

Argenta 2016 Year End Report And 2017 Stockmanship Plan

Field Data Collected October 10-21, 2016

Mount Lewis Field Office, BLM

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EXECUTIVE SUMMARY

In June 2015, permittees of the Argenta Allotment and the Bureau of Land Management signed a Settlement Agreement to establish terms for the interim use and operation of the Argenta Allotment from 2015 to 2018. The terms include a stipulation to conduct public outreach. In 2015, the BLM decided the most effective way to involve the public was to issue a monitoring report and distribute/post on web. For 2016, this comprehensive report will remain the method the CMG uses to solicit involvement from the public. This report is designed to report on monitoring information from the previous year, review proposed changes to the annual stockmanship plans and to solicit public comments.

From October 10-21, 2016, members of the Argenta Cooperative Monitoring Group (CMG) conducted monitoring of end-of-season use levels at designated upland monitoring areas and designated riparian monitoring areas (DMAs). Upland monitoring included the collection of annual utilization of key herbaceous species using the height/weight method and of key shrubs and half shrubs using the key species method, both of which are described in the Interagency Technical Reference 1734-3 (Coulloudon et al. 1996). Riparian monitoring included the measurement of residual stubble height on key herbaceous species, browse levels on key woody species, and streambank alteration using the methods described in the multiple indicator monitoring (MIM) protocol, BLM Technical Reference 1737-23 (Burton et al. 2011). It should be noted that a monitoring threshold for streambank alteration was not provided for under the 2015 Argenta Settlement Agreement.

In Section 3.6 of the Settlement Agreement, the end-of-season success of the grazing season would be identified on upland areas as light use levels (i.e. 30% use for key woody species and 40% use for key herbaceous species, except in the Mule Canyon use area where the end-of-season use level will be light to moderate use (i.e. 30% use of all key woody species and 50% use of all key herbaceous species.) For riparian areas, success was identified as a 4-inch stubble height on all key herbaceous species and 30% use on key woody riparian browse species. Finally, in Section 3.12, “overall allotment success” was defined as having 70% of the use areas meeting the end-of-season prescribed utilization levels for upland and riparian areas, with an aspirational goal of 100% success resulting from adaptive management and adjustments to the annual stockmanship plan.

As a result of dispute resolutions, the final determination of success will be calculated only on use areas that either clearly did not meet thresholds (successful) or clearly did meet thresholds (not successful). On upland use areas there were 17 sites that were clearly successful and no use areas that were clearly not successful; therefore there was 100% success in the uplands. There were a total of 2 sites that were statistically uncertain. On Riparian DMAs, 4 of the use areas were clearly successful and 2 use areas were clearly not successful; therefore there was a success rate of 66% success rate on riparian DMAs. There were a total of 6 use areas that were statistically uncertain. Overall, there were 10 use areas that were clearly successful and 3 that were clearly not successful; therefore there was a 77% success rate overall. There were a total of 6 use areas that were statistically uncertain.

In 2016, 4 riparian exclosures were constructed to provide resource protection and assist in stockmanship across the Argenta Allotment. These exclosures are in the Mill Creek, North Fork Mill Creek, Slaven and Mule Canyon Use Areas. Two additional exclosures have been authorized under final decision by the MLFO but to date have not been constructed. These will be constructed in Maysville South Use Area and in North Fork Mill Creek. Of the 4 riparian exclosures already on the ground the Mule Canyon, Slaven and Ratfink exclosures enclose at least a portion of the DMA for that use area. Additionally, it should be noted that the 2 exclosures in Maysville South and North Fork Mill Creek will enclose DMAs as well once constructed.

The end-of-season monitoring data from 2016 indicates that there is improvement across use areas with consistently lower utilization measured across upland monitoring sites. The monitoring data collected at DMAs suggest that where riparian exclosures were installed in 2016, short-term indicators of livestock use were consistently lower on both herbaceous and woody species. There was also notable improvement on woody browse in 2016 compared to 2015 across all DMAs. Going into the 2017 grazing year, management will be focused on riparian areas that still need additional improvement. The CMG has agreed on refining the stockmanship plan from 2016 to address these areas. Additionally, some of these sites may see the installation of jackrail fencing in 2017. The NRST has also identified and recommended additional sites that would benefit from temporary electric fences.

In the November CMG meeting, it was generally agreed that the level of within season monitoring was too extensive, particularly in upland areas. In the coming months, the MLFO and the Permittees will work together to develop a cooperative monitoring program which will focus on simple rapid monitoring methods which will inform the permittees on when to schedule livestock movements before utilization thresholds are met. Priorities for monitoring will be focused on use areas that fell within the not successful or may not have been successful at the conclusion of 2016. Attached to this report, is a summary presentation on long-term MIM data collected in June and the within-season monitoring data reported by Intermountain Range Consultants.

ACRONYMS AND ABBREVIATIONS

AUM – Animal unit month

BLM – Bureau of Land Management

BM – Battle Mountain

CMG – Cooperative Monitoring Group

DMA – Designated Monitoring Area

KMA – Key Monitoring Area

MIM – Multiple Indicator Monitoring

NRCS – Natural Resources Conservation Services

NRST – National Riparian Service Team

OHA – Office of Hearings and Appeals

USDA – United States Department of Agriculture

UTM – Universal Transverse Mercator (coordinate system)

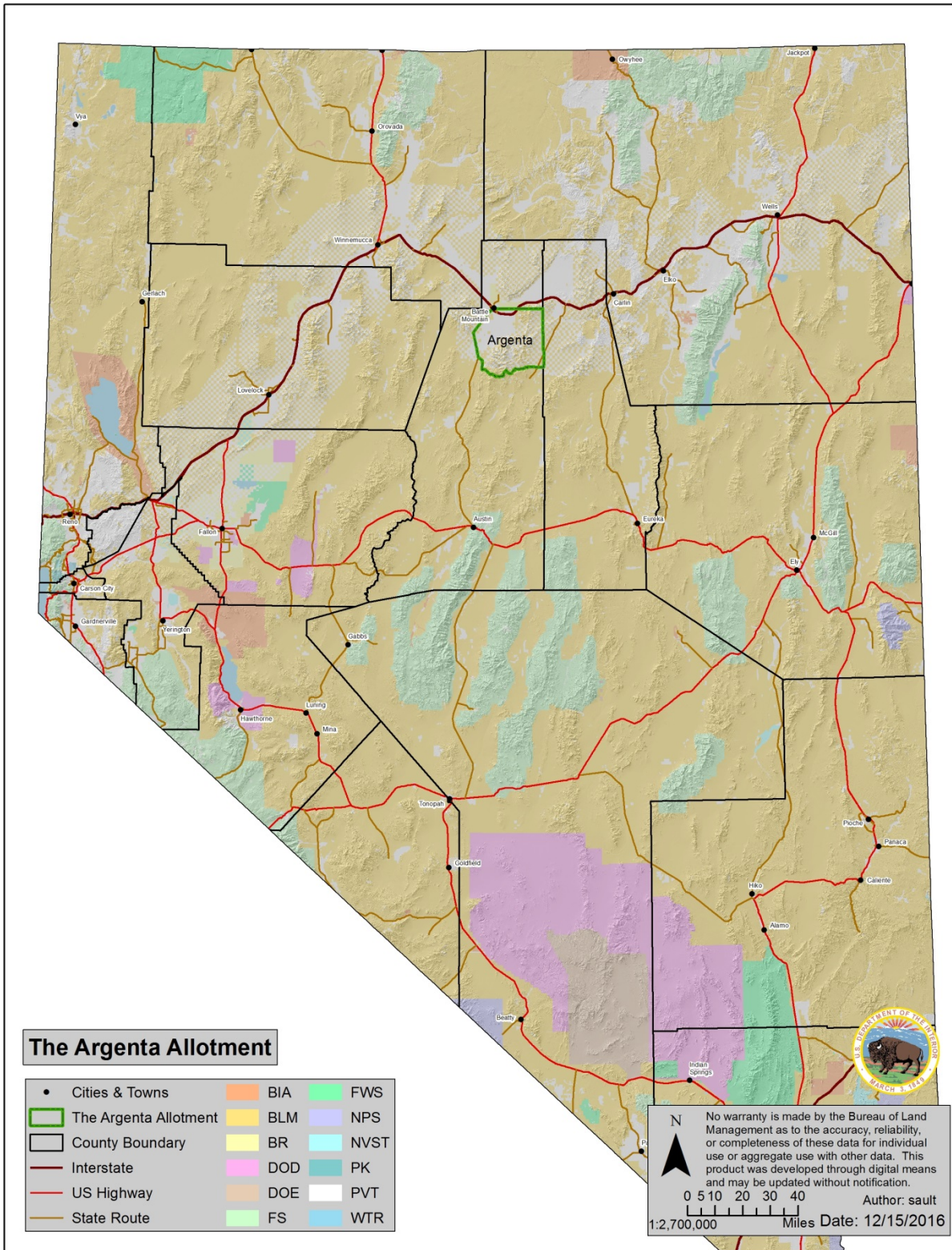


Figure 1. Map depicts the Argenta Allotment in relation to Nevada.

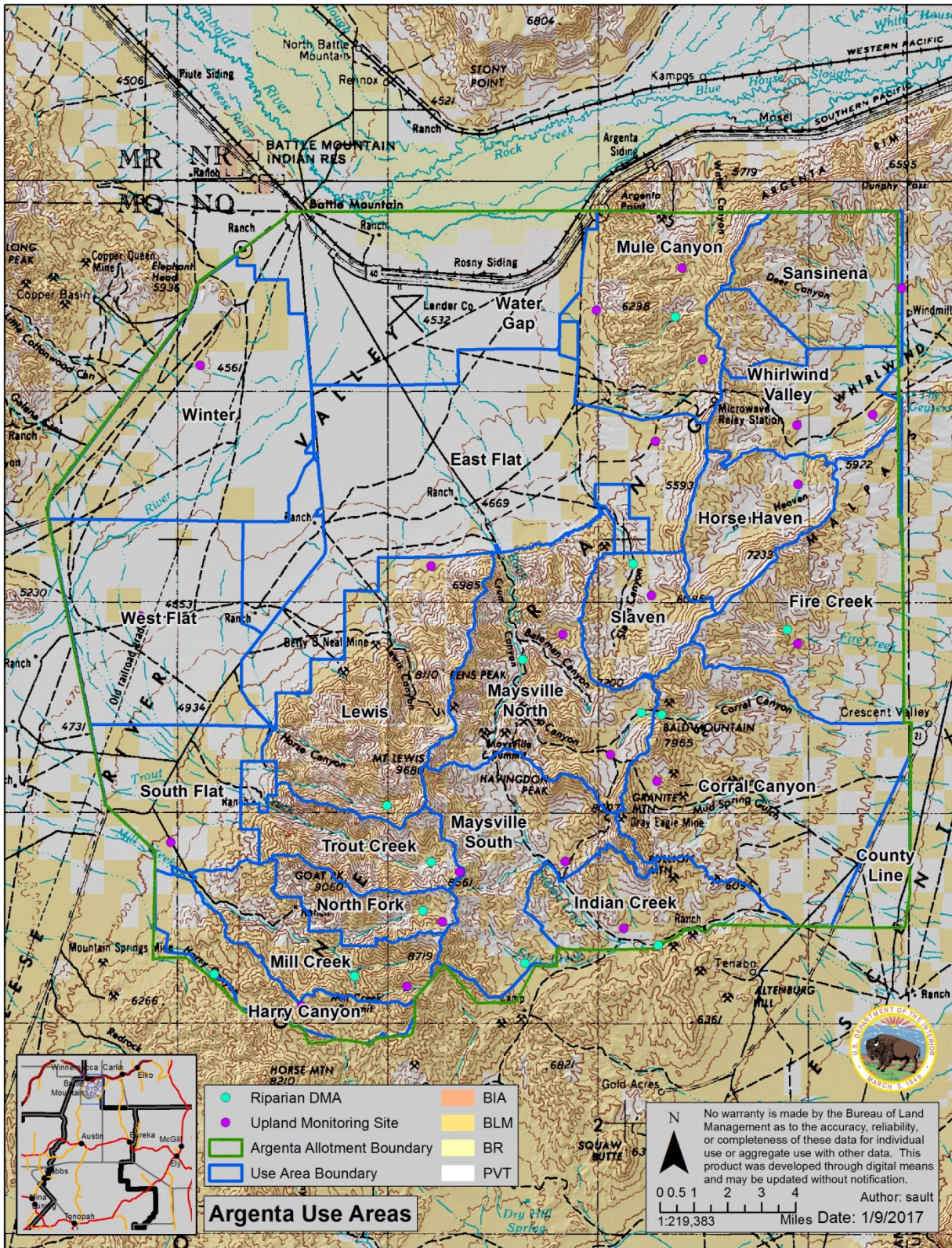


Figure 2. Map depicts the use areas within the Argenta Allotment.

