No Data	Not Read	Not Read
1995	843	04/01-09/01	Not Read	NA	Not Mapped	NA	NA	2.08	NA	Not Read	Not Read
1994	1242	04/15-11/15	ORHY- 10%	10/05/94	Not Mapped	NA	6210	0.70	8871	Not Read	Not Read
1993	894	Not Read	No Data	NA	Not Mapped	NA	No Data	0.93	No Data	Not Read	Not Read
1992	793	04/06-10/20	AGSP-0% STTH2- 28%	11/04/92	Not Mapped	NA	1652	0.84	1967	Not Read	Not Read
1991	1044	05/03-07/10	AGSP- 13% STTH2- 10%	11/08/91	Not Mapped	NA	4015	0.75	5354	Not Read	Not Read
1990	1237	04/03-10/12	AGSP- 29% STTH2- 38%	10/11/90	AGSP- Light STTH2- Light	10/18/90	1628	0.73	2230	Mid Seral- 31 216 lbs/acre 296 lbs/acre	AGSP- 0 STTH2- 0 ORHY- 16.5
1989	893	04/06-06/15	AGSP- 46% STTH2- 28%	11/06/89	AGSP- Light STTH2- Light	11/06/89	971	0.67	1449	Not Read	Not Read
1988	2151	04/12-10/15	AGSP- 6% STTH2- 26%	04/11/89	AGSP- Slight STTH2- Slight	11/23/88	4137	0.74	5590	Not Read	Not Read
1987	822	04/05-11/10	AGSP- 0% STTH2- 0%	11/20/87	NA	NA	NA	0.72	NA	Not Read	Not Read
1986	No Data	No Data	AGSP- 24% STTH2- 43%	11/14/86	AGSP- Light STTH2- Light	10/86	No Data	0.98	No Data	Mid Seral- 40 205 lbs/acre 251 lbs/acre	AGSP- 0 STTH2- 0 ORHY- 19.0
AVG	1372	--	32%	--	--	--	3067	--	4318	--	--

**LOWER HUBBARD BASIN/DEVILS TABLE, UPPER HUBBARD BASIN, MIDDLE, COLD SPRINGS/COW BASIN PASTURE
KEY AREA HV-03 MATRIX**

Range Site: 25XY014NV Loamy 10-12" (ARTR2/AGSP-STTH2)

Key Species- Bluebunch Wheatgrass (AGSP) Thurber's Needlegrass (STTH2)

Utilization Objective: Do not exceed an average annual use of 50%, or 55% utilization in any one year.

Year	Actual Use AUMs	Period of Use	KA Util (%)	Dates Read	KA Use Pattern Map Results	Dates Mapped	Pre-CAF Capacity (AUMs)	CAF	Post-CAF Capacity (AUMs)	Ecological Site/Prod adj/unadj	Key Species Frequency
2008	Rested	Rested	Not Read	NA	Not Mapped	NA	No Data	0.70	No Data	Not Read	Not Read
2007	2508	4/10-9/15	AGSP-32% STTH2-31%	11/6/07	Not Mapped	NA	3919	0.56	6998	Not Read	Not Read
2006	Rested	Rested	Not Read	NA	Not Mapped	NA	No Data	0.86	No Data	Not Read	Not Read
2005	2795	3/25-10/15	Not Read	NA	Not Mapped	NA	No Data	1.50	No Data	Not Read	Not Read
2004	1741	4/15-7/15	Not Read	NA	Not Mapped	NA	No Data	0.79	No Data	Late Seral- 58 998 lbs/acre 1,263 lbs/acre	AGSP- 32 STTH2- 50
2003	Rested	--	Not Read	NA	Not Mapped	NA	No Data	0.67	No Data	Not Read	Not Read
2002	Rested	Rested	Not Read	NA	Not Mapped	NA	No Data	0.86	No Data	Not Read	Not Read
2001	No Data	No Data	Not Read	NA	Not Mapped	NA	No Data	0.37	No Data	Not Read	Not Read
2000	549	5/10-6/15	Not Read	NA	Not Mapped	NA	No Data	0.63	No Data	Not Read	Not Read
1999	2475	5/10-10/15	Not Read	NA	Not Mapped	NA	No Data	0.50	No Data	Not Read	Not Read
1998	973	4/1-7/22	Not Read	NA	Not Mapped	NA	No Data	1.43	No Data	Not Read	Not Read
1997	1875	4/5-10/20	AGSP- 30% STTH2- 47%	10/8/97	AGSP- Light STTH2- Mod.	10/8/97	1995	1.01	1975	Not Read	Not Read
1996	495	5/2-7/15	Not Read	NA	Not Mapped	NA	No Data	1.79	No Data	Not Read	Not Read
1995	843	04/01-09/01	AGSP-16% STTH2- 35%	08/08/95	Not Mapped	NA	1204	2.08	579	Not Read	Not Read
1994	1242	04/15-11/15	AGSP-16% STTH2- 3%	10/05/94	Not Mapped	NA	3881	0.70	5545	Not Read	Not Read
1993	894	No Data	Not Read	NA	Not Mapped	NA	No Data	0.93	No Data	Not Read	Not Read
1992	793	04/06-10/20	AGSP-22% STTH2- 18%	11/04/92	Not Mapped	NA	1802	0.84	2146	Not Read	Not Read
1991	1044	05/03-07/10	AGSP- 14% STTH2- 14%	11/08/91	Not Mapped	NA	3729	0.75	4971	Not Read	Not Read
1990	1237	04/03-10/12	AGSP- 30% STTH2- 13%	10/11/90	AGSP- Light STTH2- Light	10/18/90	2061	0.73	2824	Late Seral- 58 200 lbs/acre 274 lbs/acre	AGSP-26.0 STTH2- 33.5
1989	893	04/06-06/15	AGSP- 47% STTH2- 51%	11/06/89	AGSP- Light STTH2- Light	11/06/89	875	0.67	1306	Not Read	Not Read
1988	2151	04/12-10/15	AGSP- 5% STTH2- 13%	04/11/89	AGSP- Slight STTH2- Slight	11/23/88	8273	0.74	11,180	Not Read	Not Read
1987	822	04/05-11/10	AGSP- 0% STTH2- 0%	11/20/87	NA	NA	NA	0.72	NA	Not Read	Not Read
1986	No Data	No Data	AGSP- 34% STTH2- 56%	11/14/86	AGSP- Light STTH2- Light	10/86	No Data	0.98	No Data	Mid Seral- 40 606 lbs/acre 618 lbs/acre	AGSP-22.5 STTH2-45.0
AVG	1372	--	32%	--	--	--	3082	--	4169	--	--

RESERVOIR SEEDING PASTURE KEY AREA HV-04 MATRIX										
Range Site: Crested wheatgrass Key Species- Crested wheatgrass (AGCR) Utilization Objective: Do not exceed an average annual use of 55%, or 65% utilization in any one year.										
Year	Actual Use AUMs	Period of Use	KA Util (%)	Dates Read	KA Use Pattern Map Results	Dates Mapped	Pre-CAF Capacity (AUMs)	CAF	Post-CAF Capacity (AUMs)	Ecological Site/Prod adj/unadj
2008	Rested	Rested	Not Read	NA	Not Mapped	NA	NA	0.70	NA	Not Read
2007	250	4/12-5/1	27%	11/6/07	Not Mapped	NA	509	0.56	909	Not Read
2006	104	7/16-8/1	Not Read	NA	Not Mapped	NA	NA	0.86	NA	Not Read
2005	175	6/25-8/15	Not Read	NA	Not Mapped	NA	NA	1.50	NA	Not Read
2004	Rested	Rested	NA	NA	Not Mapped	NA	NA	0.79	NA	87 lbs/acre 110 lbs/acre
2003	319	3/18-4/3	Not Read	NA	Not Mapped	NA	NA	0.67	NA	Not Read
2002	Rested	Rested	NA	NA	Not Mapped	NA	NA	0.86	NA	Not Read
2001	No Data	No Data	Not Read	NA	Not Mapped	NA	NA	0.37	NA	Not Read
2000	Rested	Rested	NA	NA	Not Mapped	NA	NA	0.63	NA	Not Read
1999	401	5/9-7/8	Not Read	NA	Not Mapped	NA	NA	0.50	NA	Not Read
1998	358	4/25-6/15	Not Read	NA	Not Mapped	NA	NA	1.43	NA	Not Read
1997	421	5/5-7/26	Not Read	NA	Not Mapped	NA	NA	1.01	NA	Not Read
1996	Rested	Rested	Not Read	NA	Not Mapped	NA	NA	1.79	NA	Not Read
1995	385	04/25-06/21	Not Read	NA	Not Mapped	NA	NA	2.08	NA	Not Read
1994	Rested	Rested	NA	NA	NA	NA	NA	0.70	NA	Not Read
1993	235	No Data	Not Read	NA	Not Mapped	NA	NA	0.93	NA	Not Read
1992	Rested	Rested	NA	NA	NA	NA	NA	0.84	NA	Not Read
1991	245	05/02-06/21	Not Read	NA	Not Mapped	NA	No Data	0.75	No Data	Not Read
1990	434	04/26-06/28	56%	10/11/90	Not Mapped	10/18/90	426	0.73	584	191 lbs/acre 262 lbs/acre
1989	248	04/17-06/06	14%	11/06/89	AGCR- Light	11/06/89	974	0.67	1454	Not Read
1988	2151	04/29-07/15	58%	11/23/88	AGCR- Mod.	11/23/88	626	0.74	845	Not Read
1987	91	05/14-05/27	15%	11/20/87	AGCR- Light	NA	334	0.72	463	Not Read
1986	No Data	No Data	61%	11/14/86	AGCR- Mod.	10/86	No Data	0.98	No Data	340 lbs/acre 347 lbs/acre
AVG	416	--	39%	--	--	--	574	--	851	--

