



SOUTHERN NEVADA WATER AUTHORITY

100 City Parkway, Suite 700 • Las Vegas, NV 89106
MAILING ADDRESS: P.O. Box 99956 • Las Vegas, NV 89193-9956
(702) 862-3400 • snwa.com

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AJ Flint, Rangeland Management Specialist
Ryan Kay, Rangeland Management Specialist
Bureau of Land Management, Ely District Office
702 North Industrial Way
HC 33 Box 33500
Ely, Nevada 89301-9408

Dear Mr. Flint and Mr. Kay:

SUBJECT: GRAZING PERMIT 2703273 [COLD SPRING (00909), MAJORS (10126), MURPHY WASH (03503), SHINGLE CREEK (03502), AND WILSON CREEK (01201) ALLOTMENTS]; RANCH ADVISORY PARTNERS FIELD SURVEYS (MAY 2014)

As an authorized grazing permit holder, Southern Nevada Water Authority (SNWA) respectfully submits the attached information related to rangeland health monitoring under permit number 2703273 (USDI 2012). In 2014, SNWA contracted Ranch Advisory Partners (Ranch Advisory) to conduct monitoring in the Cold Spring, Majors, Murphy Wash, Shingle Creek, and Wilson Creek allotments. The purpose was to provide scientific data to assess current range conditions, track change over time in relation to climatic conditions and past range management, and inform future livestock management practices.

Summary of 2014 Rangeland Health Monitoring

In May 2014, Ranch Advisory collected rangeland health monitoring data for SNWA in five allotments where SNWA graze cattle and/or sheep per terms and conditions of permit 2703273 (USDI 2012). A total of 67 sites were surveyed, as shown in Table 1 (below) and summarized as follows:

- Cold Spring Allotment (allotment #00909): 5 Sites
- Majors Allotment (allotment #10126): 28 Sites
 - Bastian Creek Use Area: 3 Sites
 - Cleve Creek Use Area: 3 Sites
 - John Henry Wash Use Area: 7 Sites
 - North Majors Use Area: 4 Sites
 - Osceola Use Area: 9 Sites
 - South Majors Use Area: 2 Sites
- Murphy Wash Allotment (allotment #03503): 9 Sites
- Shingle Creek Allotment (allotment #03502): 3 Sites

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Big Bend Water District • Boulder City • Clark County Water Reclamation District • City of Henderson • City of Las Vegas • City of North Las Vegas • Las Vegas Valley Water District

- Wilson Creek Allotment (allotment #01201): 22 Sites
 - Muleshoe/Maloy Use Area: 18 Sites
 - Pioche Bench East Use Area (aka South Lake Valley Use Area Pasture 1): 4 Sites

The 2014 rangeland health data included vegetation cover and composition (line intercept and/or line-point intercept¹), gap intercept, vegetation height, species documented while walking a transect loop, qualitative observations of rangeland health indicators, and site photographs. The data were collected using standard protocols in accordance with interagency guidelines, and underwent rigorous Quality Assurance/Quality Control (QA/QC) by Ranch Advisory and SNWA to ensure accuracy, transparency, and reliability.

Five separate monitoring reports (one on each allotment) are enclosed (Ranch Advisory 2016a-e). They contain information about SNWA permitted use, recent grazing history and precipitation, general allotment and use area descriptions, maps of monitoring sites within the allotments and use areas, brief description of the monitoring methods, results of monitoring findings in great detail, and discussions about livestock management recommendations.

These surveys were part of a larger 2014 rangeland health monitoring effort at 88 sites across nine Bureau of Land Management (BLM) allotments. A document is enclosed that contains a summary of findings and livestock management recommendations for all nine allotments (Ranch Advisory 2016f). This summary provides the reader with a concise overview at the site, use area, allotment, and landscape scale. A separate methods document was also prepared to provide a comprehensive description of field survey methods (Ranch Advisory 2016g). A geodatabase of all transect begin and end points is enclosed on a Compact Disc (SNWA 2016).