BACKGROUND

The Argenta Allotment is located southeast of Battle Mountain, Nevada and encompasses 331,518 acres, of which 141,689 acres are public land administered by the Bureau of Land Management (BLM). The primary resource values are greater sage-grouse priority habitat, emergency stabilization and rehabilitation post-fire seeding treatments, riparian and wetland habitat and isolated communities of aspen stands. The Argenta Allotment provides habitat for an array of avian species and forage for big game species such as mule deer and antelope. The riparian areas managed by BLM on public lands include 42 miles of perennial stream, 329 miles of intermittent/ephemeral stream, and 43 springs (*US Geological Survey's National Hydrography Dataset*, Version 210 (released 5/7/2014)). Additional riparian/wetland areas are present on intermingled private lands that are owned by a variety of individuals and groups, as well as permittees. No wild horse and burro herd management areas are present within the Argenta Allotment.

On August 22, 2014, the BLM Battle Mountain (BM) District issued a drought decision to temporarily close 9 of the 19 grazing Use Areas on the Argenta Allotment to protect the range during persistent drought conditions. Multiple appeals from the drought decision were filed with the Hearings Division in the Office of Hearings and Appeals (OHA), and were docketed as follows:

- Julian Tomera Ranches Inc., Battle Mountain Division, Chiara Ranch, Daniel E. and Eddyann U. Filippini, and Henry Filippini, Jr. v. BLM, NV-06-14-03
 - (Western Watersheds Project, Intervenor);
- John Carpenter v. BLM, NV-06-14-04;
- Western Watersheds Project v. BLM, NV-06-14-05;
- Nevada Land Action Association and Public Lands Council v. BLM, NV-06-14-06.

At the beginning of the 2015 grazing season, the Permittees and BLM initiated discussions to determine whether it would be possible to replace the temporary drought closure with a short-term grazing management strategy that prevents overgrazing and provided for resource protection, particularly in riparian areas. The BLM-NV State Director, BM District Manager, and Permittees requested National Riparian Service Team (NRST) assistance in working with the various stakeholders to explore development of an alternative short-term grazing management plan that protects range resources, while allowing for replacement of the temporary closures with management. This Agreement outlines the parameters for re-opening the temporarily closed Use Areas to grazing and for interim grazing management on the currently open Use Areas in the Argenta Allotment, using management techniques that are effective, feasible, and designed to achieve resource objectives. The Agreement is designed as a three-year interim management initiative that will include ongoing assistance and oversight by the NRST.

The agreement was submitted to the Office of Hearings and Appeals by a joint motion requesting dismissal of the pending appeals on June 16, 2014. It was accepted and approved through an Order issued from the OHA on June 24, 2015.

The settlement agreement establishes several provisions that are pertinent to this monitoring report:

1. Requires within-season and end-of-season monitoring
2. Establishes utilization levels for upland and riparian areas and sets goal for success
3. Requires public involvement at the end of each grazing season
4. Requires an adaptive management framework when goals are not met

Within-Season and End-of-Year Monitoring

Permittees monitored utilization levels at riparian DMAs and upland monitoring sites during the grazing period to inform livestock movements. The permittees, BLM and/or other members of the Cooperative Monitoring Group (CMG) collected utilization, stubble height, and woody browse information at the end of the grazing season to determine end-of-season use levels in each use area.

Establishes use levels for upland and riparian areas and sets goal for success

The agreement states that if either the riparian or upland within-season trigger is met for part of a Use Area, the affected Permittees will promptly move the livestock to another part of the Use Area if feasible, or from the Use Area if rotation within the Use Area is not feasible. If either the riparian or upland Use Levels is met in an entire Use Area, the affected Permittee will promptly move livestock to another Use Area that has not yet been grazed. If the within-season trigger is met for all Use Areas within the allotment, all livestock must be removed from the allotment within 7-10 days.

Within Season triggers area as follows:

- The Within-Season triggers for upland areas in the nine Use Areas that were temporarily closed to grazing under the August 22, 2014, Decision will be light use, i.e. 30% use of all key woody species and 30% use of all key herbaceous species, respectively (not a combined average use of the two), as measured at Key Areas.
- The Within-Season triggers for upland areas in the Use Areas that remain open to grazing under the August 22, 2014, Decision (except for Mule Canyon Use Area) will be light use, i.e., 30% use of all key woody species and 35% use of all key herbaceous species, respectively (not a combined average use of the two), as measured at Key Areas.
- The Within-Season triggers for upland areas in Mule Canyon Use Area will be light use, i.e., 30% use of all key woody species and 40% use of all key herbaceous species, respectively (not a combined average use of the two), as measured at Key Areas.
- The Within-Season triggers for riparian areas will be 4" stubble height on all key herbaceous species and 30% use of key woody riparian browse species, as measured at DMAs.

End-of-season use levels are as follows:

- The end-of-season use levels for upland areas (except for the Mule Canyon Use Area) will be light use, i.e. 30% use for key woody species and 40% use for key herbaceous species, respectively (not a combined average use of the two), as measured at key areas.
- The end-of-season use levels in the Mule Canyon Use Area will be light to moderate use, i.e., 30% use of all key woody species and 50% use of all key herbaceous species, respectively (not a combined average of the two), as measured at key areas.
- In all Use Areas, the end-of-season use levels for riparian areas will be 4" stubble height on all key herbaceous species and 30% use of key woody riparian browse species, as measured at DMAs [designated monitoring areas].

Overall Allotment Success, for the purpose of this Interim Management Plan, is defined as having 70% of Use Areas (based on grazing use measurements at key areas and DMAs) meeting the end-of-season prescribed utilization levels for upland and riparian areas. This will allow for a learning curve and identification of any necessary adjustments (during implementation of the new intensive Stockmanship program under the Interim Management Period) so as to achieve demonstrable improvement in success in achieving the end-of-season use levels from year to year, toward an aspirational goal of 100% success. A Demonstrable Improvement in Success is a steady increase in the number of monitoring sites meeting end-of-year use levels over the course of this Agreement.

Requirement for public involvement at the end of each year

The agreement states, "To involve the public during the interim management period, the public will be invited to a public meeting at least annually between January and February so that CMG and NRST can review the previous year's monitoring information, review proposed changes in the annual stockmanship plans, and solicit public comments." In 2015, the BLM decided the most effective way to involve the public was to issue a monitoring report. For 2016, this comprehensive report will remain the method by which the CMG solicits involvement from the public. Following issuance, a 15-day public comment period will be provided for the public to consider and comment on the management in the Argenta Allotment under the

2015 Argenta Settlement Agreement before the 2017 stockmanship plan is finalized.

Requires adaptive management when goals are not met

Before March 1st (i.e., the start of the next grazing season), the CMG will complete an end-of-year review, assess all the monitoring information and comments from the public and develop new stockmanship plans designed to meet Overall Allotment Success.

The Use Area End-of-Season Assessment Process Flow Chart (Appendix 1 of the Settlement Agreement) will be used as a guide. Where changes in grazing management are needed, adjustments may be made to the timing, duration, and/or intensity of grazing (e.g., stock density/livestock numbers, season of use, length of use, range improvements, and/or rest).

METHODS

Under terms of the Settlement Agreement, monitoring methods and analysis of the monitoring data will follow BLM protocols. Upland monitoring included the collection of annual utilization of key herbaceous species using the height/weight method and of key shrubs and half shrubs using the key species method, both of which are described in the Interagency Technical Reference 1734-3 (Coulloudon et al. 1999). Riparian monitoring included the measurement of stubble height on key herbaceous species, streambank alteration, and browse levels on key woody species using the methods described in the multiple indicator monitoring (MIM) protocol, BLM Technical Reference 1737-23 (Burton et al. 2011). It should be noted that a monitoring threshold for streambank alteration was not provided for under the 2015 Argenta Settlement Agreement. Analysis and interpretation of monitoring data followed the protocols of BLM Technical Reference 1730-1 (Elzinga et al. 1998). When possible, repeat photos were collected to show changes in resource condition prior to and over the course of the settlement agreement. Sites were monitored by dividing CMG members into 2 teams of 5-8 individuals. One team visited riparian Designated Monitoring Areas (DMAs) over the course of 5 days and one team visited the upland Key Areas over 6 days.

Members of the CMG conducted monitoring from October 10-21, 2016 on upland and riparian sites throughout the Argenta Allotment. The purpose of this round of monitoring was to collect end-of-season use data at monitoring sites as specified in the Settlement Agreement. Monitoring sites were vetted through an extensive review process with the CMG in 2015/2016. Some potential limitations of some preexisting and new sites were discovered during the October 2015 monitoring work, consequently the CMG formed an ID team comprised of technical experts from the NRST, NV State Office and the Mount Lewis Field Office to verify several upland monitoring sites.

Analysis and interpretation of utilization data

Both Coulloudon et al. (1996) and Elzinga et al. (1998) discuss the process of data analysis and interpretation of utilization data or data used to determine if prescribed thresholds are met. For example, Coulloudon et al. (1996, p. 13) emphasize the need to calculate and use confidence intervals to interpret rangeland monitoring data:

“Confidence Interval – In rangeland monitoring, the true population total (or any other true population parameter) can never be determined. ***The best way to judge how well a sample estimates the true population total is by calculating a confidence interval.*** [Emphasis added.] The confidence interval is a range of values that is expected to include the true population size (or any other parameter of interest, often an average) a given percentage of the time (Krebs 1989).

Confidence intervals are the principal means of analyzing utilization data. [Emphasis added.]

For instructions in calculating confidence intervals, see the [BLM] Technical Reference, *Measuring & Monitoring Plant Populations* [Elzinga et al. 1998.]”

In the BLM Technical Reference, *Measuring & Monitoring Plant Populations*, Elzinga et al. (1998) illustrates how the statistical relations of four possible monitoring results are interpreted (Figure 3). For example, in example (A), the parameter estimate along with the entire range of the confidence interval is below the threshold (in this case the end-of-season prescribed use level). In this case, the grazing use is clearly lighter than the prescribed use level, or threshold, and use at the monitoring site “meets” the prescribed use level. In example (D), the parameter estimate along with the entire range of the confidence interval is above the threshold (in this case the end-of-season prescribed use level). In this case, the grazing use is clearly greater than the prescribed use level, or threshold, and the use at the monitoring site “does not meet” the prescribed use level. In the examples (B) and (C), the confidence intervals span the threshold, or the prescribed use level. Both examples represent a zone of statistical uncertainty as it cannot be known if the true parameter has crossed the threshold. Sites with monitoring data similar to example (B) will be defined as ‘More likely than not to not meet the threshold’. Sites with monitoring data similar to example (C) will be defined as ‘more likely than not to have met the threshold’.

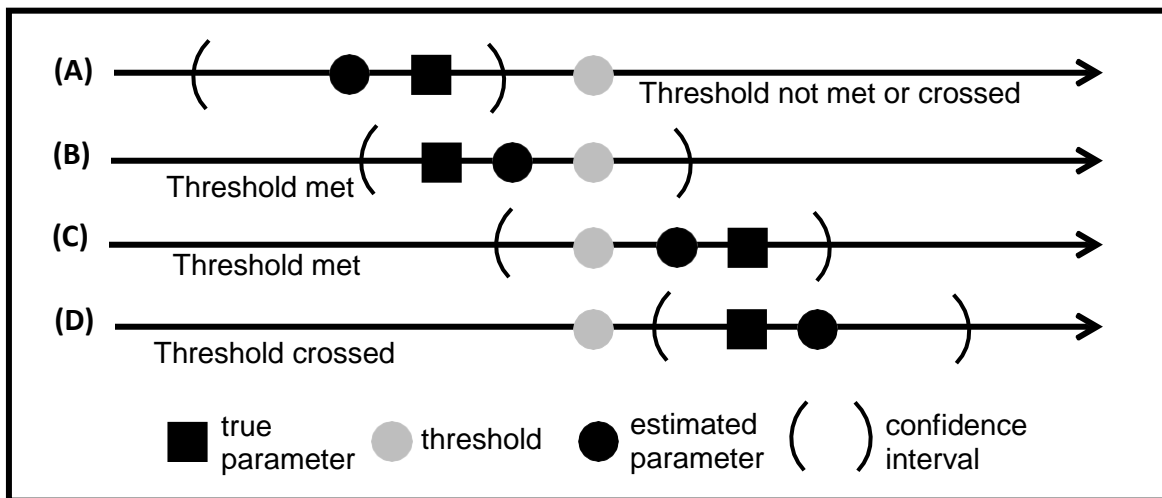


Figure 3. (Figure from BLM Technical Reference 1730-1) The four different possible outcomes when comparing a parameter estimate and confidence interval to a threshold level. The true parameter is shown only for illustrative purposes; we would never know it when conducting sampling.

The confidence interval is dependent on the:

- Sample size (typically 20-30 for upland utilization and 20-150 for stubble height);
- Measurement precision (1/4 inch for upland utilization; 1 inch for stubble height; and as much as +/- 10% for the key species and the woody browse methods (e.g., a measurement of 4" represents a stubble height of any measured plant that falls within a range from 3.5" to 4.5"; likewise a woody browse measurement of 30% represents browse on a plant that ranges from a low of 21% to a high of 40%);
- Variability of measurements (higher variability within the sample population leads to a larger confidence interval);
- Observer errors or bias (which the CMG has tried is minimized by writing a detailed protocol of monitoring methods and providing field review and training of methods);
- Natural or environmental site variability (which is minimized by good site stratification),
- Level of statistical significance used;
- Statistical power and degree of confidence desired (MacDonald et al. 1991.) In multiple-indicator monitoring (MIM – BLM Technical Reference 1737-23), the default confidence interval is 95% (Burton et al., 2011, p. 23).