<p style="text-align: center;">HUBBARD SEEDING PASTURE KEY AREA HV-05 MATRIX</p> <p>Range Site: Crested wheatgrass Key Species- Crested wheatgrass (AGCR) Utilization Objective: Do not exceed an average annual use of 55%, or 65% utilization in any one year.</p>										
Year	Actual Use AUMs	Period of Use	KA Util (%)	Dates Read	KA Use Pattern Map Results	Dates Mapped	Pre-CAF Capacity (AUMs)	CAF	Post-CAF Capacity (AUMs)	Ecological Site/Prod adj/unadj
2008	1945	4/10-12/10	>10%	10/22/2008	AGCR- Slight	12/2008	NA	0.70	NA	Not Read
2007	1018	5/1-12/1	20%	11/6/07	Not Mapped	NA	2800	0.56	5000	Not Read
2006	2911	3/24-7/15	Not Read	NA	Not Mapped	NA	NA	0.86	NA	Not Read
2005	1202	4/8-9/1	Not Read	NA	Not Mapped	NA	NA	1.50	NA	Not Read
2004	Rested	Rested	Not Read	NA	Not Mapped	NA	NA	0.79	NA	307 lbs/acre 389 lbs/acre
2003	1665	No Data	Not Read	NA	Not Mapped	NA	NA	0.67	NA	Not Read
2002	1998	4/15-8/1	Not Read	NA	Not Mapped	NA	NA	0.86	NA	Not Read
2001	No Data	4/10-11/5	Not Read	NA	Not Mapped	NA	NA	0.37	NA	Not Read
2000	955	4/20-6/22	Not Read	NA	Not Mapped	NA	NA	0.63	NA	Not Read
1999	1181	4/20-11/2	Not Read	NA	Not Mapped	NA	NA	0.50	NA	Not Read
1998	2565	4/16-10/3	15	11/6/98	Not Mapped	NA	8550	1.43	5975	Not Read
1997	1416	4/18-6/15	24.5	10/8/97	AGCR- Mod.	10/8/97	2890	1.01	2861	Not Read
1996	2000	No Data	Not Read	NA	Not Mapped	NA	NA	1.79	NA	Not Read
1995	1149	04/05-10/20	Not Read	NA	Not Mapped	NA	NA	2.08	NA	Not Read
1994	1045	04/15-06/20	NA	NA	Not Mapped	NA	NA	0.70	NA	Not Read
1993	269	No Data	NA	NA	Not Mapped	NA	NA	0.93	NA	Not Read
1992	987	04/24-06/20	25%	06/19/92	Not Mapped	NA	2171	0.84	2586	Not Read
1991	Rested	Rested	Not Read	NA	Not Mapped	NA	NA	0.75	NA	Not Read
1990	1192	04/24-07/10	46%	10/11/90	Not Mapped	NA	1425	0.73	1952	244 lbs/acre 334 lbs/acre
1989	1526	04/15-06/17	52%	11/06/89	AGCR- Light	11/06/89	1614	0.67	2409	Not Read
1988	1028	04/20-11/29	37%	11/23/88	AGCR- Light	11/23/88	1528	0.74	2065	Not Read
1987	1685	04/23-06/25	44%	11/13/87	AGCR- Mod.	11/13/87	2106	0.72	2925	Not Read
1986	2393	04/15-06/15 & 09/01-11/31	40%	11/13/86	AGCR- Mod.	10/86	3290	0.98	3357	606 lbs/acre 618 lbs/acre
AVG	1507	--	34%	--	--	--	2930	--	3237	--

MIDDLE PASTURE KEY AREA HV-06 MATRIX									
Range Site: Not Recorded									
Key Species- Bluebunch Wheatgrass (AGSP) Thurber's Needlegrass (STTH2) Indian Ricegrass (ORHY)									
Utilization Objective: Do not exceed an average annual use of 50%, or 55% utilization in any one year.									
Year	Actual Use AUMs	Period of Use	KA Util (%)	Dates Read	KA Use Pattern Map Results	Dates Mapped	Pre-CAF Capacity (AUMs)	CAF	Post-CAF Capacity (AUMs)
2008	841	9/2-11/25	ORHY-46%	10/22/08	Slight	12/2008	914	0.70	1306
2007	Rested	Rested	Not Read	NA	Not Mapped	NA	NA	0.56	NA
2006	1170	4/20-7/15	Not Read	NA	Not Mapped	NA	NA	0.86	NA
2005	865	8/16-11/15	Not Read	NA	Not Mapped	NA	NA	1.50	NA
2004	1352	10/1-11/25	Not Read	NA	Not Mapped	NA	NA	0.79	NA
2003	Rested	Rested	Not Read	NA	Not Mapped	NA	NA	0.67	NA
2002	689	4/5-5/15	ORHY- 24%	10/31/02	Not Mapped	NA	1435	0.86	1669
AVG	983	--	35%	--	--	--	1175	--	1488

MIDDLE PASTURE KEY AREA HV-07 MATRIX									
Range Site: Not Recorded									
Key Species- Bluebunch Wheatgrass (AGSP) Thurber's Needlegrass (STTH2) Indian Ricegrass (ORHY)									
Utilization Objective: Do not exceed an average annual use of 50%, or 55% utilization in any one year.									
Year	Actual Use AUMs	Period of Use	KA Util (%)	Dates Read	KA Use Pattern Map Results	Dates Mapped	Pre-CAF Capacity (AUMs)	CAF	Post-CAF Capacity (AUMs)
2008	841	9/2-11/25	ORHY-26.5%	10/22/08	Slight	12/2008	1587	0.70	2267
2007	Rested	Rested	>10%	11/6/07	Not Mapped	NA	NA	0.56	NA
2006	1170	4/20-7/15	Not Read	NA	Not Mapped	NA	NA	0.86	NA
2005	865	8/16-11/15	Not Read	NA	Not Mapped	NA	NA	1.50	NA
2004	1352	10/1-11/25	Not Read	NA	Not Mapped	NA	NA	0.79	NA
2003	Rested	Rested	Not Read	NA	Not Mapped	NA	NA	0.67	NA
2002	689	4/5-5/15	ORHY- 25% AGSP- 33%	10/31/02	Not Mapped	NA	1044	0.86	1214
AVG	987	--	29.8%	--	--	--	1316	--	1741

TRIANGLE PASTURE KEY AREA HV-08 MATRIX									
Range Site: Not Recorded Key Species- Bluebunch Wheatgrass (AGSP) Utilization Objective: Do not exceed an average annual use of 50%, or 55% utilization in any one year.									
Year	Actual Use AUMs	Period of Use	KA Util (%)	Dates Read	KA Use Pattern Map Results	Dates Mapped	Pre-CAF Capacity (AUMs)	CAF	Post-CAF Capacity (AUMs)
2008	171	6/11-7/1	35%	12/8/08	Slight	12/2008	244	0.70	349
2007	Rested	Rested	Not Read	NA	Not Mapped	NA	NA	0.56	NA
2006	518	5/21-9/10	Not Read	NA	Not Mapped	NA	NA	0.86	NA
2005	56	5/1-6/30	Not Read	NA	Not Mapped	NA	NA	1.50	NA
2004	284	5/10-7/14	Not Read	NA	Not Mapped	NA	NA	0.79	NA
2003	Rested	Rested	Not Read	NA	Not Mapped	NA	NA	0.67	NA
2002	583	5/16-6/15	AGSP- 57%	10/31/02	Not Mapped	NA	511	0.86	595
AVG	322	--	46%	--	--	--	377	--	472

DRY CREEK SEEDING PASTURE MATRIX							
Utilization objective level- Do not exceed an average annual of 55%, or 65% utilization in any one year.							
Year	Actual Use AUMs	Periods of Use	UPM	Dates Mapped	Pre-CAF	CAF	Post CAF
2008	171	6/11-7/1	Slight	12/2008	855	0.70	1221
2007	293	4/11-5/14	Not Read	NA	NA	0.56	NA
2006	60	5/8-5/20	Not Read	NA	NA	0.86	NA
2005	269	5/1-6/30	Not Read	NA	NA	1.50	NA
2004	823	8/16-10/10	Not Read	NA	NA	0.79	NA
2003	349	5/1-7/15	Not Read	NA	NA	0.67	NA
2002	230	4/20-6/1	Not Read	NA	NA	0.86	NA
2001	No Data	No Data	Not Read	NA	NA	0.37	NA
2000	133	6/15-6/23	Not Read	NA	NA	0.63	NA
1999	412	5/9-10/6	Not Read	NA	NA	0.50	NA
1998	Rested	Rested	Not Read	NA	NA	1.43	NA
1997	143	4/25-9/8	Slight (10%)	10/8/97	715	1.01	708
1996	321	5/3-6/25	Not Read	NA	NA	1.79	NA
1995	Rested	Rested	Not Read	NA	NA	2.08	NA
1994	263	05/01-06/10	Not Read	NA	NA	0.70	NA
1993	387	04/28-11/25	Not Read	NA	NA	0.93	NA
1992	118	05/01-09/15	Not Read	NA	NA	0.84	NA
1991	No Data		Not Read	NA	NA	0.75	NA
1990	662	05/10-12/10	Moderate (50%)	10/18/90	728	0.73	997
1989	No Data		Not Read	NA	NA	0.67	NA
1988	No Data		Heavy (70%)	11/23/88	NA	0.74	NA
1987	759	06/06-06/25	Moderate (50%)	11/13/87	835	0.72	1160
1986	532	06/01-06/30 10/01-11/15	Moderate (50%)	10/86	585	0.98	597
--	349	--	--	--	745	--	937

**MOUNTAIN PASTURE
MATRIX**

Utilization objective level- Do not exceed an average annual of 50%, or 55% utilization in any one year.

Year	Actual Use AUMs	Periods of Use	UPM	Dates Mapped	Pre-CAF AUMs	CAF	Post CAF AUMs
2008	1395	7/2-9/15	Slight (10%)	12/2008	6975	0.70	9964
2007	Rested	Rested	Not Mapped	NA	NA	0.56	NA
2006	1276	7/16-11/15	Not Mapped	NA	NA	0.86	NA
2005	1017	7/1-11/1	Not Mapped	NA	NA	1.50	NA
2004*	113	6/25-9/10	Not Mapped	NA	NA	0.79	NA
2003*	1108	5/23-7/20	Not Mapped	NA	NA	0.67	NA
2002*	752	6/15-7/25	Not Mapped	NA	NA	0.86	NA
2001	No Data	No Data	Not Mapped	NA	NA	0.37	NA
2000	1800	6/28-10/10	Not Mapped	NA	NA	0.63	NA
1999	535	7/18-10/25	Not Mapped	NA	NA	0.50	NA
1998	2121	6/28-11/10	Not Mapped	NA	NA	1.43	NA
1997	1736	6/2-10/15	Not Mapped	NA	NA	1.01	NA
1996	3751	6/1-12/1	Not Mapped	NA	NA	1.79	NA
1995	1960	07/01-10/15	Not Mapped	NA	NA	2.08	NA
1994	2111	No Data	Not Mapped	NA	NA	0.70	NA
1993	2800	No Data	Not Mapped	NA	NA	0.93	NA
1992	1995	No Data	Not Mapped	NA	NA	0.84	NA
1991	2457	No Data	Not Mapped	NA	NA	0.75	NA
1990	3385	06/01-11/25	Slight (10%)	10/18/90	16,925	0.73	23,185
1989	2646	06/11-11/10	Slight (10%)	11/06/89	13,230	0.67	19,746
1988	2438	No Data	Not Mapped	NA	NA	0.74	NA
1987	3050	05/08-11/15	Slight (10%)	11/13/87	15,250	0.72	21,181
1986	NA	NA	Slight (10%)	10/86	NA	0.98	NA
--	1922	--	--	--	13095	--	18519

* The Mountain Pasture has been divided into Dry Creek Mountain, Jakes Creek Mountain, and Triangle Pastures. This table shows the three pastures as reported together through 2001; data after 2002 shows only Dry Creek and Jakes Creek Mountain pastures. Data for Triangle is displayed in Key Area HV-08.