When reviewing the data, please note that while SNWA aimed to spatially distribute monitoring sites across the allotments and use areas, this was not the case for Tippet Pass Allotment's Dry Pasture Use Area. All four monitoring sites were concentrated in the southeast corner of the Dry Pasture Use area, three of which were in a high-use area. When interpreting or using these results, the reader should acknowledge that they are not representative of the use area as a whole. The SNWA Great Basin Ranch broadly distributes its cattle throughout the use area, and intends to revise the monitoring sites to achieve spatial distribution in the future.

It should also be noted that the May 2014 surveys were conducted at a time when drought had impacted range condition. In response to drought conditions, SNWA employed an adaptive management approach. Measures taken on the range included conducting drought assessments of range condition, conducting real-time telemetry to better manage sheep movements and resource utilization, voluntarily placing animal unit months (AUM) in conservation, temporarily shortening seasons of use and reducing AUMs when needed, and changing water and livestock placement within the allotments and use areas.

¹ Line intercept data were collected on previously-established (30 m) transects (see Table 1), so that quantitative comparisons could more appropriately be made across years. The 30 m transects were then extended to 50 m to match the newly-established transects, and line-point intercept data were collected on all (50 m) transects. It is anticipated that line-point intercept will be the cover and composition method used going forward.

Table 1. SNWA Rangeland Monitoring Sites, Surveyed by Ranch Advisory (May 2014). Permit 2703273.

Allotment	Use Area	SNWA Site Name	UTM_N ^a	UTM_E ^a	Year ^b	Associated BLM Site ^c	SNWA GP ^d
Cold Spring		CDSP02	4321042	698464	2009, 2014		CDSP02-GP
Cold Spring		CDSP24	4315177	699663	2009, 2014		CDSP24-GP
Cold Spring		CDSP25	4313373	701817	2010, 2014		CDSP25-GP
Cold Spring		CDSP100	4319527	697850	2014	Util. 1 (aka CSECA, CDEEC 4, CS-4 Util., CSS1)	CDSP100-GP
Cold Spring		CDSP101	4322885	696815	2014	Util. 5 aka CS-2 Util.	
Majors	Bastian Creek	MAJR09	4332091	713914	2009, 2014		MAJR09-GP
Majors	Bastian Creek	MAJR15	4333929	714945	2010, 2014		MAJR15-GP
Majors	Bastian Creek	MAJR17B	4335515	712607	2010 ^e , 2014		MAJR17-GP*
Majors	Cleve Creek	MAJR04	4338183	714021	2009, 2014		MAJR04-GP
Majors	Cleve Creek	MAJR200	4344293	714889	2014		
Majors	Cleve Creek	MAJR201	4341425	713382	2014	Key Area MR 04.	
Majors	John Henry Wash	MAJR61	4319715	709731	2009, 2014		
Majors	John Henry Wash	MAJR69	4320810	708597	2009, 2014		
Majors	John Henry Wash	MAJR77B	4315388	706785	2010 ^e , 2014		
Majors	John Henry Wash	MAJR202	4317208	712956	2014	Key Area MR 03 (aka BC CR 01)	
Majors	John Henry Wash	MAJR203	4316863	713588	2014	Key Area SS MR 06 (aka BC SS 02)	
Majors	John Henry Wash	MAJR204	4314490	713558	2014	Key Area SS MR 07 (aka BC SS 03)	
Majors	John Henry Wash	MAJR206	4322451	711021	2014		
Majors	North Majors	MAJR18B	4327495	712767	2009 ^e , 2014		MAJR18-GP
Majors	North Majors	MAJR26	4330449	715198	2009, 2014		MAJR26-GP
Majors	North Majors	MAJR205	4322347	714881	2014	Key Area MR 01	
Majors	North Majors	MAJR210	4324770	711277	2014	Key Area SS MR 05 (aka North Majors 3)	
Majors	Osceola	MAJR108	4319072	717529	2010, 2014		MAJR108-GP
Majors	Osceola	MAJR112	4336725	724232	2009, 2014		MAJR112-GP