The preferred sample size for upland monitoring sites is 20-30 samples per species. Some sites had infrequent key species however and a minimum of 10 was required to be included into analysis.

USE AREA RESULTS

In October 2016, the CMG monitored 23 upland monitoring sites and 13 riparian DMAs across 19 use areas in the Argenta Allotment. In the 2015 Argenta Settlement Agreement, success is defined as having 70% of Use Areas not meeting the end of season prescribed utilization levels for upland and riparian areas. Over the duration of the interim management plan implemented by the Settlement Agreement, use areas that are not successful will be identified for changes in stockmanship and will be prioritized for intensive monitoring to ensure demonstrable improvement. The long-term goal is to strive for an aspirational goal of 100% success. This section discusses the success of stockmanship practices at the use area level. Results on a monitoring site level are summarized in a later section for upland monitoring sites and riparian DMAs individually in later sections.

Table 1. Table represents summary by use areas of upland monitoring data. , Dashes represent that no data were collected related to that annual indicator in that use area.

Use Area	Operator	Upland Herbaceous	Upland Woody	Upland Overall
Corral Canyon	C Ranches*	Not Met	--	Not Met
East Flat	Julian Tomera	Not Met	--	Not Met
Fire Creek	Henry Filippini	Not Met	--	Not Met
Harry Canyon	Chiara Ranch	More Likely Than Not To Not Have Met	--	More Likely Than Not To Not Have Met
Horse Haven	Henry Filippini	Not Met	--	Not Met
Indian Creek	C Ranches*	Not Met	--	Not Met
Lewis	Julian Tomera	Not Met	--	Not Met
Maysville North	Julian Tomera	Not Met	--	Not Met
Maysville South	Julian Tomera	Not Met	--	Not Met
Mill Creek	Chiara Ranches	More Likely Than Not To Not Have Met	--	More Likely Than Not To Not Have Met
Mule Canyon	Julian Tomera	Not Met	Not Met	Not Met
North Fork Mill Creek	Julian Tomera	Not Met	--	Not Met
Sansinena	Henry Filippini	Not Met	Not Met	Not Met
Slaven	Julian Tomera	Not Met	--	Not Met
South Flat	Julian Tomera	Not Met	Not Met	Not Met
Trout Creek	Julian Tomera	Not Met	--	Not Met
West Flat	Julian Tomera	--	Not Met	Not Met
Whirlwind	Henry Filippini	Not Met	--	Not Met
Winter	Julian Tomera	--	Not Met	Not Met

Upland utilization was collected across 23 upland monitoring sites in 19 use areas; utilization was measured on

herbaceous vegetation at 17 use areas within the Argenta Allotment. Fifteen of the 17 use areas in which herbaceous utilization was collected were successful in that they did not have any sites that met utilization thresholds (Table 1). Two of the 17 use areas where herbaceous utilization was collected in the uplands had sites that were more likely than not to not have met utilization thresholds.

Woody use was collected in the uplands across 5 use areas in Argenta. All 5 of the use areas monitored for key woody species in the uplands were successful in not having any sites that met utilization triggers (Table 1)..

Seventeen of the 19 use areas monitored for upland utilization indicators were successful in not meeting upland monitoring thresholds. The remaining 2 of 19 use areas were more likely than not to not have met upland utilization thresholds and may have been successful. There was no upland monitoring sites that clearly exceeded utilization thresholds.

As a result of dispute resolutions, the final determination of success will be calculated only on use areas that either clearly did not meet thresholds (successful) or clearly did meet thresholds (not successful). On upland use areas there were 17 sites that were clearly successful and no use areas that were clearly not successful; therefore there was 100% success in the uplands. There were a total of 2 sites that were statistically uncertain.

Table 2. Summary of results by use areas in which data were collected on riparian DMAs. Dashes represent that no data was collected related to that threshold in that use area.

Use Area	Operator	Stubble Height	Woody Species Use	Overall Riparian
Corral Canyon	C Ranches*	More Likely Than Not To Not Have Met	Not Met	More Likely Than Not To Not Have Met
Fire Creek	Henry Filippini	Not Met	Not Met	Not Met
Harry Canyon	Chiara Ranch	--	More Likely Than Not To Not Have Met	More Likely Than Not To Not Have Met
Indian Creek	C Ranches*	Not Met	More Likely Than Not To Have Met	More Likely Than Not To Have Met
Lewis	Julian Tomera	More Likely Than Not To Not Have Met	Not Met	More Likely Than Not To Not Have Met
Maysville North	Julian Tomera	Met	Met	Met
Maysville South	Julian Tomera	More Likely Than Not To Not Have Met	More Likely Than Not To Have Met	More Likely Than Not To Have Met
Mill Creek	Chiara Ranches	More Likely Than Not To Not Have Met	--	More Likely Than Not To Not Have Met
Mule Canyon	Julian Tomera	Not Met	Not Met	Not Met
North Fork Mill Creek	Julian Tomera	Met	--	Met
Slaven	Julian Tomera	Not Met	--	Not Met
Trout Creek	Julian Tomera	Met	--	Met

The 13 riparian DMAs were monitored across 12 use areas in the Argenta Allotment. The CMG collected stubble height data in 11 of the 12 use areas with riparian DMAs (Table 2). Four of the 11 use areas were successful in not meeting the stubble height threshold. Four of the 11 use areas were more likely than not to not have met utilization thresholds and may have been successful. Three of the 11 use areas met stubble height thresholds.

The CMG collected woody species use data in 8 of the 12 use areas with riparian DMAs (Table 2). Four of the 8 use areas were successful in not meeting woody species use thresholds. One of the 8 use areas was more

likely than not to not have met use thresholds and may have been successful. Two of the 8 use areas where more likely than not to have met the woody species use thresholds and may not have been successful. One of the 8 use areas met the woody species use threshold.

Three of the 12 use areas were successful in not meeting riparian monitoring thresholds (See Table 2). Four of the 12 use areas were more likely than not to not have met monitoring thresholds and success is unclear. Two of the 12 use areas were more likely than not to have met monitoring thresholds and success is unclear. 3 of the 12 use areas were not successful and met monitoring thresholds.

As a result of dispute resolutions 2016, the final determination of success will be calculated only on use areas that either clearly did not meet thresholds (successful) or clearly did meet thresholds (not successful). On Riparian DMAs, 4 of the use areas were clearly successful and 2 use areas were clearly not successful; therefore there was a success rate of 66% success rate on riparian DMAs. There were a total of 6 use areas that were statistically uncertain.

Table 3. Summary of results by use areas in which data were collected on both upland monitoring sites and riparian DMAs. Dashes represent that no data was collected related to that thresholds in that use area.

Use Area	Operator	Uplands	Riparian	Use Area Overall
Corral Canyon	C Ranches*	Not Met	More Likely Than Not To Not Have Met	More Likely Than Not To Not Have Met
East Flat	Julian Tomera	Not Met	Not Met	Not Met
Fire Creek	Henry Filippini	Not Met	Not Met	Not Met
Harry Canyon	Chiara Ranch	More Likely Than Not To Not Have Met	More Likely Than Not To Not Have Met	More Likely Than Not To Not Have Met
Horse Haven	Henry Filippini	Not Met	--	Not Met
Indian Creek	C Ranches*	Not Met	More Likely Than Not To Have Met	More Likely Than Not To Have Met
Lewis	Julian Tomera	Not Met	More Likely Than Not To Not Have Met	More Likely Than Not To Not Have Met
Maysville North	Julian Tomera	Not Met	Met	Met
Maysville South	Julian Tomera	Not Met	More Likely Than Not To Have Met	More Likely Than Not To Have Met
Mill Creek	Chiara Ranches	More Likely Than Not To Not Have Met	More Likely Than Not To Not Have Met	More Likely Than Not To Not Have Met
Mule Canyon	Julian Tomera	Not Met	--	Not Met
North Fork Mill Creek	Julian Tomera	Not Met	Met	Met
Sansinena	Henry Filippini	Not Met	--	Not Met
Slaven	Julian Tomera	Not Met	Not Met	Not Met
South Flat	Julian Tomera	Not Met	--	Not Met
Trout Creek	Julian Tomera	Not Met	Met	Met
West Flat	Julian Tomera	Not Met	--	Not Met
Whirlwind	Henry Filippini	Not Met	--	Not Met
Winter	Julian Tomera	Not Met	--	Not Met

Data were collected at both upland monitoring sites and riparian DMAs across 19 use areas (Table 3). Ten of the 19 use areas were successful in not meeting any of the prescribed thresholds. Four of the 19 use areas were more likely than not to not have met monitoring thresholds and may have been successful. Two of the 19 use areas were more likely than not to have met monitoring thresholds and may have not been successful. Three of the 19 use areas met monitoring thresholds and were not successful. Based on these results, the NRST and the Permittees worked to make appropriate changes to the stockmanship plan which is detailed in the section titled 2017 Stockmanship Plan in this report.

As a result of dispute resolutions, the final determination of success will be calculated only on use areas that either clearly did not meet thresholds (successful) or clearly did not meet thresholds (not successful). Overall, there were 10 use areas that were clearly successful and 3 that were clearly not successful; therefore there was a 77% success rate overall. There was a total of 6 sites that were statistically uncertain.

UPLAND MONITORING RESULTS

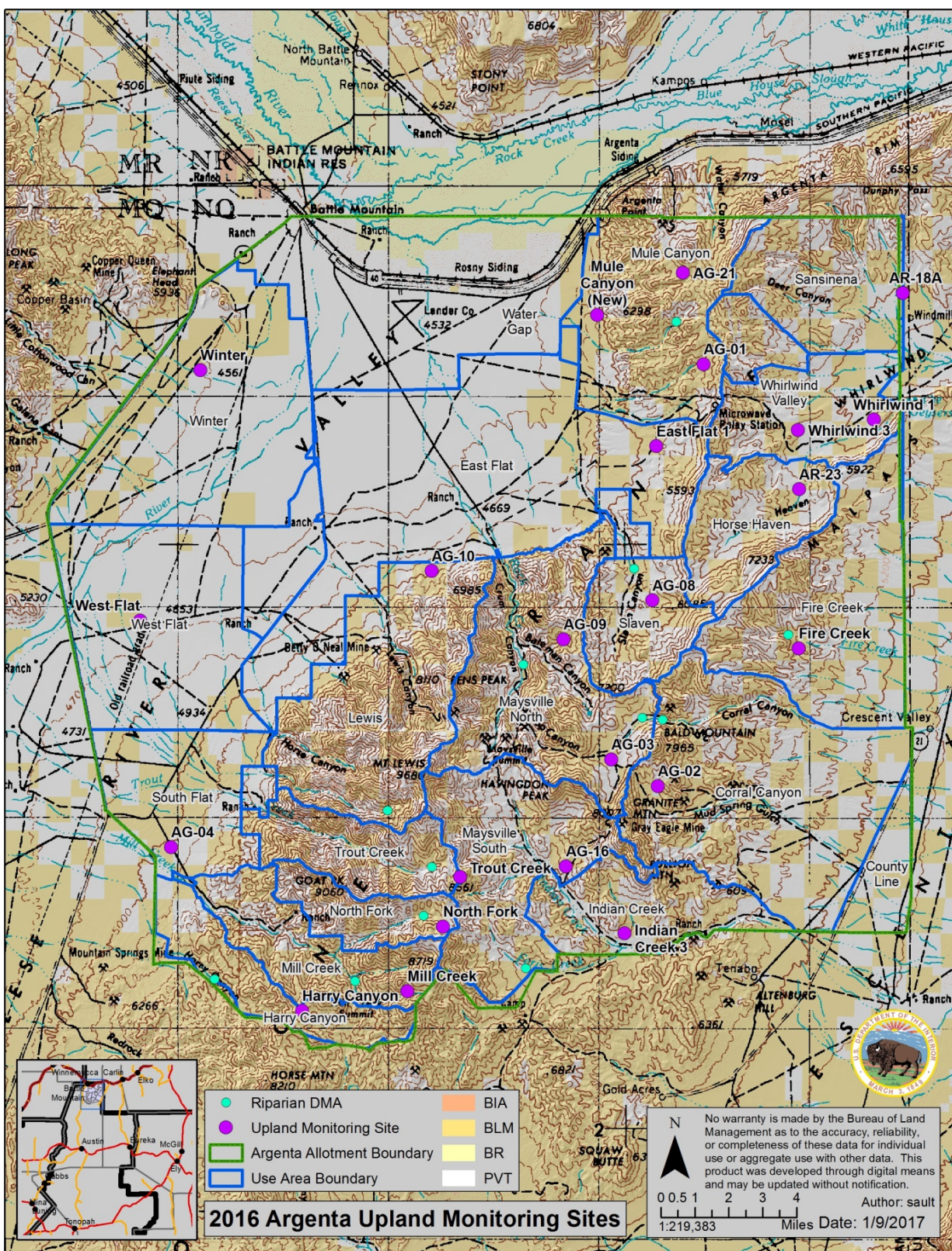


Figure 4. Map depicts the upland sites monitored in Argenta in October 2016.