Appendix 1
Continued

COON CREEK MATRIX			BULL CAMP MATRIX		SHOER FIELD MATRIX		PUREBRED MATRIX	
Year	Actual Use AUMs	Periods of Use	Actual Use AUMs	Periods of Use	Actual Use AUMs	Periods of Use	Actual Use AUMs	Periods of Use
2008	Rested	Rested	Rested	Rested	251	9/10-10/20	138	6/15-8/10
2007	379	5/15-6/14	942	6/15-8/30	141	5/10-6/1	122	4/20-5/9
2006	Rested	Rested	605	9/16-11/20	225	8/1-9/1	122	5/8-5/24
2005	612	6/1-9/10	Rested	Rested	Rested	Rested	Rested	Rested
2004	Rested	Rested	1851	7/16-10/26	326	6/1-7/15	47	8/15-9/15
2003	287*	6/25-8/10	Rested	Rested	367*	6/15-9/1**	367*	6/15-9/1**
2002	326	6/2-8/1	Rested	Rested	325	7/1-7/25	195	8/8-8/22
2001	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
2000	Rested	Rested	610	6/15-9/8	206	7/25-8/20	Rested	Rested
1999	420	6/22-8/23	1039	6/25-9/14	Rested	Rested	8	6/5-7/8
1998	Rested	Rested	1297	6/15-9/8	196	7/18-8/5	116	6/13-6/22
1997	Rested	Rested	1347	6/15-9/23	341	6/15-7/23	177	7/23-8/5
1996	449	6/25-9/5	1377	6/6-9/20	294	7/15-8/15	284	6/15-7/15
1995	379	06/21-08/25	957	06/20-09/10	87	06/06-10/20	Rested	Rested
1994	591	06/11-09/10	1075	05/20-10/25	No Data	No Data	150	05/01-05/16
1993	No Data	No Data	1288	06/14-09/06	No Data	No Data	No Data	No Data
1992	325	06/21-08/15	1277	06/15-09/01	No Data	No Data	129	04/25-06/10
1991	481	06/22-09/25	1510	06/04-09/25	482	06/11-08/25	No Data	No Data
1990	261	06/08-07/01	1548	05/15-10/25	No Data	No Data	54	05/01-07/05
1989	541	No Data	1342	06/18-11/25	No Data	No Data	No Data	No Data
1988	389	07/07-09/25	1395	06/10-11/08	220	05/23-07/07	No Data	No Data
1987	575	06/26-10/10	1333	06/26-09/20	No Data	No Data	No Data	No Data
1986	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
--	419	--	1283	--	284	--	153	--

* Actual use not available; based on billed AUMs

**Limited to 30 days of use within these dates in each field

Summary of Use Pattern Maps by Utilization Category

DRY CREEK SEEDING PASTURE							
Year	None 0%	Slight 1%-20%	Light 21%-40%	Moderate 41%-60%	Heavy 61%-80%	Severe 81%-100%	Total
2008		91%	9%	0%	0%	0%	100%
2007	NA	NA	NA	NA	NA	NA	NA
2006	NA	NA	NA	NA	NA	NA	NA
2005	NA	NA	NA	NA	NA	NA	NA
2004	NA	NA	NA	NA	NA	NA	NA
2003	NA	NA	NA	NA	NA	NA	NA
2002	NA	NA	NA	NA	NA	NA	NA
2001	NA	NA	NA	NA	NA	NA	NA
2000	NA	NA	NA	NA	NA	NA	NA
1999	NA	NA	NA	NA	NA	NA	NA
1998	NA	NA	NA	NA	NA	NA	NA
1997	NA	90%	2%	8%	NA	NA	100%
1996	NA	NA	NA	NA	NA	NA	NA
1995	NA	NA	NA	NA	NA	NA	NA
1994	NA	NA	NA	NA	NA	NA	NA
1993	NA	NA	NA	NA	NA	NA	NA
1992	NA	NA	NA	NA	NA	NA	NA
1991	NA	NA	NA	NA	NA	NA	NA
1990	0%	0%	0%	97%	3%	0%	100%
1989	NA	NA	NA	NA	NA	NA	NA
1988	0%	0%	0%	40%	60%	0%	100%
1987	0%	0%	20%	60%	20%	0%	100%
1986	0%	0%	15%	75%	10%	0%	100%

FLAT PASTURE							
Year	None 0%	Slight 1%-20%	Light 21%-40%	Moderate 41%-60%	Heavy 61%-80%	Severe 81%-100%	Total
2008		42%	50%	8%	0%	0%	100%
2007	NA	NA	NA	NA	NA	NA	NA
2006	NA	NA	NA	NA	NA	NA	NA
2005	NA	NA	NA	NA	NA	NA	NA
2004	NA	NA	NA	NA	NA	NA	NA
2003	NA	NA	NA	NA	NA	NA	NA
2002	NA	NA	NA	NA	NA	NA	NA
2001	NA	NA	NA	NA	NA	NA	NA
2000	NA	NA	NA	NA	NA	NA	NA
1999	NA	NA	NA	NA	NA	NA	NA
1998	NA	NA	NA	NA	NA	NA	NA
1997	NA	95%	5%	NA	NA	NA	100%
1996	NA	NA	NA	NA	NA	NA	NA
1995	NA	NA	NA	NA	NA	NA	NA
1994	NA	NA	NA	NA	NA	NA	NA
1993	NA	NA	NA	NA	NA	NA	NA
1992	NA	NA	NA	NA	NA	NA	NA
1991	0%	2%	91%	5%	2%	0%	100%
1990	NA	NA	NA	NA	NA	NA	NA
1989	0%	65%	15%	20%	0%	0%	100%
1988	0%	5%	90%	5%	0%	0%	100%
1987	0%	10%	75%	15%	0%	0%	100%
1986	0%	0%	35%	50%	15%	0%	100%

RESERVIOR SEEDING PASTURE							
Year	None 0%	Slight 1%-20%	Light 21%-40%	Moderate 41%-60%	Heavy 61%-80%	Severe 81%-100%	Total
2008	NA	NA	NA	NA	NA	NA	NA
2007	NA	NA	NA	NA	NA	NA	NA
2006	NA	NA	NA	NA	NA	NA	NA
2005	NA	NA	NA	NA	NA	NA	NA
2004	NA	NA	NA	NA	NA	NA	NA
2003	NA	NA	NA	NA	NA	NA	NA
2002	NA	NA	NA	NA	NA	NA	NA
2001	NA	NA	NA	NA	NA	NA	NA
2000	NA	NA	NA	NA	NA	NA	NA
1999	NA	NA	NA	NA	NA	NA	NA
1998	NA	NA	NA	NA	NA	NA	NA
1997	NA	NA	NA	NA	NA	NA	NA
1996	NA	NA	NA	NA	NA	NA	NA
1995	NA	NA	NA	NA	NA	NA	NA
1994	NA	NA	NA	NA	NA	NA	NA
1993	NA	NA	NA	NA	NA	NA	NA
1992	NA	NA	NA	NA	NA	NA	NA
1991	NA	NA	NA	NA	NA	NA	NA
1990	NA	NA	NA	NA	NA	NA	NA
1989	0%	70%	15%	15%	0%	0%	100%
1988	0%	0%	0%	60%	40%	0%	100%
1987	0%	0%	60%	15%	25%	0%	100%
1986	0%	0%	0%	25%	75%	0%	100%

HUBBARD SEEDING PASTURE (EAST AND WEST)							
Year	None 0%	Slight 1%-20%	Light 21%-40%	Moderate 41%-60%	Heavy 61%-80%	Severe 81%-100%	Total
2008		80%	20%	0%	0%	0%	100%
2007	NA	NA	NA	NA	NA	NA	NA
2006	NA	NA	NA	NA	NA	NA	NA
2005	NA	NA	NA	NA	NA	NA	NA
2004	NA	NA	NA	NA	NA	NA	NA
2003	NA	NA	NA	NA	NA	NA	NA
2002	NA	NA	NA	NA	NA	NA	NA
2001	NA	NA	NA	NA	NA	NA	NA
2000	NA	NA	NA	NA	NA	NA	NA
1999	NA	NA	NA	NA	NA	NA	NA
1998	NA	NA	NA	NA	NA	NA	NA
1997	NA	NA	NA	100%*	NA	NA	100%*
1996	NA	NA	NA	NA	NA	NA	NA
1995	NA	NA	NA	NA	NA	NA	NA
1994	NA	NA	NA	NA	NA	NA	NA
1993	NA	NA	NA	NA	NA	NA	NA
1992	NA	NA	NA	NA	NA	NA	NA
1991	NA	NA	NA	NA	NA	NA	NA
1990	NA	NA	NA	NA	NA	NA	NA
1989	0%	45%	20%	34%	0%	1%	100%
1988	0%	0%	85%	5%	10%	0%	100%
1987	0%	10%	20%	25%	45%	0%	100%
1986	0%	0%	30%	30%	40%	0%	100%

*East Hubbard Seeding only (West Hubbard not mapped).