Allotment	Use Area	SNWA Site Name	UTM_N ^a	UTM_E ^a	Year ^b	Associated BLM Site ^c	SNWA GP ^d
Majors	Osceola	MAJR115B	4323623	718345	2009 ^e , 2014		MAJR115-GP
Majors	Osceola	MAJR121	4331950	720007	2009, 2014		MAJR121-GP
Majors	Osceola	MAJR128B	4325779	721396	2009 ^e , 2014		
Majors	Osceola	MAJR134	4321178	721198	2010, 2014		MAJR134-GP
Majors	Osceola	MAJR136	4323738	719819	2010, 2014		
Majors	Osceola	MAJR207	4339790	726439	2014	Rock Springs Cage monitoring site	
Majors	Osceola	MAJR208	4334826	723498	2014	Rose Cave Cage monitoring site	MAJR208-GP
Majors	South Majors	MAJR88	4320539	713711	2009, 2014		MAJR88-GP
Majors	South Majors	MAJR209	4317159	716044	2014	Key Area MR 02	
Murphy Wash		MRPY01	4292622	733591	2014		MRPY01-GP
Murphy Wash		MRPY02	4296128	734463	2014		MRPY02-GP
Murphy Wash		MRPY03	4288939	740581	2014		MRPY03-GP
Murphy Wash		MRPY04	4290767	739367	2014		MRPY04-GP
Murphy Wash		MRPY05	4294949	739713	2014		MRPY05-GP
Murphy Wash		MRPY06	4297490	740798	2014		MRPY06-GP
Murphy Wash		MRPY07	4299551	736239	2014		MRPY07-GP
Murphy Wash		MRPY08	4291709	738784	2014		MRPY08-GP
Murphy Wash		MRPY09	4299846	730316	2014		MRPY09-GP
Shingle Creek		SHGL01	4320669	728114	2014		SHGL01-GP
Shingle Creek		SHGL02	4316647	727883	2014		SHGL02-GP
Shingle Creek		SHGL03	4315741	729294	2014		
Wilson Creek	Muleshoe/Maloy	WLCR19B	4219445	688447	2010 ^e , 2014		WLCR19-GP
Wilson Creek	Muleshoe/Maloy	WLCR22	4242388	698987	2010, 2014		WLCR22-GP
Wilson Creek	Muleshoe/Maloy	WLCR24	4235895	688584	2010, 2014		WLCR24-GP
Wilson Creek	Muleshoe/Maloy	WLCR26	4224072	686101	2010, 2014		WLCR26-GP
Wilson Creek	Muleshoe/Maloy	WLCR29	4221469	692986	2010, 2014		WLCR29-GP
Wilson Creek	Muleshoe/Maloy	WLCR33B	4227827	693690	2010 ^e , 2014		