Table 4. Table represents the NRCS plant symbols, scientific names, common names and growth type for key species observed in the uplands.

UPLAND KEY SPECIES LIST			
NRCS Plant Symbol	Scientific Name	Common Name	Type
ACLE9	Achnatherum lettermanii	Letterman's needlegrass	Herbaceous
ACTH7	Achnatherum thurberianum	Thurber's needlegrass	Herbaceous
AGCR	Agropyron cristatum	crested wheatgrass	Herbaceous
ATCO	Atriplex confertifolia	shadscale saltbush	Woody
BAPR5	Bassia prostrata	forage kochia	Woody
BRMA4	Bromus marginatus	mountain brome	Herbaceous
ELEL5	Elymus elymoides	squirreldtail	Herbaceous
ELTR7	Elymus trachycaulus	slender wheatgrass	Herbaceous
FEID	Festuca idahoensis	Idaho fescue	Herbaceous
POSE	Poa secunda	Sandberg bluegrass	Herbaceous
PSSPS	Pseudoroegneria spicata	bluebunch wheatgrass	Herbaceous
THIN6	Thinopyrum intermedium	intermediate wheatgrass	Herbaceous

Upland Monitoring Summary

Table 5. Summary of annual utilization relative to thresholds established by the 2015 Argenta Settlement Agreement. Dashes represent that data was not collected for that site.

Use Area	Operator	Location	Herbaceous	Woody	Overall
Corral Canyon	C Ranches*	AG-02	Not Met	--	Not Met
East Flat	Julian Tomera	East Flat 1	Not Met	--	Not Met
Fire Creek	Henry Filippini	Fire Creek	Not Met	--	Not Met
Harry Canyon	Chiara Ranch	Harry Canyon	More Likely Than Not To Not Have Met	--	More Likely Than Not To Not Have Met
Horse Haven	Henry Filippini	AR-23	Not Met	--	Not Met
Indian Creek	C Ranches*	Indian Creek 3	Not Met	--	Not Met
Lewis	Julian Tomera	AG-10	Not Met	--	Not Met
Maysville North	Julian Tomera	AG-03	Not Met	--	Not Met
Maysville North	Julian Tomera	AG-09	Not Met	--	Not Met
Maysville South	Julian Tomera	AG-16	Not Met	--	Not Met
Mill Creek	Chiara Ranches	Mill Creek	More Likely Than Not To Not Have Met	--	More Likely Than Not To Not Have Met
Mule Canyon	Julian Tomera	AG-01	Not Met	Not Met	Not Met
Mule Canyon	Julian Tomera	AG-21	Not Met	Not Met	Not Met
Mule Canyon	Julian Tomera	Mule Canyon (New)	--	Not Met	Not Met
North Fork Mill Creek	Julian Tomera	North Fork	Not Met	--	Not Met
Sansinena	Henry Filippini	AR-18A	Not Met	Not Met	Not Met
Slaven	Julian Tomera	AG-08	Not Met	--	Not Met
South Flat	Julian Tomera	AG-04	Not Met	Not Met	Not Met
Trout Creek	Julian Tomera	Trout Creek	Not Met	--	Not Met
West Flat	Julian Tomera	West Flat	--	Not Met	Not Met
Whirlwind	Henry Filippini	Whirlwind 1	Not Met	--	Not Met
Whirlwind	Henry Filippini	Whirlwind 3	Not Met	--	Not Met
Winter	Julian Tomera	Winter	--	Not Met	Not Met

*C Ranches is permitted to graze within the Argenta allotment, but is not a signatory party to the Argenta Settlement Agreement.

In the 2015 Argenta Settlement Agreement, success is defined as have 70% of Use Areas meeting the end of season prescribed utilization levels for upland and riparian areas. Over the duration of the interim management plan implemented by the Settlement Agreement, use areas that are not successful will be identified for changes in stockmanship and will be prioritized for intensive monitoring to ensure

demonstrable improvement. The long-term goal is to strive for an aspirational goal of 100% success.

In the uplands, with exception in the Mule Canyon Use Area (AG-03 and AG-09 monitoring areas) the prescribed threshold for the uplands is 30% use for key woody species and 40% utilization for key herbaceous species. In the Mule Canyon Use Area, the prescribed threshold is 30% use for key woody herbaceous species and 50% use of all key herbaceous species.

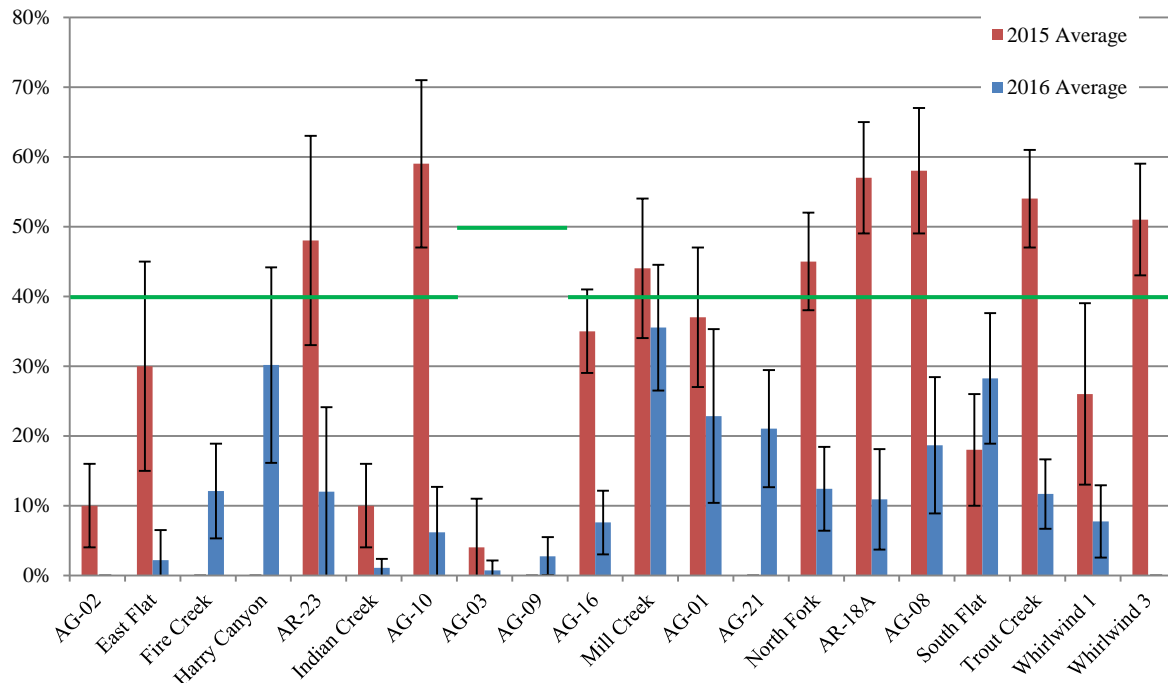


Figure 5 Comparison of end of season herbaceous utilization by monitoring area in 2015 and 2016. Error bars represent 95% confidence interval. No data were collected for herbaceous species at AG-09 and AG-21 in 2015, all other empty values represent 0% utilization measured. The green line represents the utilization threshold as established by the 2015 Argenta Settlement Agreement.

In October 2016, the CMG monitored 23 upland monitoring sites across 19 use areas in the Argenta Allotment (Figure 4). Twenty of the 23 upland monitoring sites were monitored for key herbaceous species in 2016 across 17 use areas (Figure 5). Eighteen of the 20 monitoring sites were successful in not meeting utilization thresholds on herbaceous species (Table 5). Two of the 20 upland monitoring sites were more likely than not to not have met utilization thresholds on herbaceous species.

The CMG collected woody browse data on key woody species on 7 of the 23 upland monitoring sites in 5 use areas (Figure 6). All 7 of the upland monitoring sites did not meet utilization thresholds.

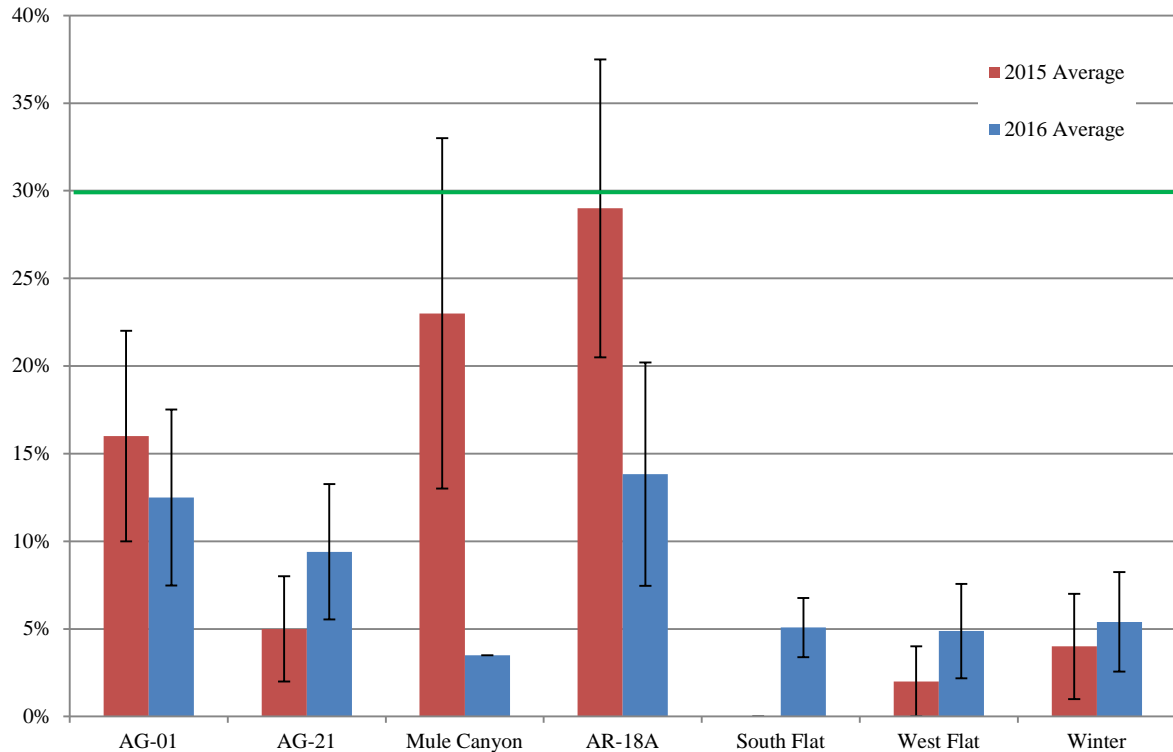


Figure 6. Comparison of end of season woody use by monitoring area in 2015 and 2016. Error bars represent 95% confidence interval. No data was collected for woody species at the South Flat monitoring area in 2015. The green line represents the use threshold as established by the 2015 Argenta Settlement Agreement.

In sites where confidence intervals in 2016 don't overlap the confidence intervals from 2015, there is statistically significant difference in utilization (See Figure 5 for key herbaceous species and Table 6 for key woody species). In comparing monitoring data in the uplands from 2016 compared to 2015, 10 of the 23 upland monitoring sites show a demonstrable improvement over the previous year.

In contrast, 3 of the 21 sites show a demonstrable increase in utilization. In 2015, in all 3 of those sites there was no measurable utilization. Two of those sites (Fire Creek and AG-21), while showing higher utilization, still did not meet utilization thresholds. Harry Canyon, the remaining site, saw an increase in utilization and was more likely than not to not have met utilization thresholds.

Corral Canyon Use Area – AG-02

Location in UTM: Zone 11T 522693m 4471785m N

Observations and Results: At the conclusion of the grazing year in 2015, average utilization on this site was $10\% \pm 6\%$. The utilization thresholds, as defined by the settlement agreement, were not met. In 2016, there was no observed utilization. Utilization thresholds were not met as defined by the settlement agreement.

The Corral Canyon Use Area was used by C Ranches, a non-signatory party of the Settlement Agreement, and was not actively grazed by any of the signatory permittees in the 2016 grazing year.

Table 6. Upland monitoring data for AG-02.

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
AG-02 avg.	20	24.1	N/A	0%	$\pm 0\%$
Thurber's needlegrass	20	24.1	N/A	0%	$\pm 0\%$

Table 7. Low frequency species not included at AG-02

Data Not Used Due to Inadequate Sample Size	
	Sample Size
bluebunch wheatgrass	5



Figure 6. Witness post at AG-02

East Flat Use Area – East Flat 1

Location in UTM: Zone 11T 522628m E 4487909m N

Observations and Results: At the conclusion of the grazing year in 2015, average utilization on this site was $30\% \pm 15\%$. The upland utilization threshold, as defined by the settlement agreement, was more likely than not to not have met. In 2016, average observed utilization was slight. On this site, the upland utilization threshold was not met as defined by the settlement agreement. The utilization measured at the conclusion of 2016 shows a statistically significant improvement on this site compared to data collected in 2015.