MOUNTAIN PASTURE							
Year	None 0%	Slight 1%-20%	Light 21%-40%	Moderate 41%-60%	Heavy 61%-80%	Severe 81%-100%	Total
2008		93%**	5%**	0%	2%**	0%	100%
2007	NA	NA	NA	NA	NA	NA	NA
2006	NA	NA	NA	NA	NA	NA	NA
2005	NA	NA	NA	NA	NA	NA	NA
2004	NA	NA	NA	NA	NA	NA	NA
2003	NA	NA	NA	NA	NA	NA	NA
2002	NA	NA	NA	NA	NA	NA	NA
2001	NA	NA	NA	NA	NA	NA	NA
2000	NA	NA	NA	NA	NA	NA	NA
1999	NA	NA	NA	NA	NA	NA	NA
1998	NA	NA	NA	NA	NA	NA	NA
1997	NA	97%*	3%*	NA	NA	NA	100%*
1996	NA	NA	NA	NA	NA	NA	NA
1995	NA	NA	NA	NA	NA	NA	NA
1994	NA	NA	NA	NA	NA	NA	NA
1993	NA	NA	NA	NA	NA	NA	NA
1992	NA	NA	NA	NA	NA	NA	NA
1991	NA	NA	NA	NA	NA	NA	NA
1990	0%	93%	1%	5%	<1%	0%	100%
1989	0%	96%	0%	3%	0%	<1%	100%
1988	0%	NA	NA	NA	NA	NA	NA
1987	0%	100%	0%	0%	0%	0%	100%
1986	0%	95%	5%	0%	0%	0%	100%

*Bull Camp Mountain Pasture only

**Jakes Creek Mountain Pasture only

LOWER HUBBARD BASIN/DEVILS TABLE, UPPER HUBBARD BASIN, MIDDLE, COLD SPRINGS/COW BASIN PASTURES							
Year	None 0%	Slight 1%-20%	Light 21%-40%	Moderate 41%-60%	Heavy 61%-80%	Severe 81%-100%	Total
2008	NA	NA	NA	NA	NA	NA	NA
2007	NA	NA	NA	NA	NA	NA	NA
2006	NA	NA	NA	NA	NA	NA	NA
2005	NA	NA	NA	NA	NA	NA	NA
2004	NA	NA	NA	NA	NA	NA	NA
2003	NA	NA	NA	NA	NA	NA	NA
2002	NA	NA	NA	NA	NA	NA	NA
2001	NA	NA	NA	NA	NA	NA	NA
2000	NA	NA	NA	NA	NA	NA	NA
1999	NA	NA	NA	NA	NA	NA	NA
1998	NA	NA	NA	NA	NA	NA	NA
1997	NA	NA	NA	NA	NA	NA	NA
1996	NA	NA	NA	NA	NA	NA	NA
1995	NA	NA	NA	NA	NA	NA	NA
1994	NA	NA	NA	NA	NA	NA	NA
1993	NA	NA	NA	NA	NA	NA	NA
1992	NA	NA	NA	NA	NA	NA	NA
1991	NA	NA	NA	NA	NA	NA	NA
1990	0%	35%	62%	2%	1%	0%	100%
1989	0%	44%	51%	3%	2%	0%	100%
1988	0%	83%	15%	1%	1%	0%	100%
1987	0%	NA	NA	NA	NA	NA	NA
1986	0%	40%	30%	25%	5%	0%	100%

Hubbard/Vineyard Allotment
Stream Survey Data for Public Lands Stream Segments

Station	Year	Pool/Riffle % Optimum	Pool Quality	Bottom Material % Optimum	Bank Cover	Bank Stability	Riparian Condition	Habitat Condition
Dry Creek								
1	1980	44	0	94	69	25	47	47
1	1990	-	Dry	-	50	25	38	-
1	2001	0	0	0	50	63	56	23
1	2006	0	0	100	38	35	37	35
3	1980	10	0	85	50	38	44	37
3	1990	2	0	69	38	31	34	30
3	2001	18	0	85	50	68	59	44
3	2006	26	0	93	38	38	38	39
All (1-5)	2001	26	4	79	55	65	60	46
All (1-3)	2006	20	0	94	38	36	37	38
Bull Camp Creek								
1	1980	93	0	75	50	66	58	57
1	1990	-	Dry	-	25	50	38	-
1	2001	0	Dry	0	35	38	36	15
1	2006	20	Dry	0	40	48	44	0
2	1980	33	0	97	50	63	56	49
2	1990	-	Dry	-	25	25	25	-
2	2001	0	Dry	0	25	35	30	12
2	2006		Dry	0	25	32	29	0
3	1980	63	0	84	53	69	61	54
3	1990	-	Dry	-	25	25	25	-
3	2001	0	Dry	0	25	55	40	16
3	2006	0	Dry	0	25	29	27	11
4	1980	26	0	90	75	88	81	56
4	1990	-	Dry	-	25	50	38	-
4	2001	0	Dry	0	25	55	40	16
4	2006	42	0	76	28	38	33	37
5	1980	17	0	81	53	63	58	43
5	1990	-	Dry	-	50	38	44	-
5	2001	0	Dry	0	25	55	40	16
5	2006	0	0	90	38	31	34	32
9	1980	97	0	97	75	44	59	63
9	1990	32	0	39	50	44	47	33
9	2001	34	0	81	58	55	56	45
9	2006	54	39	87	63	70	67	62
10	1980	88	0	96	88	63	75	67
10	1990	6	3	44	69	38	53	32
10	2001	92	0	51	68	43	55	51
10	2006	84	84	87	73	83	78	82
11	1980	73	0	69	97	66	81	61
11	1990	-	Dry	-	75	25	50	-
11	2001	51	0	51	68	43	55	51
11	2006	4	0	98	88	85	86	55

Hubbard/Vineyard Allotment
Stream Survey Data for Public Lands Stream Segments
(Continued)

Station	Year	Pool/Riffle % Optimum	Pool Quality	Bottom Material % Optimum	Bank Cover	Bank Stability	Riparian Condition	Habitat Condition
12	1980	100	0	64	88	75	81	65
12	1990	-	Dry	-	50	25	38	-
12	2001	40	0	68	63	60	61	46
12	2006	0	0	81	65	78	71	45
B1	1980	63	0	100	50	50	50	53
B1	1990	-	Dry	-	50	25	38	-
B1	2001	0	Dry	0	53	53	53	21
All (1-B1)	2001	70	0	67	48	50	49	47
All (1-12)	2006	50	32	85	48	54	51	54
Salmon Falls Creek								
22	1979	89	0	21	50	44	47	40
22	1988	84	5	15	60	63	62	45
22								
23	1979	82	34	47	34	44	39	48
23	1988	60	0	15	34	50	42	32
23								
Jakes Creek								
1	1980	69	0	57	56	25	41	42
1	1990	35	19	20	25	31	28	25
1	2001	54	0	27	50	75	63	41
1	2006	0	0	90	38	45	41	34
2	1980	2	0	60	75	25	50	32
2	1990	89	53	40	25	25	25	46
2	2001	82	22	32	40	55	48	46
2	2006	78	0	80	33	33	33	45
3	1980	12	0	77	41	25	33	31
3	1990	56	0	28	56	72	64	42
3	2001	52	0	26	55	95	75	46
3	2006	0	0	100	48	48	48	39
4	1980	2	0	90	81	56	69	46
4	1990	80	0	80	75	50	63	57
4	2001	0	0	0	53	53	53	21
4	2006	46	46	72	50	50	50	53
5	1980	2	0	94	69	44	56	42
5	1990	89	0	58	31	44	38	44
5	2001	82	0	61	50	70	60	53
5	2006	0	0	97	36	40	38	34
6	1980	2	0	71	97	97	97	53
6	1990	71	0	35	69	69	69	49
6	2001	0	0	0	100	70	85	34
6	2006	90	50	43	98	100	99	76
7	1980	50	50	100	100	100	100	80
7	1990	45	0	60	81	75	78	52
7	2001	38	0	41	95	63	79	47
7	2006	0	0	90	85	90	88	53
8	1980	35	35	88	100	100	100	65

**Hubbard/Vineyard Allotment
Stream Survey Data for Public Lands Stream Segments
(Continued)**

Station	Year	Pool/Riffle % Optimum	Pool Quality	Bottom Material % Optimum	Bank Cover	Bank Stability	Riparian Condition	Habitat Condition
8	1990	49	0	76	78	69	74	54
8	2001	34	0	55	100	63	81	50
8	2006	44	0	89	98	98	98	66
A1	1980	33	0	83	50	34	42	40
A1	1990	100	0	23	44	50	47	43
A1	2001	14	0	47	50	90	70	40
A1	2006	76	0	91	55	55	55	55
A2	1980	13	0	94	47	28	38	36
A2	1990	-	Dry	-	75	50	63	-
A2	2001	44	22	46	53	40	46	41
A2	2006	0	0	91	38	30	34	32
A4	1980	79	47	55	94	88	91	72
A4	1990	-	Dry	-	100	75	88	-
A4	2001	6	0	80	85	83	84	51
A4	2006	76	36	86	80	100	90	76
A5	1980	55	45	61	100	100	100	72
A5	1990	62	27	19	50	38	44	39
A5	2001	12	0	28	70	75	73	37
A5	2006	86	32	79	61	64	63	64
Total All	2001	32	6	38	61	61	61	46
Total All	2006	66	17	81	59	63	61	57

Hubbard/Vineyard Photo Analysis

The first Proper Functioning Condition (PFC) assessment was completed on the streams in the Hubbard/Vineyard Allotment in 2006. This table was prepared comparing stream survey photographs at each stream survey station for the years 1980, 1990, 2001, and 2006. As a consequence, the data for 2006 may differ somewhat from the PFC data collected by the PFC team for the entire stream length. Stream survey photos are taken upstream, downstream, and cross channel at the stream survey site location, and sometimes a broader view photo is also available. Data for 2006 reflects impacts of a very high stream flow year, which is evident in stream channel conditions. Data for lower Bull Camp Creek below station S9 reflect impacts of irrigation of private lands. The attached map (Map 9) uses the data from this table.