Allotment	Use Area	SNWA Site Name	UTM_N ^a	UTM_E ^a	Year ^b	Associated BLM Site ^c	SNWA Gp ^d
Wilson Creek	Muleshoe/Maloy	WLCR36	4226297	685525	2010, 2014		WLCR36-GP
Wilson Creek	Muleshoe/Maloy	WLCR38B	4230278	691160	2010 ^e , 2014		WLCR38-GP
Wilson Creek	Muleshoe/Maloy	WLCR40B	4224998	689621	2010 ^e , 2014		WLCR40-GP
Wilson Creek	Muleshoe/Maloy	WLCR43	4243286	702671	2008, 2014		WLCR43-GP
Wilson Creek	Muleshoe/Maloy	WLCR47	4239382	691259	2008, 2014		WLCR47-GP
Wilson Creek	Muleshoe/Maloy	WLCR54	4219319	686882	2008, 2014		WLCR54-GP
Wilson Creek	Muleshoe/Maloy	WLCR56	4238192	694062	2008, 2014		WLCR56-GP
Wilson Creek	Muleshoe/Maloy	WLCR57	4234382	692037	2008, 2014		WLCR57-GP
Wilson Creek	Muleshoe/Maloy	WLCR59	4243205	695513	2008, 2014		WLCR59-GP
Wilson Creek	Muleshoe/Maloy	WLCR60	4246059	695363	2008, 2014		WLCR60-GP
Wilson Creek	Muleshoe/Maloy	WLCR61	4228524	691616	2008, 2014		WLCR61-GP
Wilson Creek	Muleshoe/Maloy	WLCR63	4222935	696355	2008, 2014		WLCR63-GP
Wilson Creek	Pioche Bench East	WLCR165B	4217481	714926	2008 ^f , 2014		
Wilson Creek	Pioche Bench East	WLCR168B	4213148	717203	2008 ^e , 2014		WLCR168-GP
Wilson Creek	Pioche Bench East	WLCR170B	4218167	713515	2008 ^f , 2014		WLCR170-GP
Wilson Creek	Pioche Bench East	WLCR204	4207079	721525	2014		WLCR204B-GP**

^a UTM's denote vegetation cover and composition transect start point and photographic station. NAD 83 Zone 11N.

^b On behalf of SNWA: 2008-2010 field work by ENLC (data sent to BLM 5/30/2013 & 6/18/2015); 2014 field work, reports by Ranch Advisory.

^c SNWA site in close vicinity of or at BLM site. Ranch Advisory navigated to general BLM coordinates and set transect in the area.

^d SNWA ground photography is conducted on a regular basis at transect begin point; or very near (*); or within 25-100m (**).

^e 2014 transect line differs slightly from 2008-2010 line (difficulty in finding markers or field error). "B" added to 2014 transect name, general comparisons made across years.

^f 2014 transect line run in different direction than 2008-2010 line (error). "B" added to 2014 transect name, general comparisons made across years.

SNWA Ranching Operations

SNWA extends great efforts to adhere to BLM permit conditions and conduct ranching operations a sustainable manner. Given historic use and drought conditions, we aim not only to operate sustainably on a year-to-year basis, but also help improve rangeland health over time. We employ monitoring and management techniques at the use area, allotment, and landscape scale. Maintaining AUMs and maintaining or increasing flexibility in seasons of use assist in these efforts. For example, flexible seasons of use allow for better livestock distribution, reduced utilization levels, dormant-season grazing, and increased opportunities to coordinate rotations across SNWA use areas and allotments and with fellow permittees. We request that BLM consider this aspect, and recognize our efforts as responsible ranch managers during the permit renewal process.

Table 2 briefly describes the efforts SNWA has made to operate sustainably and help improve rangeland health on the Cold Spring, Majors, Murphy Wash, Shingle Creek, and Wilson Creek allotments. Additional information can be found in the enclosed monitoring reports (Ranch Advisory 2016a-e), which present details on SNWA’s permitted AUMs and seasons of use, grazing history (actual AUMs used, grazing timing and duration per year), and recommended livestock management moving forward.

Table 2. SNWA Efforts to Operate Sustainably and Help Improve Rangeland Health. Permit 2703273.

Allotment	Use Area	SNWA Efforts
Cold Spring		2008-2014 efforts included reducing AUM use and grazing durations below permitted levels, and moving water haul locations to achieve better livestock distribution.
Majors ^a	Allotment (sheep)	2011-2014 efforts involving sheep grazing included reducing AUM use and grazing durations below permitted levels.
	Bastian Creek	2009-2014 efforts involving cattle grazing included resting the use area twice, and reducing AUM use and grazing durations below permitted levels.
	Cleve Creek	2011-2014 efforts involving cattle grazing included resting the use area twice, and reducing AUM use below permitted levels.
	John Henry Wash	2010-2014 efforts involving cattle grazing included resting the use area once, and reducing AUM use and grazing durations below permitted levels.
	North Majors	2010-2014 efforts involving cattle grazing included resting the use area once, and reducing AUM use and grazing durations below permitted levels.
	Osceola	2009-2014 efforts involving cattle grazing included resting the use area once, and reducing AUM use and grazing durations below permitted levels.
	South Majors	2010-2014 efforts involving cattle grazing included resting the use area once, and reducing AUM use below permitted levels.