Table 8. Upland monitoring data for East Flat 1

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
East Flat avg.	20	16.1	3.0	2%	$\pm 4\%$
Sandberg bluegrass	20	16.1	3.0	2%	$\pm 4\%$

Table 9. Low frequency species not included

Data Not Used Due to Inadequate Sample Size	
	Sample Size
bottlebrush squirreltail	9



Figure 7. East Flat 1 landscape photo

Fire Creek Use Area – Fire Creek

Location in UTM: Zone 11T 529395m E 4478311m N

Observations and Results: This site is dominated by sagebrush with an understory of Sandberg's bluegrass and bottlebrush squirreltail. At the conclusion of the grazing year in 2015, there was no observable utilization. The utilization threshold, as defined by the settlement agreement, was not met. In 2016, observed utilization was slight to light. On this site, average utilization threshold was not met as defined by the settlement agreement.

Table 10. Upland monitoring data for Fire Creek

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
Fire Creek avg.	40	14.2	2.4	12%	± 7%
squirreltail	20	14.4	4.5	20%	± 9%
Sandberg bluegrass	20	14.1	0.3	5%	± 9%

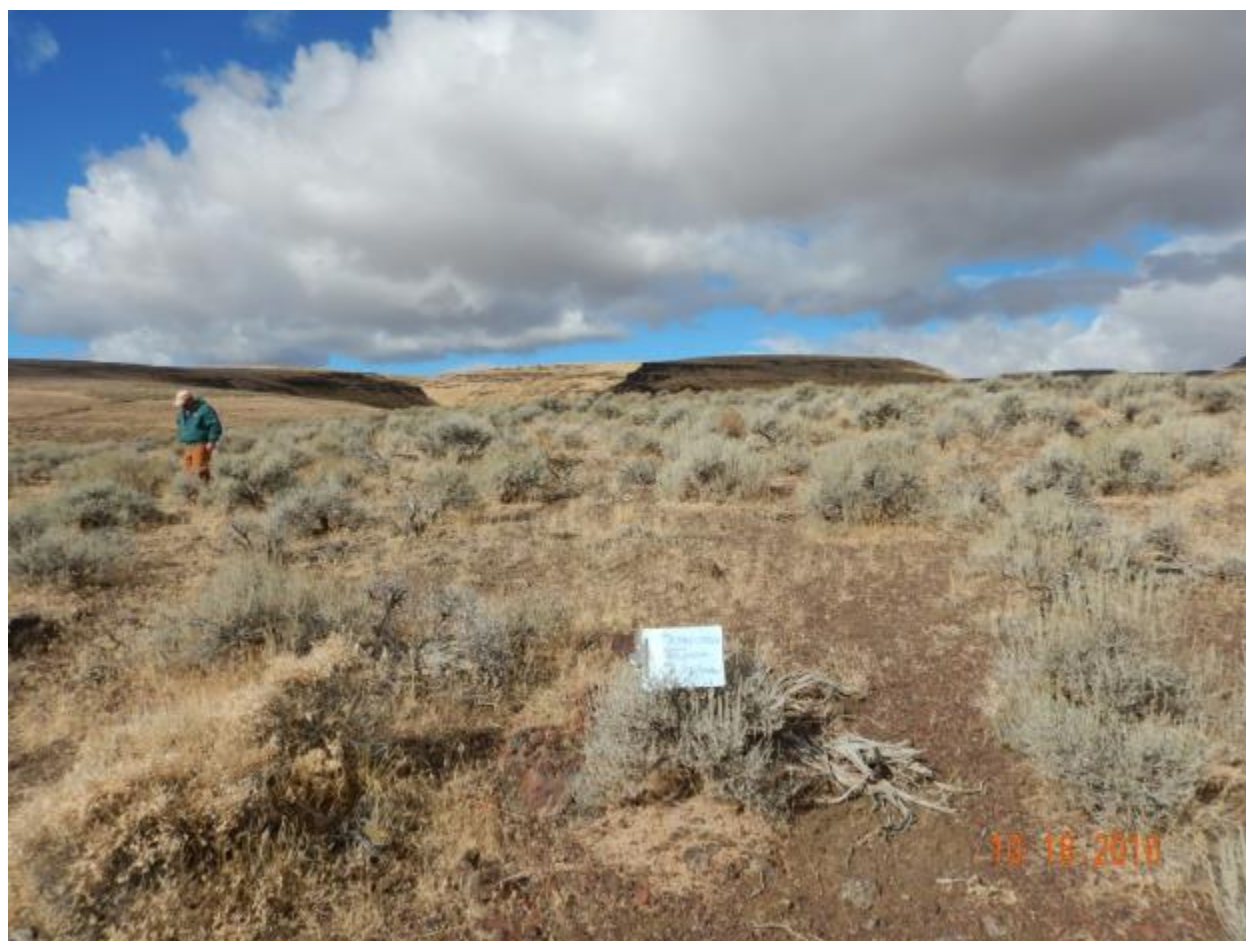


Figure 8. Fire Creek landscape photo

Harry Canyon Use Area – Harry Canyon

Location in UTM: Zone 11T 505823m E 4461111m N

Observations and Results: At the conclusion of the grazing year in 2015, no observable utilization was measured. The utilization threshold, as defined by the settlement agreement, was not met. In 2016, average observed utilization was slight to moderate. On this site, the utilization threshold was more likely than not to not have met as defined by the settlement agreement.

Because this site is more likely than not to not have met utilization thresholds, the CMG has determined this site will be prioritized for more intensive monitoring and increased focus on stockmanship to ensure that thresholds are not met during the 2017 grazing year.

Table 11. Upland monitoring data for Harry Canyon

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
Harry Canyon avg.	20	19.3	4.7	30%	± 14%
Sandberg bluegrass	20	19.3	4.7	30%	± 14%



Figure 9. Harry Canyon landscape photo

Horse Haven Use Area – AR-23

Location in UTM: Zone 11T 529408m E 4485867m N

Observations and Results: This site had burned in the past and was reseeded with crested wheatgrass. The understory of the site is dominated with Sandberg's bluegrass and includes an abundance of cheatgrass and other annuals. At the conclusion of the grazing year in 2015, average utilization on this site was $48\% \pm 15\%$. The utilization threshold, as defined by the settlement agreement, was more likely than not to have met. In 2016, average observed utilization was slight. On this site, the utilization threshold was not met as defined by the settlement agreement. The utilization measured at the conclusion of 2016 shows a statistically significant improvement on this site compared to data collected in 2015.

Table 12. Upland monitoring data for AR-23

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
AR-23 avg.	20	14.0	5.3	12%	$\pm 12\%$
Sandberg bluegrass	20	14.0	5.3	12%	$\pm 12\%$



Figure 10. AR-23 landscape photo

Indian Creek Use Area – Indian Creek 3

Location in UTM: Zone 11T 521121m E 4464800m N

Observations and Results: At the conclusion of the grazing year in 2015, average utilization on this site was $10\% \pm 8\%$. The utilization threshold, as defined by the settlement agreement, was not met. In 2016, average observed utilization was slight. On this site, the utilization threshold was not met as defined by the settlement agreement.

The Indian Creek Use Area was used by C Ranches, a non-signatory party of the Settlement Agreement, and was not actively grazed by any of the signatory permittees in the 2016 grazing year.

Table 13. Upland monitoring data for Indian Creek 3

	Sample Size	Ungrazed Avg. Ht (in)	Grazed Avg. Ht (In)	Average Utilization	95% Conf. Interval
Indian Creek avg.	40	12.9	10.3	1%	$\pm 2\%$
Sandberg bluegrass	20	15.7	14.7	1%	$\pm 1\%$
squirreltail	20	10.1	6.0	1%	$\pm 2\%$

Table 14. Low frequency species not included

Data Not Used Due to Inadequate Sample Size	
	Sample Size
Indian ricegrass	8



Figure 11. Indian Creek 3 landscape photo

Lewis Use Area – AG-10

Location in UTM: Zone 11T 511970m E 4481985m N

Observations and Results: This site is dominated by Wyoming big sagebrush with an understory of Sandberg's bluegrass and scattered bottlebrush squirreltail plants. Both at the end of 2015 there was an insufficient sample size for bottlebrush squirreltail. At the conclusion of the grazing year in 2015, average utilization on this site was $59\% \pm 12\%$. The utilization threshold, as defined by the settlement agreement, was met. In 2016, average observed utilization was slight. On this site, the utilization threshold was not met as defined by the settlement agreement. The utilization measured at the conclusion of 2016 shows a statistically significant improvement on annual use indicators on this site compared to data collected in 2015.

Table 14. Upland monitoring data for AG-10

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
AG-10 avg.	30	13.5	4.6	7%	$\pm 7\%$
Sandberg bluegrass	20	14.4	3.4	8%	$\pm 9\%$
squirreltail	10	11.1	6.7	2%	$\pm 2\%$

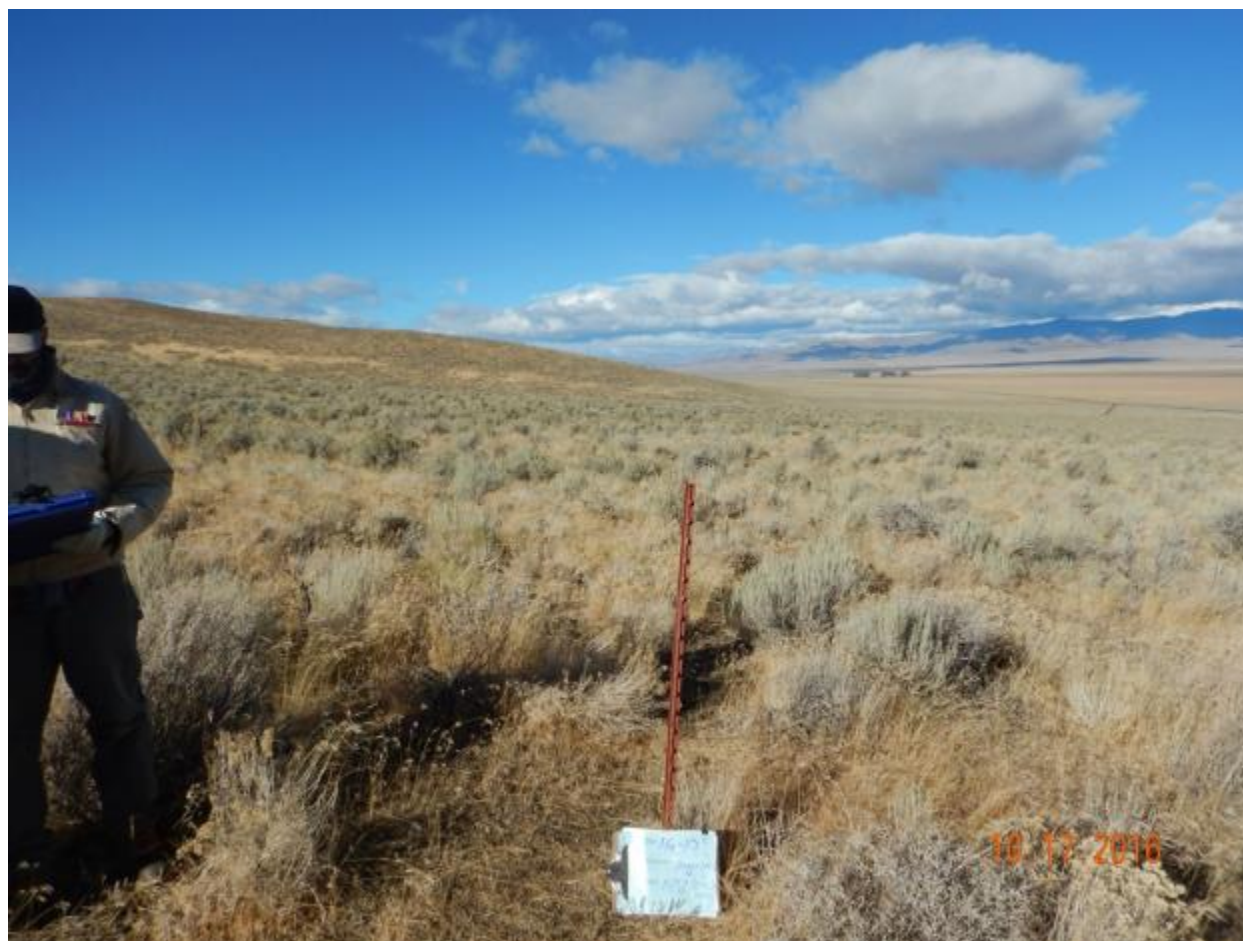


Figure 12. AG-10 witness post

Maysville North Use Area

Maysville North Use Area contains data from two separate upland monitoring sites. Only herbaceous species were monitored at these sites.

Table 15. Average utilization across Maysville North Use Area.