PFC Rating

NF = Non-functional condition
 FAR = Functional at risk, trend not evident
 FARU= Functional at risk, upward trend
 FARD= Functional at risk, downward trend
 PFC= Proper functioning condition

Habitat Condition Rating

PR= Poor condition (Stream survey)
 FR= Fair condition (Stream survey)
 GD= Good Condition (Stream Survey)
 EX= Excellent

Jakes Creek and Middle Fork Stream Survey Stations

Year	01	02	03	04	05	06	07	08	09
1980	NF-PR	NF-PR	FAR-PR	NF-PR	FAR-FR	PFC-GD	FAR-FR	PFC-GD	FAR-PR
1990	FAR-PR	NF-PR	PFC-FR	FAR-FR	FAR-FR		FAR-FR	NF-PR	FAR-PR
2001	PFC-GD	FAR-FR	PFC-EX	PFC-GD	PFC-GD	FAR-FR	FAR-FR	FAR-FR	FAR-PR
2006	FAR-FR	NF-PR	PFC-GD	PFC-GD	FAR-FR	PFC-GD	PFC-GD	PFC-GD	FARU-GD

South Fork Jakes Creek

Year	A1	A2	A3	A4	A5	A6	A7
1980	FAR-GD	FAR-FR	NF-PR	FAR-FR	FAR-FR	PFC-GD	FAR-FR
1990	PFC-FR	NF-PR	NF-PR		NF-PR	FAR-FR	FAR-FR
2001	PFC-GD	FAR-FR	FAR-FR	PFC-GD	FAR-FR	PFC-GD	FAR-GD
2006	FAR-FR	FARU-FR	FARU-FR	PFC-GD	PFC-GD	PFC-GD	PFC-GD

North Fork Jakes Creek

Year	B1	B2	B3
1980	FAR-FR		
1990	FAR-FR	FAR-FR	FAR-FR
2001	PFC-GD	PFC-GD	PFC-GD
2006	PFC-GD	PFC-GD	

Dry Creek

Year	01	02	03	04	05
1980	NF-PR	NF-PR	NF-PR		
1990	NF-PR	NF-PR	FAR-PR	NF-PR	NF-PR
2001	NF-FR	NF-PR	FAR-PR	FAR-FR	FAR-FR
2006	FAR-FR		NF-PR		

Bull Camp Creek

Year	01	02	03	04	05	06	07	08
1980	NF-PR	NF-PR	FAR-PR	FAR-PR	FAR-FR	FAR-FR	PFC-GD	FAR-FR
1990	NF-PR	NF-PR	NF-PR	NF-PR	NF-PR	NF-PR	NF-PR	FAR-FR
2001	NF-PR	NF-PR	NF-PR	NF-PR	NF-PR	NF-PR	FAR-FR	NF-PR
2006	NF-PR	NF-PR	NF-PR	NF-PR	FAR-PR			

Bull Camp Creek

Year	09	10	11	12	A1	B1
1980	NF-PR	No Pictures	NF-PR	FAR-FR	FAR-PR	FAR-PR
1990	NF-PR	NF-PR		FAR-PR	NF-PR	
2001	NF-PR	NF-PR	FAR-FR	FAR-PR	FAR-FR	NF-PR
2006	FARU-PR	FARU-FR	FARU-FR	FARU-GD		

Hubbard/Vineyard Photo Analysis Narrative

Stream survey has been completed on Jakes Creek, North and South Fork Jakes Creek, Dry Creek, and Bull Camp Creek within the Hubbard/Vineyard Allotment in 1980, 1990, 2001, and 2006. Data was collected at permanent stream survey locations established in 1980, and have generally been near these sites on resurveys. The data shows a variable trend over the decades because of changes in environmental and land use practices. Data established in 1980 established a baseline for the modern stream survey techniques still used by BLM, although slightly modified. The modified techniques still provide similar data analysis results.

Major stream flow events in 1983 and 1984 caused a decline on the streams within the Hubbard/Vineyard Allotment because of downcutting, scouring, deposition, and modification of stream channel characteristics. In 1990, the streams were still recovering from these floods and the impacts of drought. During the 1990 stream survey 41% (14 of 34) stream survey sites were dry. Bull Camp Creek had the lower seven stations dry, while Dry Creek had the lower two stations dry, and the South Fork Jakes Creek had all three stations dry. The number of stations that were downcut into gullies doubled between 1980 and 1990 from 3 to 6. Riparian and stream habitat conditions were good in 1980, but declined to poor and fair by 1990. Analysis of the stream survey photo from each station indicated that 4 were in proper functioning condition (PFC) in 1980, only two of the 34 stations were PFC. A total of 11 stations were non-functional (NF) in 1980 and in 1990 18 were NF. The balance were functional-at-risk (FAR).

Between 1990 and 2001, the streams improved in riparian and stream habitat conditions, but not back to the 1980 level in most cases. Most stream habitat and riparian conditions were back to fair and low good by 2001 and the number of PFC stations increased from 2 to 10 by 2001. The NF stations declined to 11 from 18 in 1990, and most of those were on Bull Camp Creek (9 of 11).

Between 2001 and 2006 we observed a mixed picture on the stream survey station sites, with conditions on lower stations down from 2001. Conditions on higher elevation sites on the mountain were generally up. Dry Creek showed the poorest conditions with riparian and stream habitat conditions poor, while Jakes Creek was fair to good and Bull Camp Creek was fair. Ten stations were rated PFC in 2001, compared to 11 in 2006. The number of stations rated as NF did not change between 2001 and 2006. Again, most of the NF stations were on lower Bull Camp Creek where the stations were dry. Since the Hubbard/Vineyard Ranch initiated holistic management about 2001, we have observed a general improvement of stream conditions at the higher elevations on the mountain pastures, but lower elevations still remain poor to fair. We will probably need at least another 5 years to demonstrate definitive progress in meeting objectives related to proper functioning condition, riparian condition, and stream habitat condition.

Appendix 4
Compilation of Monitoring Data Results

Pasture	Key Areas	Sage Grouse	Lotic PFC	Lentic PFC	Mule Deer Habitat	Antelope Habitat	Elk Habitat	Big Horn Habitat
Flat	HV-01/ HV-SG-01/ HV-SG-02	Nesting/Winter	Bull Camp Creek- NF at 4 stations	PFC-1	Intermediate/ Habitat Rating Fair at HV-01, Good at other two key areas	Crucial Winter/Summer Habitat Rating Good		
Middle	HV-06/HV-07/HV-10	Nesting/Winter	Jakes Creek- FARD-5 stations/FARU-2 stations/FARN-1 station	PFC-4/FARU-2	Summer/Intermediate	Summer	Occupied	
Triangle	HV-08	Nesting/Winter		NF-1	Summer	Summer	Occupied	Potential
Dry Creek Seeding		Nesting/Winter			Intermediate	Summer	Occupied	
Coon Creek		Nesting/Winter		FARD-2/NF-2	Summer	Summer	Occupied	Potential
Reservoir Seeding	HV-04	Winter			Intermediate	Crucial Winter/Summer		
West Hubbard Seeding		Nesting/Winter			Intermediate	Summer		
East Hubbard Seeding	HV-05	Winter			Intermediate	Crucial Winter/Summer		
Bull Camp Mountain		Winter	Bull Camp Creek- PFC- 4 stations	PFC-3	Summer	Summer	Occupied	Potential

Appendix 4
Continued

Dry Creek Mountain			Dry Creek-FARN- 2 stations	PFC-2/FARN-2-FARD-1	Summer	Summer	Occupied	Potential
Jakes Creek Mountain	HV-09	Winter	Jakes Creek-PFC- 6 stations/FARU-2 stations	PFC-8/FARN-2	Summer	Summer	Occupied	Potential
Cold Springs		Winter		PFC-5/FARU-1/FARD-3/NF-9	Summer	Summer	Occupied	Occupied
Hubbard Basin	HV-02/HV-03	Nesting/Winter			Crucial Winter/Summer/Habitat Rating Fair	Summer/Habitat Rating Good	Occupied	Occupied
Devil's Table	AW-1-T-02	Nesting/Winter			Crucial Winter/Habitat Rating Fair	Crucial Winter/Summer/Habitat Rating Fair		Occupied
Purebred		Nesting/Winter			Intermediate	Summer		
Shoer		Nesting/Winter			Summer/Intermediate/Yearlong	Summer	Occupied	

See Appendix 1 for livestock seasons of use for each pasture.

Appendix 5
2005-2007 Boies Ranches Inc. Bird Survey Information

	2005	2006	2007	Number of Years Seen
Willet	X			1
Spotted Sandpiper	X	X		2
Common Snipe	X	X	X	3
Wilson's Phalarope	X	X	X	3
American Avocet		X	X	2
Gulls and Terns				
Unidentified gull		X		1
Ring-Billed Gull		X		1
Black Tern			X	1
Pigeons and Doves				
Rock Pigeon	X	X	X	3
Mourning Dove	X	X	X	3
Owls				
Burrowing Owl		X	X	2
Great-horned Owl			X	1
Goatsuckers				
Common Nighthawk			X	1
Kingfishers				
Belted Kingfisher			X	1
Hummingbirds				
Broad-Tailed Hummingbird	X	X		2
Black-Chinned Hummingbird		X		1
Woodpeckers				
Northern Flicker	X	X	X	3
Red-naped Sapsucker			X	1
Flycatchers				
Western Wood-Pewee	X	X	X	3
Empidonax Flycatcher group	X			1
Willow Flycatcher		X	X	2
Dusky Flycatcher			X	1
Say's Phoebe			X	1
Western Kingbird	X	X	X	3
Shrikes				
Loggerhead Shrike	X	X	X	3
Vireos				
Warbling Vireo	X	X	X	3
Jays and Crows				
Black-billed Magpie	X	X	X	3

	2005	2006	2007	Number of Years Seen
Waterfowl				
Canada Goose	X	X	X	3
Gadwall	X	X	X	3
Mallard	X	X	X	3
Cinnamon Teal	X	X	X	3
Green-winged Teal		X	X	2
Northern Shoveler	X	X	X	3
Northern Pintail	X	X	X	3
Ring-necked Duck	X	X		2
Common Merganser	X	X	X	3
Ruddy Duck	X	X		2
Canvasback		X		1
Lesser Scaup		X		1
Upland Game Birds				
Greater Sage-Grouse	X			1
Loons and Grebes				
Common Loon	X			1
Pied-Billed Grebe			X	1
Eared Grebe	X	X		2
Clark's Grebe	X		X	2
Pelicans				
American White Pelican		X		1
Hérons and Vultures				
Great-blue Heron	X		X	2
Black-crowned Night Heron			X	1
White-Faced Ibis		X		1
Turkey Vulture	X	X	X	3
Raptors				
Northern Harrier	X	X	X	3
Northern Goshawk			X	1
Red-tailed Hawk	X	X	X	3
Golden Eagle	X	X	X	3
American Kestrel	X	X	X	3
Osprey		X		1
Prairie Falcon		X		1
Cranes, Coots and Cranes				
Sora	X			1
American Coot	X	X	X	3
Sandhill Crane	X	X	X	3
Shorebirds				
Sempalmated Plover		X		1
Killdeer	X	X	X	3

	2005	2006	2007	Number of Years Seen
American Crow		X	X	2
Common Raven	X	X	X	3
Larks				
Horned Lark	X	X	X	3
Swallows				
Bank Swallow		X		1
Cliff Swallow	X	X	X	3
Barn Swallow	X	X		2
Tree Swallow		X	X	2
Violet-Green Swallow		X	X	2
Northern Rough-winged Swallow			X	1
Chickadees				
Black-capped Chickadee			X	1
Mountain Chickadee			X	1
Bushtits				
Bushtit	X			1
Nuthatches				
Red-breasted Nuthatch	X			1
White-breasted Nuthatch	X			1
Wrens				
Rock Wren	X	X	X	3
House Wren	X	X	X	3
Marsh Wren		X		1
Gnatcatchers				
Blue-Gray Gnatcatcher		X		1
Thrushes				
Mountain Bluebird			X	1
Swainson's Thrush		X	X	2
American Robin	X	X	X	3
Thrashers				
Sage Thrasher	X	X	X	3
Starlings				
European Starling			X	1
Wood Warblers				
Yellow Warbler	X	X	X	3
Yellow-rumped Warbler	X	X		2
MacGillivray's Warbler	X			1
Common Yellowthroat	X	X	X	3