Allotment	Use Area	SNWA Efforts
Murphy Wash		2008-2014 efforts included resting the allotment once, reducing AUM use and grazing durations below permitted levels, herding in clockwise and counterclockwise loops in alternating years, and strategically placing water haul locations to increase distribution and reduce utilization rates.
Shingle Creek		2009-2014 efforts included resting the allotment three times, and reducing AUM use and grazing durations below permitted levels.
Wilson Creek	Muleshoe/Maloy	2009-2014 efforts included resting the use area once, reducing AUM use and grazing durations below permitted levels, adjusting water haul locations, and carefully managing the sheep. The water haul and sheep movement efforts were aimed to reduce conflicts with the co-permittee's cattle and wild horses, and achieve better livestock distribution.
	Pioche Bench East	2010-2014 efforts included resting the use area twice, reducing AUM use and grazing durations below permitted levels, and conducting dormant-season grazing (with BLM approval).

^a Cattle are permitted in six use areas, and sheep are permitted for the entire allotment.

SNWA respectfully submits this information and requests that the BLM include the reports in the range case files, and consider the information along with the other data collected when evaluating the rangeland health conditions of Cold Spring, Majors, Murphy Wash, Shingle Creek, and Wilson Creek allotments. Please note that SNWA also conducts regular ground photography at many of the sites included in these reports. SNWA ground photography reports are, and will continue to be, provided to BLM separately.

If we can be of further assistance, please contact myself at (775) 591-0403, or Kimberly Reinhart at (702) 862-3457.

Sincerely,



Bernard Petersen
Ranch & Resource Manager

BP:KR:NB:dg

Enclosures

cc: Chris Mayer

References Cited

- Ranch Advisory [Ranch Advisory Partners]. 2016a. Southern Nevada Water Authority Great Basin Ranch, Cold Spring Allotment #00909: Rangeland health monitoring 2014.
- Ranch Advisory. 2016b. Southern Nevada Water Authority Great Basin Ranch, Majors Allotment #10126: Rangeland health monitoring 2014.
- Ranch Advisory. 2016c. Southern Nevada Water Authority Great Basin Ranch, Murphy Wash Allotment #03503: Rangeland health monitoring 2014.
- Ranch Advisory. 2016d. Southern Nevada Water Authority Great Basin Ranch, Shingle Creek Allotment #03502: Rangeland health monitoring 2014.
- Ranch Advisory. 2016e. Southern Nevada Water Authority Great Basin Ranch, Wilson Creek Allotment #01201: Rangeland health monitoring 2014.
- Ranch Advisory. 2016f. Southern Nevada Water Authority Great Basin Ranch, Rangeland health monitoring 2014 of selected Bureau of Land Management allotments: Summary document.
- Ranch Advisory. 2016g. Southern Nevada Water Authority Great Basin Ranch, monitoring methods implemented on Bureau of Land Management allotments: Rangeland health monitoring 2014. Final draft *in progress*.
- SNWA. 2016. GIS database of 88 rangeland health monitoring sites on BLM allotments surveyed by Ranch Advisory Partners on behalf of SNWA in 2014.
- USDI [United States Department of the Interior, Bureau of Land Management]. 2012. SNWA grazing permit for the South Spring Valley, Majors, Wilson Creek, Murphy Wash, Shingle Creek, Cold Spring, and Shoshone Unit Trail Allotments (Term 03/01/2012 to 02/28/2017). Authorization number 2703273. February.