	Sample Size	Ungrazed Avg. Ht (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
Maysville North Use Area avg.	80	21.7	25.1	2%	± 2%
AG-03 avg.	40	10.3	2.8	1%	± 1%
AG-09 avg.	40	33.1	28.8	3%	± 3%

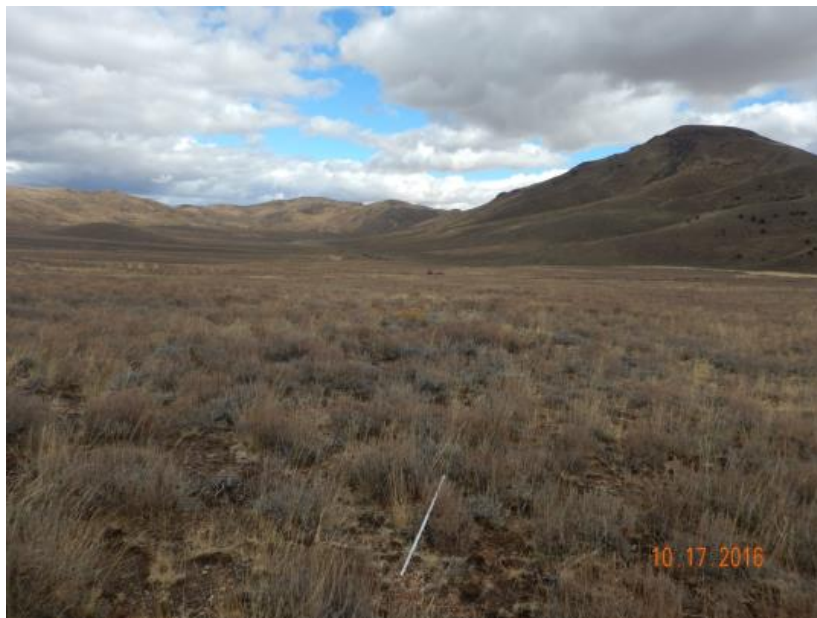


Figure 13. AG-03 landscape photo



Figure 14. AG-09 landscape photo

Maysville North - AG-03

Location in UTM: Zone 11T 520488m E 4473038m N

Observations and Results: At the conclusion of the grazing year in 2015, average utilization on this site was $2\% \pm 4\%$. The utilization threshold, as defined by the settlement agreement, was not met. In 2016, average observed utilization was slight. On this site, the utilization threshold was not met as defined by the settlement agreement.

Table 16. Upland monitoring data for AG-03

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
AG-03 avg.	40	10.3	2.8	1%	$\pm 1\%$
squirreltail	20	8.6	2.8	1%	$\pm 3\%$
Sandberg bluegrass	20	12.1	N/A	0%	$\pm 0\%$

Table 17. Low frequency species not included

Data Not Used Due to Inadequate Sample Size	
	Sample Size
Thurber's needlegrass	2

Maysville North - AG-09

Location in UTM: Zone 11T 518233m E 4478751m N

Observations and Results: At the conclusion of the grazing year in 2015, there was no observable utilization. The utilization threshold, as defined by the settlement agreement, was not met. In 2016, average observed utilization was slight. On this site, the utilization threshold was not met as defined by the settlement agreement.

Table 18. Upland monitoring data for AG-09

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
AG-09 avg.	40	33.1	28.8	3%	$\pm 3\%$
bluebunch wheatgrass	20	29.4	N/A	0%	$\pm 0\%$
intermediate wheatgrass	20	36.9	28.8	6%	$\pm 5\%$

Maysville South Use Area – AG-16

Location in UTM: Zone 11T 518336m E 4467964m N

Observations and Results: This site is dominated with big sagebrush and an understory of Sandberg's bluegrass and bottlebrush squirreltail. At the conclusion of the grazing year in 2015, average utilization on this site was $35\% \pm 8\%$. The utilization threshold, as defined by the settlement agreement, was more likely than not to not have met. In 2016, average observed utilization was slight. On this site, the utilization threshold was not met as defined by the settlement agreement. The utilization measured at the conclusion of 2016 shows a statistically significant improvement on annual use indicators on this site compared to data collected in 2015.

Table 19. Upland monitoring data for AG-16

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
AG-16 avg.	60	18.7	8.0	8%	$\pm 5\%$
Thurber's needlegrass	20	25.0	9.8	12%	$\pm 10\%$
squirreltail	20	14.3	3.7	9%	$\pm 9\%$
Sandberg bluegrass	20	16.7	10.6	2%	$\pm 2\%$



Figure 15. AG-16 landscape photo

Mill Creek Use Area – Mill Creek

Location in UTM: Zone 11T 510814m E 4462038m N

Observations and Results: This site is dominated by sagebrush with an understory of Letterman's needlegrass and mountain brome. At the conclusion of the grazing year in 2015, average utilization on this site was $44\% \pm 10\%$. The utilization threshold, as defined by the settlement agreement, was more likely than not to have met. In 2016, average observed utilization was light to moderate. On this site, the utilization threshold was more likely than not to not have met as defined by the settlement agreement.

Because this site is considered more likely than not to not have met utilization thresholds, the CMG has determined this site will be prioritized for more intensive monitoring and increased focus on stockmanship to ensure that thresholds are not met during the 2017 grazing year.

Table 20. Upland monitoring data for Mill Creek

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
Mill Creek avg.	40	26.3	7.9	35%	$\pm 9\%$
Letterman's needlegrass	20	24.7	6.1	47%	$\pm 11\%$
mountain brome	20	27.8	9.8	22%	$\pm 12\%$



Figure 16. Mill Creek landscape photo

Mule Canyon Use Area

Within the Mule Canyon use area, upland monitoring data was collected at three separate upland monitoring sites. The key species for these sites include both herbaceous and woody species. Under section 3.6 of the settlement agreement, herbaceous and woody species will be evaluated separately. All three sites had been burned previously and were reseeded with either forage kochia, crested wheatgrass or both. Additionally, under the settlement agreement, utilization in the Mule Canyon Use Area is to be 50% of all herbaceous species and 30% of all woody species.

Table 21. Average herbaceous utilization across the Mule Canyon Use Area.

Herbaceous					
	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
Mule Canyon Use Area avg.	60	20.1	6.9	21%	± 6%
AG-01 avg.	20	14.9	4.3	22%	± 12%
AG-21 avg.	40	22.7	8.2	21%	± ± 8%

Table 22. Average woody browse across the Mule Canyon Use Area

Woody			
	Sample Size	Average Use	95% Conf. Interval
Mule Canyon Use Area avg.	60	7%	± 2%
AG-01 avg.	20	13%	± 5%
AG-21 avg.	20	9%	± 4%
Mule Canyon (New) avg.	20	4%	± 0%

Mule Canyon - AG-01

Location in UTM: Zone 11T 524876m E 4491809m N

Observations and Results: At the conclusion of the grazing year in 2015, average utilization on herbaceous species was $37\% \pm 10\%$. The utilization threshold for herbaceous species, as defined by the settlement agreement, was not met. In 2016, average observed utilization on herbaceous species was slight to light. On this site, the utilization threshold for herbaceous species was not met as defined by the settlement agreement.

At the conclusion of the grazing year in 2015, average use on woody species on this site was $16\% \pm 6\%$. The utilization threshold for woody species, as defined by the settlement agreement, was not met. In 2016, average observed utilization was slight. On this site, the utilization threshold was not met as defined by the settlement agreement.

Table 23. Upland monitoring data for AG-01 on key herbaceous species

Herbaceous					
	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
AG-01 avg.	20	14.9	4.3	23%	$\pm 12\%$
Sandberg bluegrass	20	14.9	4.3	23%	$\pm 12\%$

Table 24. Upland monitoring data for AG-01 on key woody species

Woody			
	Sample Size	Average Use	95% Conf. Interval
AG-01 avg.	20	12%	$\pm 5\%$
forage kochia	20	12%	$\pm 5\%$

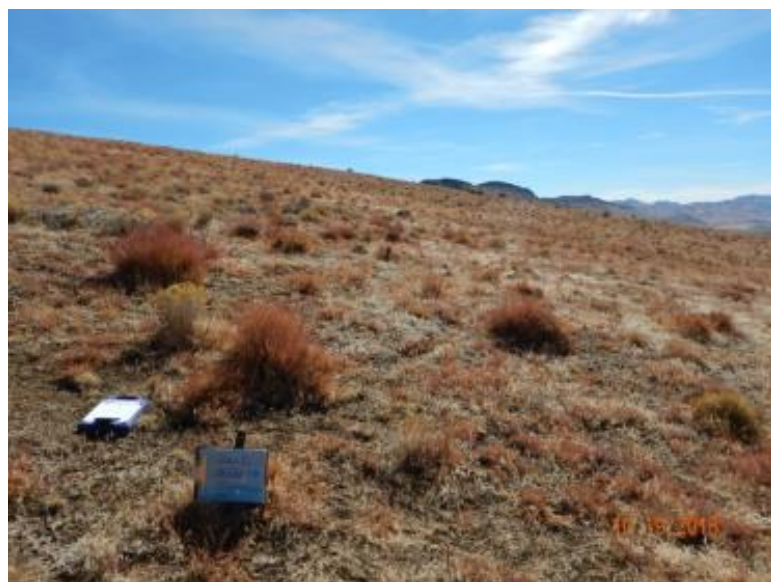


Figure 17. AG-01 landscape photo

Mule Canyon - AG-21

Location in UTM: Zone 11T 523895m E 4496141m N

Observations and Results: At the end of the 2015 grazing year, there was an insufficient sample size of herbaceous vegetation on this site. In 2016, average observed utilization was slight to light. On this site, the utilization threshold was not met as defined by the settlement agreement.

At the conclusion of the grazing year in 2015, average utilization on this site was $5\% \pm 3\%$ for woody species. The utilization threshold, as defined by the settlement agreement, was not met. In 2016, average observed utilization on woody species was slight. On this site, the utilization threshold was not met as defined by the settlement agreement for woody species.

Table 25. Upland monitoring data for AG-01 on key herbaceous species

Herbaceous					
	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
AG-21 avg.	40	22.7	8.2	21%	$\pm 8\%$
crested wheatgrass	20	26.6	8.0	34%	$\pm 12\%$
Idaho fescue	20	18.7	8.3	8%	$\pm 8\%$

Table 26. Upland monitoring data for AG-21 on key woody species

Woody			
	Sample Size	Average Use	95% Conf. Interval
AG-21 avg.	20	9%	$\pm 4\%$
forage kochia	20	9%	$\pm 4\%$



Figure 18. AG-21 landscape photo

Mule Canyon (New)

Location in UTM: Zone 11T 519822m E 4494136m N

Observations and Results: At the conclusion of the grazing year in 2015, average utilization on key woody species on this site was $23\% \pm 10\%$. The utilization threshold, as defined by the settlement agreement, was more likely than not to not have met. In 2016, average observed utilization was slight. On this site, the utilization threshold was not met as defined by the settlement agreement. The utilization measured at the conclusion of 2016 shows a statistically significant improvement on annual use indicators on this site compared to data collected in 2015.

Table 27. Upland monitoring data for AG-01

Woody			
	Sample Size	Average Use	95% Conf. Interval
Mule Canyon avg.	20	4%	$\pm 0\%$
forage kochia	20	4%	$\pm 0\%$