	2005	2006	2007	Number of Years Seen
Wilson's Warbler	X	X	X	3
Yellow-breasted Chat	X	X	X	3
Tanagers				
Western Tanager	X	X		2
Sparrows				
Green-tailed Towhee	X		X	2
Spotted Towhee	X	X	X	3
Brewer's Sparrow	X	X	X	3
Vesper Sparrow	X	X		2
Lark Sparrow	X	X	X	3
Savannah Sparrow	X	X	X	3
Grasshopper Sparrow	X			1
Song Sparrow	X	X	X	3
White-crowned Sparrow			X	1
Dark-eyed Junco			X	1
Cardinals and Allies				
Black-headed Grosbeak	X	X		2
Lazuli Bunting	X	X	X	3
Blackbirds				
Bobolink	X	X	X	3
Red-winged Blackbird	X	X	X	3
Western Meadowlark	X	X	X	3
Yellow-headed Blackbird	X	X	X	3
Brewer's Blackbird	X	X	X	3
Brown-headed Cowbird	X	X	X	3
Bullock's Oriole	X	X	X	3
Finches				
Cassin's Finch	X		X	2
House Finch	X	X	X	3
Pine Siskin	X			1
American Goldfinch	X	X		2
Lesser Goldfinch		X		1
Evening Grosbeak	X			1
Old World Sparrows				
House Sparrow	X	X	X	3
TOTAL BIRD SPECIES	78	84	80	117
Other Animals				
Big black lizard	X			
Mule Deer	X	X	X	
Muskrat		X	X	

	2005	2006	2007	Number of Years Seen
Cottontail		X	X	
Black-Tailed Jackrabbit		X	X	
Unidentified ground squirrel		X	X	
Pronghorn			X	
Badger			X	

Soil Types by Map Unit Number
See Map 9 for the distribution and occurrence of each soil type.

022- Donna-Igdell-Donna, strongly sloping association

This soil type is dominated by three major soil series. Donna gravelly loam, 2 to 8 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is very well drained and is found in the summit areas of fan remnants. Dominant vegetation is Bluebunch wheatgrass and low sagebrush. Igdell very gravelly clay loam, 2 to 8 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is very well drained and is found on the upper slopes and summit areas of fan remnants. Dominant vegetation is Idaho fescue and low sagebrush. Donna gravelly loam, 8 to 15 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is very well drained and is found on the backslopes of fan remnants. Dominant vegetation is Bluebunch wheatgrass and low sagebrush.

031- Welch-Crooked Creek association, wet

This soil type is dominated by two major soil series. Welch silt loam, 0 to 2 percent slopes, occasionally flooded is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is very poorly drained and is found in floodplains. Dominant vegetation is Nevada bluegrass and alpine timothy. Crooked Creek silty clay loam, gravelly substratum, 0 to 2 percent slopes, frequently flooded is comprised of alluvium derived from mixed rocks. This type is poorly drained and is found in floodplains. Dominant vegetation is sedge.

081- Wieland-Gance-Nevador association

This soil type is dominated by three major soil series. Wieland gravelly loam, gravelly substratum, 0 to 2 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on concave summits on fan remnants. Dominant vegetation is Wyoming big sagebrush, bottlebrush squirreltail, and cheatgrass. Gance very gravelly loam, 2 to 8 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on the backslopes of fan remnants. Dominant vegetation is Wyoming big sagebrush, bottlebrush squirreltail, and cheatgrass. Nevador loam, 0 to 2 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found in the planes and summits of fan remnants. Dominant vegetation is Wyoming big sagebrush, bottlebrush squirreltail, and cheatgrass.

093- Hunnton-Wieland association

This soil type is dominated by two major soil series. Hunnton silt loam, 2 to 4 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on convex upper slopes of fan remnants. Dominant vegetation is Sandberg bluegrass, Wyoming big sagebrush, and bottlebrush squirreltail. Wieland loam, 2 to 8 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on concave

lower slopes of fan remnants. Dominant vegetation is Sandberg bluegrass, Wyoming big sagebrush, and bottlebrush squirreltail.

120- Peeko-Dewar-Puett association

This soil type is dominated by three major soil series. Peeko silt loam, 4 to 15 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on the summit and upper slopes of fan remnants. Dominant vegetation is Indian ricegrass, black sagebrush, and bottlebrush squirreltail. Dewar gravelly silt loam, 4 to 15 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on the lower concave slopes and summit areas of fan remnants. Dominant vegetation is Wyoming big sagebrush, bottlebrush squirreltail, and cheatgrass. Puett gravelly sandy loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from sedimentary rocks. This type is well drained and is found on convex backslopes of pediments. Dominant vegetation is Indian ricegrass, Wyoming big sagebrush, and black sagebrush.

130- Dewar-Wieland-Bilbo association

This soil type is dominated by three major soil series. Dewar gravelly silt loam, 2 to 4 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on the summits of fan remnants. Dominant vegetation is Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, and cheatgrass. Wieland loam, 4 to 15 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on planes and backslopes of fan remnants. Dominant vegetation is Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, and cheatgrass. Bilbo very gravelly sandy clay loam, 30 to 50 percent slopes is comprised of alluvium derived from mixed rocks. This type is well drained and is found on south facing backslopes of fan remnants. Dominant vegetation is Sandburg bluegrass and Wyoming big sagebrush.

131- Dewar-Hunnton-Gance association

This soil type is dominated by three major soil series. Dewar gravelly silt loam, 2 to 8 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on the summits and planes of fan remnants. Dominant vegetation is Wyoming big sagebrush. Hunnton gravelly loam, 2 to 8 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on convex summits of fan remnants. Dominant vegetation is Sandberg bluegrass, Wyoming big sagebrush, and bottlebrush squirreltail. Gance very gravelly loam, 15 to 30 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found backslope planes of fan remnants. Dominant vegetation is Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, and cheatgrass.

132- Dewar-Peeko-Bilbo association

This soil type is dominated by three major soil series. Dewar gravelly silt loam, 4 to 15 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on the backslopes of fan remnants. Dominant vegetation is Sandberg bluegrass, Wyoming big

sagebrush, bottlebrush squirreltail, and cheatgrass. Peeko silt loam, 4 to 15 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on the upper slopes and summits of fan remnants. Dominant vegetation is Indian ricegrass, black sagebrush, bottlebrush squirreltail, and cheatgrass. Bilbo very gravelly sandy clay loam, 30 to 50 percent slopes is comprised of alluvium derived from mixed rocks. This type is well drained and is found on south facing backslopes. Dominant vegetation is Wyoming big sagebrush, bottlebrush squirreltail, and cheatgrass.

139- Dewar-Yuko-Izar association

This soil type is dominated by three major soil series. Dewar gravelly silt loam, 4 to 15 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on concave summits of fan remnants. Dominant vegetation is Sandberg bluegrass, Wyoming big sagebrush, and bottlebrush squirreltail. Yuko gravelly sandy loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from tuffaceous rocks. This type is well drained and is found on south facing convex backslopes of pediments. Dominant vegetation is Wyoming big sagebrush, basin wildrye, bluebunch wheatgrass, and cheatgrass. Izar very gravelly loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from mixed rocks. This type is somewhat excessively drained and is found on convex backslopes of pediments. Dominant vegetation is Indian ricegrass, Sandberg bluegrass, black sagebrush, and bottlebrush squirreltail.

219- Shalcleav-Arcia association

This soil type is dominated by two major soil series. Shalcleav extremely gravelly silt loam, 8 to 30 percent slopes is comprised of residuum and colluvium derived from sedimentary rocks. This type is well drained and is found on the convex summits of hills. Dominant vegetation is Sandberg bluegrass, Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Arcia silt loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from sedimentary rocks. This type is well drained and is found on north facing concave backslopes of hills. Dominant vegetation is Antelope bitterbrush, bluebunch wheatgrass, and mountain big sagebrush.

222- Shalcleav-Coser association

This soil type is dominated by two major soil series. Shalcleav extremely gravelly silt loam, 4 to 30 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on the summits of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Coser gravelly clay loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on the concave summits of hills. Dominant vegetation is Idaho fescue, bluebunch wheatgrass, and low sagebrush.

226- Shalcleav-Quopant-Rodie association

This soil type is dominated by three major soil series. Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on summits of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Quopant very gravelly sandy loam, 30 to 75 percent slopes is comprised of

residuum and colluvium derived from volcanic rocks. This type is well drained and is found on convex backslopes of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Rodie very gravelly loam, 30 to 75 percent slopes is comprised of colluvium derived from pyroclastic and extrusive volcanic rocks. This type is well drained and is found on concave backslopes of hills. Dominant vegetation is Sandberg bluegrass, Thurber needlegrass, black sagebrush, and bluebunch wheatgrass.

227- Shalcleav, steep Shalcleav-Rodie association

This soil type is dominated by three major soil series. Shalcleav extremely gravelly silt loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on convex backslopes of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on the summits of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Rodie very gravelly loam, 15 to 50 percent slopes is comprised of colluvium derived from pyroclastic and extrusive volcanic rocks. This type is well drained and is found on the summits of hills. Dominant vegetation is Sandberg bluegrass, Thurber needlegrass, black sagebrush, and bluebunch wheatgrass.

228- Shalcleav-Rodie-Shalper association

This soil type is dominated by three major soil series. Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on convex upper slopes and summits of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and cheatgrass. Rodie very gravelly loam, 15 to 50 percent slopes is comprised of colluvium derived from pyroclastic and extrusive volcanic rocks. This type is well drained and is found on concave backslopes of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and cheatgrass. Shalper very gravelly loam, 15 to 30 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on convex summits of hills. Dominant vegetation is bottlebrush squirreltail.

418- Rodie-Rubble land-Sumine association

This soil type is dominated by three major soil series. Rodie very gravelly loam, 30 to 75 percent slopes is derived of colluvium derived from pyroclastic and extrusive volcanic rocks. This type is well drained and is found north facing concave backslopes of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Rubble land fragmented material, 30 to 75 percent slopes is comprised of fragmented material. This type is excessively drained and is found on south facing backslope planes of hills. This type does not support any dominant vegetation communities. Sumine very gravelly loam, 30 to 75 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on south facing backslope planes of hills. Dominant vegetation is Antelope bitterbrush and bluebunch wheatgrass.

419- Rodie-Shalcleav-Pequop association

This soil type is dominated by three major soil series. Rodie very gravelly loam, 30 to 75 percent slopes is comprised of colluvium derived from pyroclastic and extrusive volcanic rocks. This type is well drained and is found in planes on the backslopes of mountains. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Shalcleave extremely gravelly silt loam, 15 to 30 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on convex upper backslopes of mountains. Dominant vegetation type is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Pequop gravelly loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on north-facing concave lower backslopes of mountains. Dominant vegetation is Antelope bitterbrush and bluebunch wheatgrass.

422- Rodie-Quarz-Shalcleav association

This soil type is dominated by three major soil series. Rodie very gravelly loam, 15 to 50 percent slopes is comprised of colluvium derived from pyroclastic and extrusive volcanic rocks. This type is well drained and is found on north facing backslopes of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Quarz very gravelly loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on south facing backslopes of hills. Dominant vegetation is Antelope bitterbrush and bluebunch wheatgrass. Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on the summits of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass.

431- Ocala-Batan-Devilsgait association

This soil type is dominated by three major soil series. Ocala silt loam, occasionally flooded, 0 to 2 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is somewhat poorly drained and is found in stream terraces. Dominant vegetation is basin wildrye, black greasewood, inland saltgrass, and rubber rabbitbrush. Batan silt loam, 2 to 4 percent slopes is comprised of alluvium derived from volcanic rocks, loess, and volcanic ash. This type is moderately well drained and is found in stream terraces. Dominant vegetation is basin big sagebrush, basin wildrye, black greasewood, and inland saltgrass. Devilsgait silt loam, drained, 0 to 2 percent slopes, occasionally flooded is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is very poorly drained and is found in floodplains. Dominant vegetation is basin big sagebrush, basin wildrye, and rubber rabbitbrush.

470- Chen-Graley-Rock outcrop association

This soil type is dominated by three major soil series. Chen very gravelly loam, 15 to 30 percent slopes is comprised of residuum and colluvium derived from quartzite. This type is well drained and is found on convex upper slopes and summits of mountains. Dominant vegetation is Idaho fescue, antelope bitterbrush, and low sagebrush. Graley extremely gravelly loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from quartzite. This type is well drained and is found on convex backslopes of mountains. Dominant vegetation is antelope bitterbrush and bluebunch wheatgrass. Rock outcrop is comprised of rock outcrops. This type has no drainage categories, is found on the summits of mountains, and supports no dominant plant communities.

480- Devilsgait-Kelk association

This soil type is dominated by two major soil series. Devilsgait silt loam, 0 to 2 percent slopes, rarely flooded is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is very poorly drained and is found in floodplains. Dominant vegetation is basin big sagebrush and basin wildrye. Kelk silk loam, 2 to 4 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found in stream terraces. Dominant vegetation is Thurber needlegrass, Wyoming big sagebrush, and bluebunch wheatgrass.

481- Devilsgait-Batan-Devilsgait, drained association

This soil type is dominated by three major soil series. Devilsgait silt loam, 0 to 2 percent slopes, frequently flooded is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is very poorly drained and is found in floodplains. Dominant vegetation is basin wildrye, creeping wildrye, and willow. Batan silt loam, 2 to 4 percent slopes is comprised of alluvium derived from volcanic rocks, loess, and volcanic ash. This type is moderately well drained and is found in fan skirts. Dominant vegetation is basin wildrye, big sagebrush, and black greasewood. Devilsgait silt loam, drained, 0 to 2 percent slopes, rarely flooded is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is very poorly drained and is found in floodplains. Dominant vegetation is Nevada bluegrass, basin big sagebrush, and basin wildrye.

482- Devilsgait silt loam, frequently flooded, 0 to 2 percent slopes

This soil type is dominated by one soil series. Devilsgait silt loam, 0 to 2 percent slope, frequently flooded is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is very poorly drained and is found in floodplains. Dominant vegetation is basin wildrye, creeping wildrye, and willows.

582- Kelk-Devilsgait-Welch association

This soil type is dominated by three major soil series. Kelk silt loam, 2 to 4 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found in fan skirts. Dominant vegetation is sandberg bluegrass, Wyoming big sagebrush, and bottlebrush squirreltail. Devilsgait silt loam, drained, 0 to 2 percent slopes, rarely flooded is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is very poorly drained and is found in floodplains. Dominant vegetation is basin big sagebrush and basin wildrye. Welch silty clay loam, 0 to 2 percent slopes, frequently flooded is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is very poorly drained and is found in floodplains. Dominant vegetation is Nevada bluegrass, sedge, and tufted hairgrass.

590- Valmy-Enko association

This soil type is dominated by two major soil series. Valmy fine sandy loam, 0 to 2 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on lower fan skirts. Dominant vegetation is basin big sagebrush, basin wildrye, and black greasewood. Enko fine sandy loam, 2 to 4 percent slopes is comprised of alluvium derived from mixed

rocks, loess, and volcanic ash. This type is well drained and is found on upper fan skirts. Dominant vegetation is Wyoming big sagebrush.

651- Scalfar-Cleavage-Hackwood association

This soil type is dominated by three major soil series. Scalfar very gravelly loam, 15 to 50 percent slopes is comprised of colluvium derived from pyroclastic and extrusive volcanic rocks. This type is well drained and is found on lower backslopes of mountains. Dominant vegetation is Idaho fescue, black sagebrush, bluebunch wheatgrass, and low sagebrush. Cleavage extremely gravelly loam, 8 to 30 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on convex upper slopes and summits of mountains. Dominant vegetation is Idaho fescue, Webber ricegrass, black sagebrush, and low sagebrush. Hackwood gravelly loam, 15 to 30 percent slopes is comprised of colluvium derived from pyroclastic and extrusive volcanic rocks. This type is well drained and is found in north facing concave backslopes of mountains.

652- Scalfar-Shalclev-Quopant association

This soil type is dominated by three major soil series. Scalfar very gravelly loam, 15 to 50 percent slopes is comprised of colluvium derived from pyroclastic and extrusive volcanic rocks. This type is well drained and is found on convex backslopes of mountains. Dominant vegetation is Idaho fescue, black sagebrush, bluebunch wheatgrass, and low sagebrush. Shalclev extremely gravelly silt loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on convex upper slopes and summits of mountains. Dominant vegetation is Idaho fescue, black sagebrush, and bluebunch wheatgrass. Quopant very gravelly sandy loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from tuffaceous rocks. This type is well drained and is found on backslope planes of mountains. Dominant vegetation is Indian ricegrass, black sagebrush, and bluebunch wheatgrass.

660- Hooplite, steep Hooplite association

This soil type is dominated by two major soil series. Hooplite very gravelly loam, 15 to 50 percent slopes and Hooplite very gravelly loam, 4 to 15 percent slopes are comprised of residuum and colluvium derived from volcanic rocks. These types are well drained and are found on backslopes or summits and lower slopes of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass.

661- Hooplite-Hooplite, moderately steep-Ackett association

This soil type is dominated by three major soil series. Hooplite very gravelly loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on the summit of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Hooplite very gravelly loam, 15 to 30 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on backslopes of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Ackett very gravelly loam, 4 to 15 percent slopes is comprised of colluvium derived from volcanic rocks, loess, and volcanic ash. This type is well drained and is found concave lower backslopes of hills. Dominant vegetation is Indian ricegrass, Thurber needlegrass, and black sagebrush.

666- Hooplite-Hooplite, moderately steep-Kleckner association

This soil type is dominated by three major soil series. Hooplite very gravelly loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Hooplite very gravelly loam, 15 to 30 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Kleckner gravelly loam, 4 to 15 percent slopes is derived from alluvium derived from mixed rocks. This type is well drained and is found on hills. Dominant vegetation is Sandberg bluegrass, Wyoming big sagebrush, and bluebunch wheatgrass.

670- Ackett-Kleckner-Anowell association

This soil type is dominated by three major soil series. Ackett very gravelly loam, 4 to 15 percent slopes is comprised of alluvium derived from volcanic rocks, loess, and volcanic ash. This type is well drained and is found on summit planes of fan remnants. Dominant vegetation is Indian ricegrass, Thurber needlegrass, and black sagebrush. Kleckner gravelly loam, 4 to 15 percent slopes is comprised of alluvium and colluvium derived from volcanic rocks. This type is well drained and is found on the upper slopes and summit areas of fan remnants. Dominant vegetation is Thurber needlegrass, Wyoming big sagebrush, and bluebunch wheatgrass. Anowell gravelly loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from tuffaceous rocks. This type is well drained and is found on backslopes of pediments. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass.

672- Ackett- Ackett, gently sloping-Cameek association

This soil type is dominated by three major soil series. Ackett very gravelly loam, 4 to 15 percent slopes and Ackett very gravelly loam, 2 to 4 percent slopes are composed of alluvium derived from volcanic rocks, loess, and volcanic ash. This type is well drained and is located in summit area (2-4 percent slopes) and convex backslopes (4-15 percent slopes) of fan remnants. Vegetation is dominated by Indian ricegrass, Thurber needlegrass, and black sagebrush. Cameek silt loam, 4 to 15 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is moderately well drained and is found north facing concave backslopes of fan remnants. Dominant vegetation is Wyoming big sagebrush, bluebunch wheatgrass, and bottlebrush squirreltail.

673- Ackett-Ackett, gently sloping- Gance association

This soil type is dominated by three major soil series. Ackett very gravelly loam, 4 to 15 percent slopes and Ackett very gravelly loam, 2 to 4 percent slopes are composed of alluvium derived from volcanic rocks, loess, and volcanic ash. This type is well drained and is located in summit area (2-4 percent slopes) and convex backslopes (4-15 percent slopes) of fan remnants. Vegetation is dominated by Indian ricegrass, Thurber needlegrass, and black sagebrush. Gance very gravelly loam, 4 to 15 percent slopes is composed of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found in concave backslopes of fan remnants. Dominant vegetation is Wyoming big sagebrush, bottlebrush squirreltail, and cheatgrass.