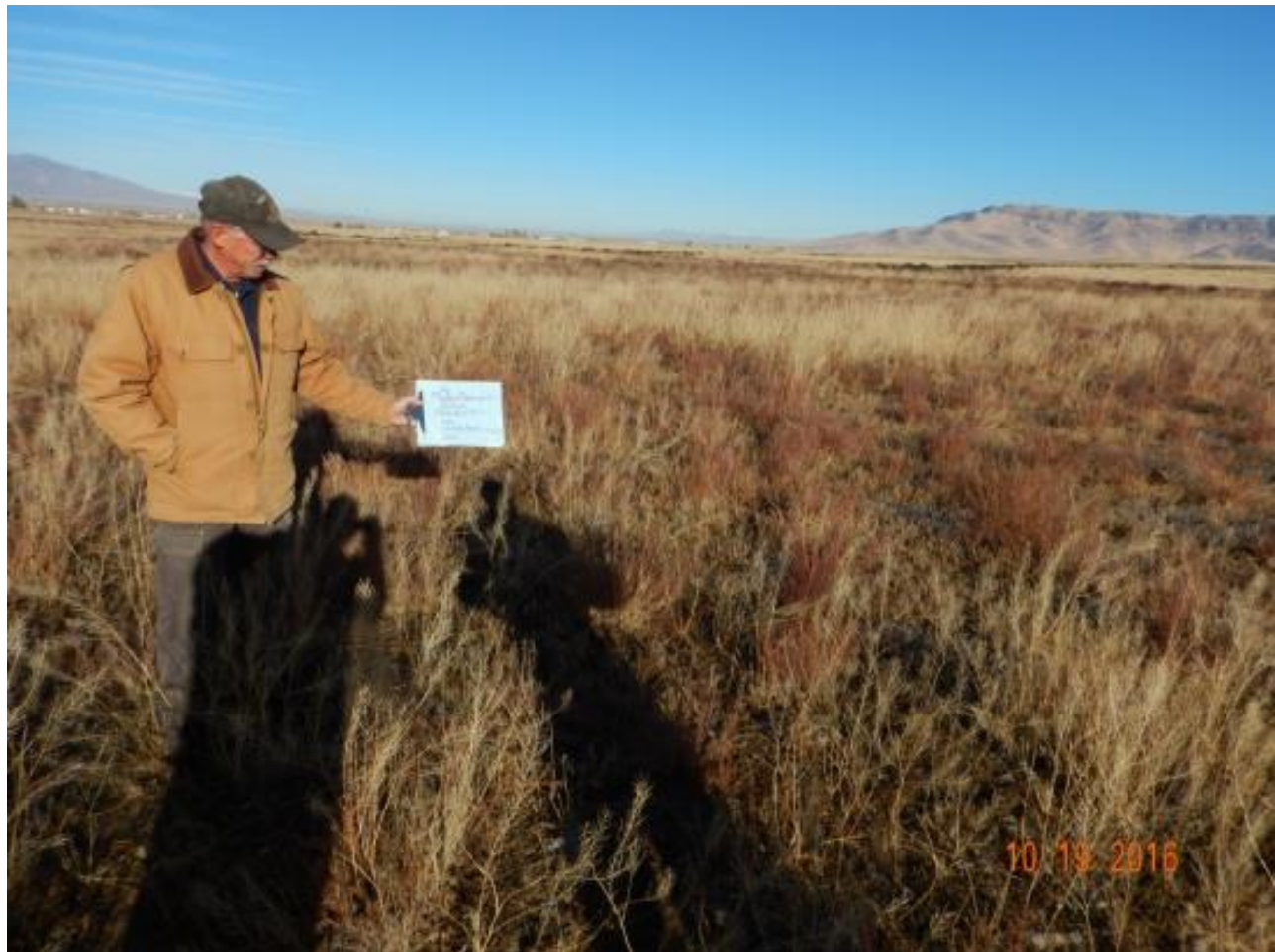


Figure 19. Mule Canyon (New) landscape photo

North Fork Use Area – North Fork

Location in UTM: Zone 11T 512511m E 4465109m N

Observations and Results: At the conclusion of the grazing year in 2015, average utilization on this site was $45\% \pm 7\%$. The utilization threshold, as defined by the settlement agreement, was more likely than not to have met. In 2016, average observed utilization was slight to light. On this site, the utilization threshold was not met as defined by the settlement agreement. The utilization measured at the conclusion of 2016 shows a statistically significant improvement on annual use indicators on this site compared to data collected in 2015.

Table 28. Upland monitoring data for North Fork

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
North Fork avg.	60	25.5	10.8	11%	$\pm 5\%$
Letterman's needlegrass	20	30.8	11.3	8%	$\pm 9\%$
mountain brome	20	28.1	10.8	25%	$\pm 13\%$
slender wheatgrass	20	25.0	14.6	4%	$\pm 6\%$
bottlebrush squirreltail	13	14.6	5.5	7%	$\pm 9\%$

Table 29. Low frequency species not included

Data Not Used Due to Inadequate Sample Size	
	Sample Size
Idaho fescue	7



Figure 20. North Fork landscape photo

Sansinena Use Area – AR-18A

Location in UTM: Zone 11T 534319m E 4495188m N

Observations and Results: At the conclusion of the grazing year in 2015, average utilization on key herbaceous species on this site was $57\% \pm 8\%$. The utilization threshold, as defined by the settlement agreement, was met. In 2016, average observed utilization on key herbaceous species was slight. On this site, the utilization threshold was not met as defined by the settlement agreement.

At the conclusion of the grazing year in 2015, average woody use on this site was $29\% \pm 8\%$. The utilization threshold, as defined by the settlement agreement, was more likely than not to not have met. In 2016, average observed woody use was slight. On this site, the woody use threshold was not met as defined by the settlement agreement.

The utilization measured at the conclusion of 2016 shows a statistically significant improvement on annual use indicators on this site compared to data collected in 2015.

Table 30. Upland monitoring data for AR-18A on key herbaceous species

Herbaceous					
	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
AR-18A avg.	40	30.9	9.9	11%	$\pm 7\%$
crested wheatgrass	20	18.7	10.9	7%	$\pm 7\%$
squirreltail	20	43.2	8.9	15%	$\pm 12\%$

Table 31. Upland monitoring data for AG-21 on key woody species

Woody			
	Sample Size	Average Use	95% Conf. Interval
AR-18A avg.	20	14%	$\pm 6\%$
forage kochia	20	14%	$\pm 6\%$



Figure 21. AR-18A landscape photo

Slaven Use Area – AG-08

Location in UTM: Zone 11T 522442m E 4480591m N

Observations and Results: At the conclusion of the grazing year in 2015, average utilization on this site was $58\% \pm 9\%$. The utilization threshold, as defined by the settlement agreement, was met. In 2016, average observed utilization was slight to light. On this site, the utilization threshold was not met as defined by the settlement agreement. The utilization measured at the conclusion of 2016 shows a statistically significant improvement on annual use on this site compared to data collected in 2015.

Table 32. Upland monitoring data for AG-08

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
AG-08 avg.	20	30.1	17.4	19%	$\pm 10\%$
crested wheatgrass	20	30.1	17.4	19%	$\pm 10\%$

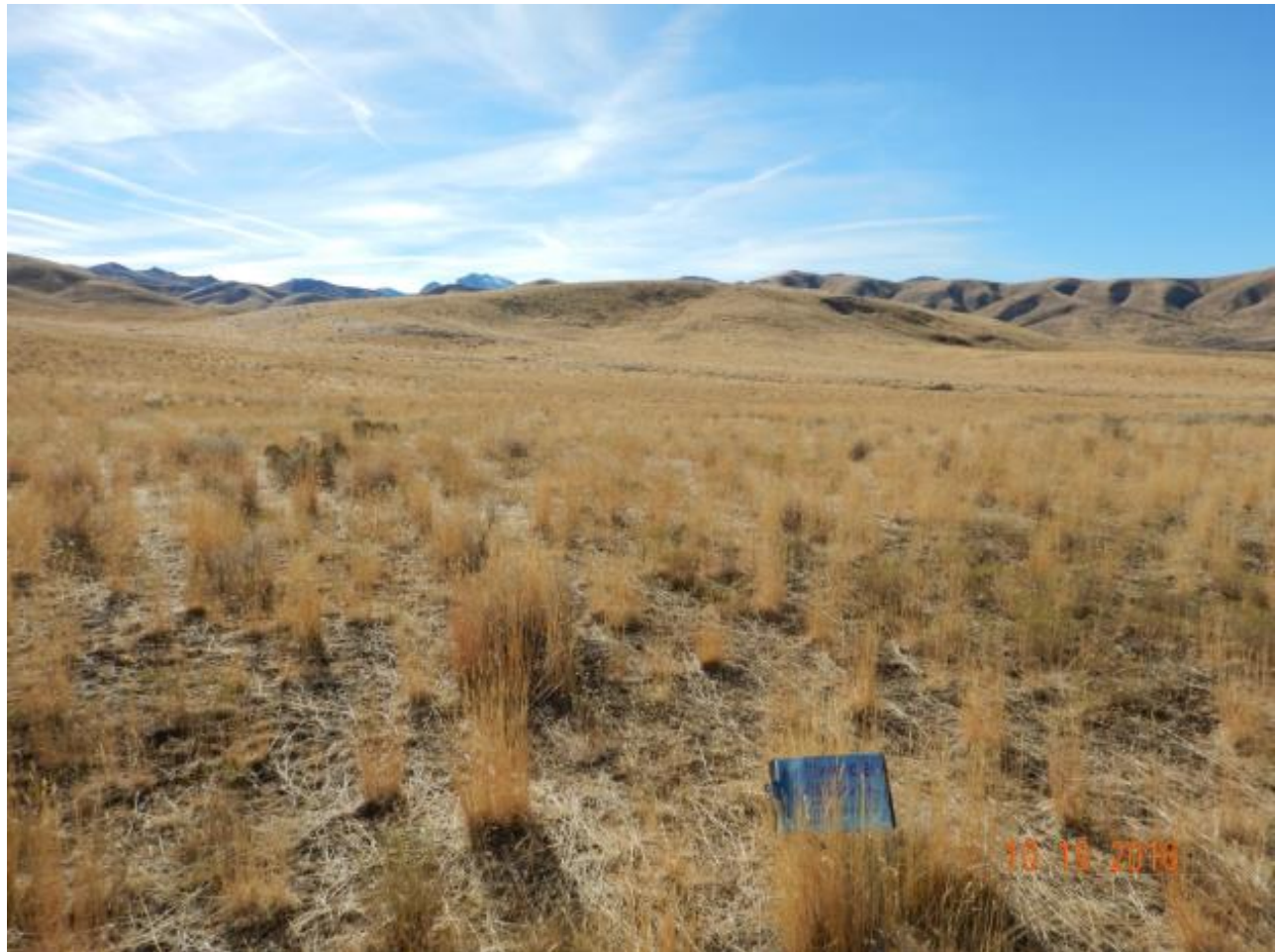


Figure 22. AG-08 landscape photo

South Flat Use Area – AG-04

Location in UTM: Zone 11T 499590m E 4468878m N

Observations and Results: This site is dominated by shadscale saltbush and bud sagebrush with an understory of Sandberg’s bluegrass and bottlebrush squirreltail. At the conclusion of the grazing year in 2015, average utilization on this site was $18\% \pm 8\%$. The utilization threshold, as defined by the settlement agreement, was not met. In 2016, average observed utilization was slight to light. On this site, the utilization threshold was not met as defined by the settlement agreement.

Table 33. Upland monitoring data for AG-04 on key herbaceous species

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
South Flat avg.	20	13.3	4.6	28%	$\pm 9\%$
Sandberg bluegrass	20	13.3	4.6	28%	$\pm 9\%$

Table 34. Upland monitoring data for AG-04 on key woody species

Woody			
	Sample Size	Average Use	95% Conf. Interval
South Flat avg.	20	4%	$\pm 2\%$
shadscale saltbush	20	4%	$\pm 2\%$

Table 35. Low frequency species not included

Data Not Used Due to Inadequate Sample Size	
	Sample Size
Bottlebrush squirreltail	9



Figure 23. AG-04 landscape photo

Trout Creek Use Area – Trout Creek

Location in UTM: Zone 11T 513318m E 4467461m N

Observations and Results: This site is dominated by mountain sagebrush with an understory of mountain brome, Letterman’s needlegrass, Idaho fescue, and bottlebrush squirreltail. At the conclusion of the grazing year in 2015, average utilization on this site was $54\% \pm 7\%$. The utilization threshold, as defined by the settlement agreement, was met. In 2016, average observed utilization was slight. On this site, the utilization threshold was not met as defined by the settlement agreement. The utilization measured at the conclusion of 2016 shows a statistically significant improvement on annual use indicators on this site compared to data collected in 2015.

Table 36. Upland monitoring data for Trout Creek

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
Trout Creek avg.	80	21.2	8.9	12%	$\pm 5\%$
Letterman’s needlegrass	20	25.0	8.6	14%	$\pm 10\%$
mountain brome	20	25.3	11.2	11%	$\pm 9\%$
squirreltail	20	15.9	10.6	2%	$\pm 2\%$
Idaho fescue	20	18.9	5.3	20%	$\pm 13\%$



Figure 24. Trout Creek landscape photo

West Flat Use Area – West Flat

Location in UTM: Zone 11T 498127m E 4479641m N

Observations and Results: This site is dominated by shadscale saltbush, fourwing saltbush and greasewood. There is no herbaceous key species on this site. At the conclusion of the grazing year in 2015, average use on this site was $2\% \pm 2\%$. The utilization threshold, as defined by the settlement agreement, was not met. In 2016, average observed utilization was slight. On this site, the utilization threshold was not met as defined by the settlement agreement.

Table 37. Upland monitoring data for West Flat

Woody			
	Sample Size	Average Use	95% Conf. Interval
West Flat avg.	20	5%	$\pm 3\%$
shadscale saltbush	20	5%	$\pm 3\%$



Figure 25. West Flat landscape photo

Whirlwind Valley Use Area

There are two upland monitoring sites within the Whirlwind Valley Use Area.

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
Whirlwind Valley avg.	80	12.4	4.0	4%	± 3%
Whirlwind 1 avg.	40	10.7	4.4	8%	± 5%
Whirlwind 3 avg.	40	14	N/A	0%	± 0%

Table 38. Average upland monitoring data for Whirlwind Valley Use Area

Whirlwind 1

Location in UTM: 11T 532947m E 4489173m N

Observations and Results: At the conclusion of the grazing year in 2015, average utilization on this site was 26% ± 13%. The utilization threshold, as defined by the settlement agreement, was not met. In 2016, average observed utilization was slight. On this site, the utilization threshold was not met as defined by the settlement agreement.