685- Izar-Puett-Yuko association

This soil type is dominated by three major soil series. Izar very fravelly loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from tuffaceous rocks. This type is somewhat excessively drained and is found on convex upper slopes and summits of hills. Dominant vegetation is Indian ricegrass, Thurber needlegrass, and black sagebrush. Puett gravelly snady loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from tuffaceous rocks. This type is well drained and is found on convex upper backslopes of hills. Dominant vegetation is Indian ricegrass, Wyoming big sagebrush, and black sagebrush. Yuko very gravelly loam, 4 to 15 percent slopes is composed of residuum and colluvium derived from tuffaceous rocks. This type is well drained and is found on concave backslopes of hills. Dominant vegetation is Sandberg bluegrass, Wyoming big sagebrush, and bottlebrush squirreltail.

690- Oupico-Oupico, moderatly steep-Peeko association

This soil type is dominated by three major soil series. Oupico sandy loam, 4 to 15 percent slopes and Oupico sandy loam, 15 to 30 percent slopes are comprised of alluvium derived from mixed rocks. These types are well drained and are found on concave summits (4-15 percent slopes) and concave backslopes (15-30 percent slopes) of fan remnants. Dominant vegetation is Indian ricegrass, Wyoming big sagebrush, and needle and thread grass. Peeko silt loam, 15 to 30 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on convex backslopes of fan remnants. Dominant vegetation is Indian ricegrass, Thurber needlegrass, and black sagebrush.

730- Geysen-Welch-Batan association

This soil type is dominated by three major soil series. Geysen silt loam, 2 to 4 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found in fan remnants. Dominant vegetation is big sagebrush, black greasewood, and inland saltgrass. Welch silty clay loam, 0 to 2 percent slopes, rarely flooded are comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is very poorly drained and is found in floodplains. Dominant vegetation is Nevada bluegrass, basin big sagebrush, and black greasewood. Batan silt loam, 2 to 4 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is moderately well drained and is found on inset fans. Dominant vegetation is Sandberg bluegrass, big sagebrush, and black greasewood.

746- Cleavage-Hackwood-Graley association

This soil type is dominated by three major soil series. Cleavage extremely gravelly lam, 30 to 75 percent slopes is comprised of residuum and colluvium derived from sedimentary rocks. This type is well drained and is found on convex upper slopes and summits of mountains. Dominant vegetation is Idaho fescue, Webber ricegrass, black sagebrush, and low sagebrush. Hackwood gravelly loam, 30 to 50 percent slopes is comprised of colluvium derived from mixed rocks. This type is well drained and is found on north facing concave backslopes of mountains. Dominant vegetation is California brome and quaking aspen. Graley extremely gravelly loam, 30 to 50 percent slopes is comprised of residuum and colluvium derived from sedimentary rocks. This type is well drained and is found on south facing convex backslopes of mountains. Dominant vegetation is Antelope bitterbrush and bluebunch wheatgrass.

748- Cleavage-Shalclev-Quopant association

This soil type is dominated by three major soil series. Cleavage extremely gravelly loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on the summit of hills. Dominant vegetation is Idaho fescue, bluebunch wheatgrass, and low sagebrush. Shalclev extremely gravelly silt loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on the summit of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Quopant very gravelly sandy loam, 30 to 75 percent slopes is comprised of residuum and colluvium derived from tuffaceous rocks. This type is well drained and is found on the backslopes of hills. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass.

749- Cleavage-Snotown-Chen association

This soil type is dominated by three major soil series. Cleavage extremely gravelly loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from sedimentary rocks. This type is well drained and is found on the convex upper slopes and summits of mountains. Dominant vegetation is Idaho fescue, Webber ricegrass, and black sagebrush. Snotown very gravelly coarse sandy loam, 30 to 50 percent slopes is comprised of residuum and colluvium derived from sedimentary rocks. This type is moderately well drained and is found in north facing concave backslopes of mountains. Dominant vegetation is Letterman needlegrass and tailcup lupine. Chen very gravelly loam, 30 to 50 percent slopes is comprised of residuum and colluvium derived from sedimentary rocks. This type is well drained and is found in the lower backslopes of mountains. Dominant vegetation is Idaho fescue, bluebunch wheatgrass, and low sagebrush.

750- Cleavage-Bullump-Hackwood association

This soil type is dominated by three major soil series. Cleavage extremely gravelly loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from sedimentary rocks. This type is well drained and is found in the convex summit of mountains. Dominant vegetation is Idaho fescue, Webber ricegrass, black sagebrush, and low sagebrush. Bullump very gravelly loam, 15 to 50 percent slopes is comprised of colluvium derived from mixed rocks. This type is well drained and is found in south facing concave backslopes of mountains. Dominant vegetation is Idaho fescue, antelope bitterbrush, mountain big sagebrush, and snowberry. Hackwood gravelly loam, 15 to 50 percent slopes is comprised of colluvium derived from quartzite. This type is well drained and is found in north facing concave upper backslopes of mountains. Dominant vegetation is California brome.

759- Cleavage-Tweener-Scalfar association

This soil type is dominated by three major soil series. Cleavage extremely gravelly loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found on convex upper slopes and summits of mountains. Dominant vegetation is Idaho fescue, Webber ricegrass, black sagebrush, and low sagebrush. Tweener very gravelly loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found in convex upper backslopes of mountains. Dominant vegetation is Idaho fescue, antelope

bitterbrush, and bluebunch wheatgrass. Scalfar very gravelly loam, 15 to 50 percent slopes is comprised of colluvium derived from volcanic rocks. This type is well drained and is found on lower planes mountain backslopes. Dominant vegetation is Idaho fescue, black sagebrush, and low sagebrush.

790- Loomis-Ackett-Dewar association

This soil type is dominated by three major soil series. Loomis very cobbly loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from volcanic rocks. This type is well drained and is found in convex summits of hills. Dominant vegetation is Indian ricegrass, Thurber needlegrass, and black sagebrush. Ackett very gravelly loam, 4 to 15 percent slopes is comprised of alluvium and colluvium derived from volcanic rocks, loess, and volcanic ash. This type is well drained and is found in convex summits of fan remnants. Dominant vegetation is Indian ricegrass, Thurber needlegrass, and black sagebrush. Dewar gravelly silt loam, 4 to 15 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found in concave summits of fan remnants. Dominant vegetation is Wyoming big sagebrush, basin wildrye, and bottlebrush squirreltail.

796- Gollaher very gravelly loam, 15 to 50 percent slopes

This soil type is dominated by one major soil series. Gollaher very gravelly loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from limestone and dolomite. This type is well drained and is found on the convex summits of mountains. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass.

930- Orovada, nearly level-Kelk-Orovada association

This soil type is dominated by three major soil series. Orovada loam, 0 to 2 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on inset fans. Dominant vegetation is Sandberg bluegrass, Wyoming big sagebrush, and bottlebrush squirreltail. Kelk silt loam, 0 to 2 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on inset fans. Dominant vegetation is Sandberg bluegrass, Wyoming big sagebrush, and bottlebrush squirreltail. Orovada very fine sandy loam, 2 to 8 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found in fan skirts. Dominant vegetation is Sandberg bluegrass, Wyoming big sagebrush, and bottlebrush squirreltail.

931- Orovada- Oupico-Izar association

This soil type is dominated by three major soil series. Orovada loam, 2 to 8 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on inset fans. Oupico sandy loam, 4 to 15 percent slopes is comprised of alluvium derived from mixed rocks. This type is well drained and is found on upper slopes and summits of fan remnants. Dominant vegetation is Indian ricegrass, basin big sagebrush, and needle and thread grass. Izar very gravelly loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from tuffaceous rocks. This type is somewhat excessively drained and is found on backslopes of hills. Dominant vegetation is Indian ricegrass, Thurber needlegrass, and black sagebrush.

940- Hundraw-Anowell-Peeko association

This soil type is dominated by three major series. Hundraw gravelly loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from sedimentary rocks, loess, and volcanic ash. This type is well drained and is found on backslope planes of pediments. Anowell gravelly loam, 8 to 30 percent slopes is comprised of residuum and colluvium derived from tuffaceous rocks. This type is well drained and is found in north facing backslopes of pediments. Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Peeko silt loam, 4 to 15 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found in on the summits of fan remnants. Dominant vegetation is Indian ricegrass, Thurber needlegrass, and black sagebrush.

961- Trinidad, steep-Trinidad-Izod association

This soil type is dominated by three major series. Trinidad gravelly silt loam, 15 to 50 percent slopes and Trinidad gravelly silt loam, 4 to 15 percent slopes are comprised of residuum derived from sedimentary rocks. These types are well drained and are found north facing backslopes of hills (15-50 percent slopes) and summits of hills (4-15 percent slopes). Dominant vegetation is Thurber needlegrass, black sagebrush, and bluebunch wheatgrass. Izod very gravelly loam, 15 to 50 percent slopes is comprised of residuum and colluvium derived from limestone and dolomite. This type is somewhat excessively drained and is found south facing backslope planes of hills.

1400- Nevador-Zapa association

This soil type is dominated by two major series. Nevador gravelly loam, 4 to 15 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on concave lower slopes of fan remnants. Dominant vegetation is Thurber needlegrass, Wyoming big sagebrush, and bluebunch wheatgrass. Zapa very gravelly silt loam, 15 to 30 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on the summits of fan remnants. Dominant vegetation is Indian ricegrass, Thurber needlegrass, and black sagebrush.

3080- Fenelon-Lerrow Variant-Cotant association

This soil type is dominated by three major series. Fenelon gravelly silt loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from sedimentary rocks, loess, and volcanic ash. This type is well drained and is found on convex lower summits of pediments. Dominant vegetation is black sagebrush and bluebunch wheatgrass. Lerrow Variant gravelly loam, 4 to 15 percent slopes is comprised of alluvium derived from mixed rocks. This type is well drained and is found on concave upper slopes and summits of fan remnants. Dominant vegetation is Idaho fescue, bluebunch wheatgrass, and serviceberry. Cotant gravelly clay loam, 4 to 15 percent slopes is comprised of residuum and colluvium derived from tuffaceous rocks. This type is well drained and is found on planes in pediment summits. Dominant vegetation is Idaho fescue, Sandberg bluegrass, and low sagebrush.

3081- Fenelon-Gochea association

This soil type is dominated by two series. Fenelon gravelly silt loam, 8 to 30 percent slopes is comprised of residuum and colluvium derived from sedimentary rocks, loess, and volcanic ash. This type is well drained and found on convex summits of hills. Dominant vegetation is black sagebrush and bluebunch wheatgrass. Gochea loam, 4 to 15 percent slopes is comprised of alluvium derived from mixed rocks, loess, and volcanic ash. This type is well drained and is found on lower plane summits of fan remnants. Dominant vegetation is Sandberg bluegrass, Wyoming big sagebrush, and bluebunch wheatgrass.

4050- Water

This map unit represents solid bodies of water. No soil data is available.