Table 39. Upland monitoring data for Whirlwind 1

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
Whirlwind 1 avg.	40	10.7	4.4	8%	± 5%
squirreltail	20	8.6	3.4	10%	± 7%
Sandberg bluegrass	20	12.8	5.3	5%	± 7%



Figure 26. Whirlwind 1 landscape photo

Whirlwind 3

Location in UTM: 11T 529348m E 4488671m N

Observations and Results: At the conclusion of the grazing year in 2015, average utilization on this site was $51\% \pm 8\%$. The utilization threshold, as defined by the settlement agreement, was met. In 2016, there was no observed utilization. On this site, the utilization threshold was not met as defined by the settlement agreement. The utilization measured at the conclusion of 2016 shows statistically significant improvement on annual use indicators on this site compared to data collected in 2015.

Table 41. Upland monitoring data for Whirlwind 3

	Sample Size	Ungrazed Avg. Ht. (in)	Grazed Avg. Ht. (in)	Average Utilization	95% Conf. Interval
Whirlwind 3 avg.	40	14.0	N/A	0%	$\pm 0\%$
squirreltail	20	12.4	N/A	0%	$\pm 0\%$
Sandberg bluegrass	20	15.7	N/A	0%	$\pm 0\%$



Figure 27. Whirlwind 3 landscape photo

Winter Use Area – Winter

Location in UTM: 11T 500989m E 4491527m N

Observations and Results: This site is dominated by shadscale saltbush and bud sagebrush. The site is lacking key perennial grass species. At the conclusion of the grazing year in 2015, average utilization on this site was $4\% \pm 3\%$. The utilization threshold, as defined by the settlement agreement, was not met. In 2016, average observed utilization was slight. On this site, the utilization threshold was not met as defined by the settlement agreement.

Table 42. Upland monitoring data for Winter

Woody			
	Sample Size	Average Use	95% Conf. Interval
Winter avg.	20	5%	$\pm 3\%$
shadscale saltbush	20	5%	$\pm 3\%$



Figure 28. Winter landscape photo

RIPARIAN MONITORING RESULTS

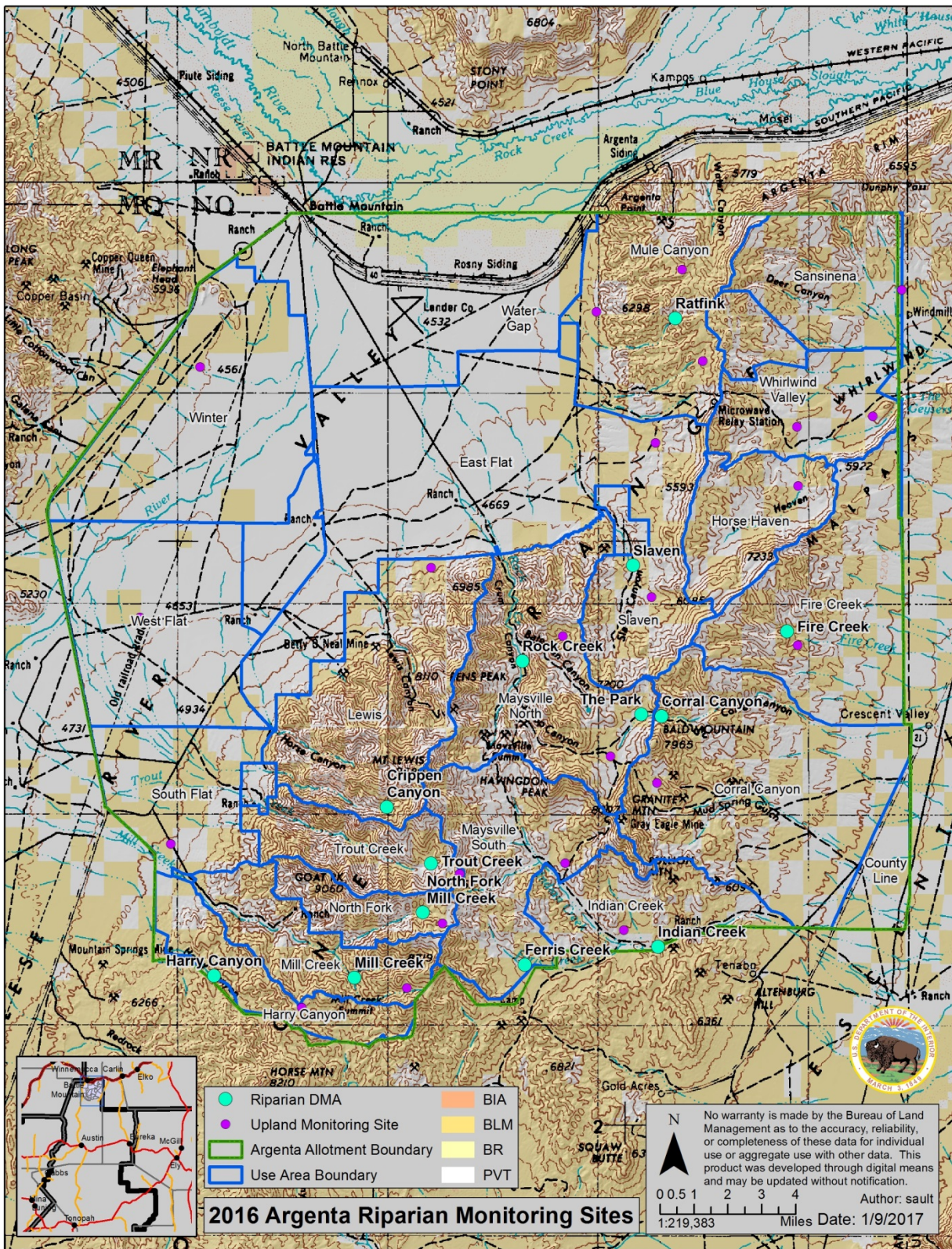


Figure 29. Map depicts the MIM Designated Monitoring Areas monitored in October 2016.

Riparian Monitoring Methods

Riparian monitoring was conducted in accordance with the *Multiple Indicator Monitoring* (MIM) protocol. This protocol was developed to provide information necessary to adaptively manage riparian resources. The MIM protocol integrates short-term (annual-use) and long-term trend indicators to allow for the evaluation of livestock grazing management on streambanks, stream channels and streamside riparian vegetation at established riparian designated monitoring areas (DMAs). The three short-term indicators measured by the CMG for annual-use monitoring on the Argenta Allotment included stubble height, streambank alteration and woody species use. More information on the MIM protocol can be found in BLM Technical Reference 1737-23 (Burton et al. 2011). Within this report, only stubble height and woody species use are evaluated as there was no prescribed level for streambank alteration in the settlement agreement.

The MIM protocol defines stubble height as the measure of the residual height of key herbaceous vegetation species remaining after grazing. The amount of foliar cover remaining is important because it helps protect riparian systems from erosion especially during times of high stream flows. MIM uses a modified version of the stubble height method as described in the BLM Technical Reference, *Utilization Studies and Residual Measurements* (Coulloudon et al. 1996). One of the primary differences that the MIM protocol employs is the use of a 20 centimeter by 50 centimeter quadrat (i.e. a Daubenmire frame) to define the sample area. A measurement is taken for each key species present within the quadrat.

Woody species are often an important component of healthy riparian systems as they provide shade cover to keep streams cool and have deep root systems that stabilize the soil. The woody species use is an effective short-term indicator and can help define the relation between woody plant health and large herbivores. In the MIM protocol, woody plants are selected for sampling within a 2-meter by 2.75-meter quadrat that is centered on the greenline. The greenline is defined as the linear grouping of perennial vegetation, embedded rock or anchored wood that forms above and adjacent to the waterline. Only one individual of each key woody species present is selected per quadrat. Utilization is assigned to a class by the observer on an ocular basis as described in Table .

Table 43. Woody Species Use Classes and Descriptions from Technical Reference 1737-23.

Class	Midpoi	Description
Unavailable	Blank	Shrubs and trees that have most (over 50%) of their actively growing stems over 1.5m (5 feet) tall for cattle grazing.
Slight (0%-20%)	10	Browse plants appear to have little or no use. Available year's leaders may show some use.
Light (21%-40%)	30	There is obvious evidence of use of the current year's leaders. The available leaders appear cropped or browsed in patches.
Moderate (41%-60%)	50	Browse plants appear rather uniformly used.
Heavy (61%-80%)	70	The use of browse gives the general appearance of complete search by grazing animals. Most available leaders are used and some terminal buds remain on browse plants.
Severe (81%- 100)	90	The use of browse gives the appearance of complete search by grazing animals. There is grazing use on second and third years' leaders growth.

The CMG used the MIM protocol during the week of October 17-21 to evaluate the short-term indicators of livestock grazing during the 2016 grazing season at 13 riparian DMAs. As outlined in the Argenta Settlement Agreement, the end of season use thresholds are (1) 4-inch average stubble height on key herbaceous species and (2) 30% browse on key woody species. Key species for both indicators vary depending on the plant communities present at each DMA. Criteria for selecting key species are summarized in Burton et al. (2011, pp. 23, 24, 144).

Table 44. Table represents the standard NRCS plant symbols, scientific names, common names and growth type for species observed at riparian DMAs. Under the 2015 Argenta Settlement Agreement, success is determined by woody species and herbaceous species separately.

.RIPARIAN SPECIES LIST			
USDA Plant Code	Scientific Name	Common Name	Type
AGST2	<i>Agrostis stolonifera</i>	Creeping bentgrass	Herbaceous
CANE2	<i>Carex nebrascensis</i>	Nebraska sedge	Herbaceous
HOBR2	<i>Hordeum brachyantherum</i>	Meadow barley	Herbaceous
JUAR2	<i>Juncus arcticus</i>	Artic rush	Herbaceous
JUEN	<i>Juncus ensifolius</i>	Swordleaf rush	Herbaceous
POPR	<i>Poa pratensis</i>	Kentucky bluegrass	Herbaceous
POMO5	<i>Polypogon monspeliensis</i>	Annual rabbitsfoot	Herbaceous
ROWO	<i>Rosa woodsii</i>	Wood's rose	Woody
SABO2	<i>Salix boothii</i>	Booth's willow	Woody
SADR	<i>Salix drummondiana</i>	Drummond's willow	Woody
SAEX	<i>Salix exigua</i>	Narrowleaf willow	Woody
SALU2	<i>Salix lutea</i>	Shining willow	Woody
SALIX	<i>Salix spp.</i>	Willow	Woody
SCMI2	<i>Scirpus microcarpus</i>	Panicled bulrush	Herbaceous

Riparian Monitoring Summary

Table 45. Summary of 2016 riparian monitoring results related to annual-use limits in the 2015 Settlement Agreement. Dashes represent that data was not collected for that site.

Use Area	DMA	Operator	Stubble Height	Woody Use	Overall
Mill Creek	Mill Creek	Chiara Ranch	More Likely Than Not To Not Meet	--	More Likely Than Not To Not Meet
Harry Canyon	Harry Canyon	Chiara Ranch	--	More Likely Than Not To Not Meet	More Likely Than Not To Not Meet
Fire Creek	Fire Creek	Filippini Ranching	Not Met	Not Met	Not Met
Mule Canyon	Ratfink	Julian Tomera Ranches	Not Met	Not Met	Not Met
Slaven	Slaven Creek	Julian Tomera Ranches	Not Met	--	Not Met
North Fork Mill Creek	North Fork Mill Creek	Julian Tomera Ranches	Met	--	Met
Maysville North	The Park	Julian Tomera Ranches	Met	--	Met
Maysville North	Rock Creek	Julian Tomera Ranches	--	Met	Met
Trout Creek	Trout Creek	Julian Tomera Ranches	Met	--	Met
Maysville South	Ferris Creek	Julian Tomera Ranches	More Likely Than Not To Not Meet	More Likely Than Not To Meet	More Likely Than Not To Not Meet
Lewis	Crippen Creek	Julian Tomera Ranches	More Likely Than Not To Not Meet	Not Met	More Likely Than Not To Not Meet
Indian Creek	Indian Creek	C Ranches*	Not Met	More Likely Than Not To Meet	More Likely Than Not To Not Meet
Corral Canyon	Corral Creek	C Ranches*	More Likely Than Not To Not Meet	Not Met	More Likely Than Not To Not Meet

*C Ranches is permitted to graze within the Argenta allotment, but is not a signatory party to the Argenta Settlement Agreement.

In the 2015 Argenta Settlement Agreement, success is defined as having 70% of Use Areas meeting the end of season prescribed utilization levels for upland and riparian areas. Over the duration of the interim management plan implemented by the Settlement Agreement, use areas that are not successful will be identified for changes in stockmanship and will be prioritized for intensive monitoring to ensure demonstrable improvement. The long-term goal is to strive for an aspirational goal of 100% success. At riparian DMAs, the prescribed monitoring threshold is 4 inches of residual stubble height on key herbaceous species and 30% woody species use on key woody species.

In October 2016, the CMG collected stubble height, woody species use and streambank alteration data at 13 riparian DMAs across 12 use areas in the Argenta Allotment (Figure 29). Eleven of the 13 riparian DMAs were monitored for stubble height in 2016 across 11 use areas (Figure 30). Four of the 11 DMAs were successful in not meeting stubble height thresholds. Four of the 11 DMAs were more likely than not to not have met utilization thresholds. Three of the 11 DMAs met stubble height thresholds.

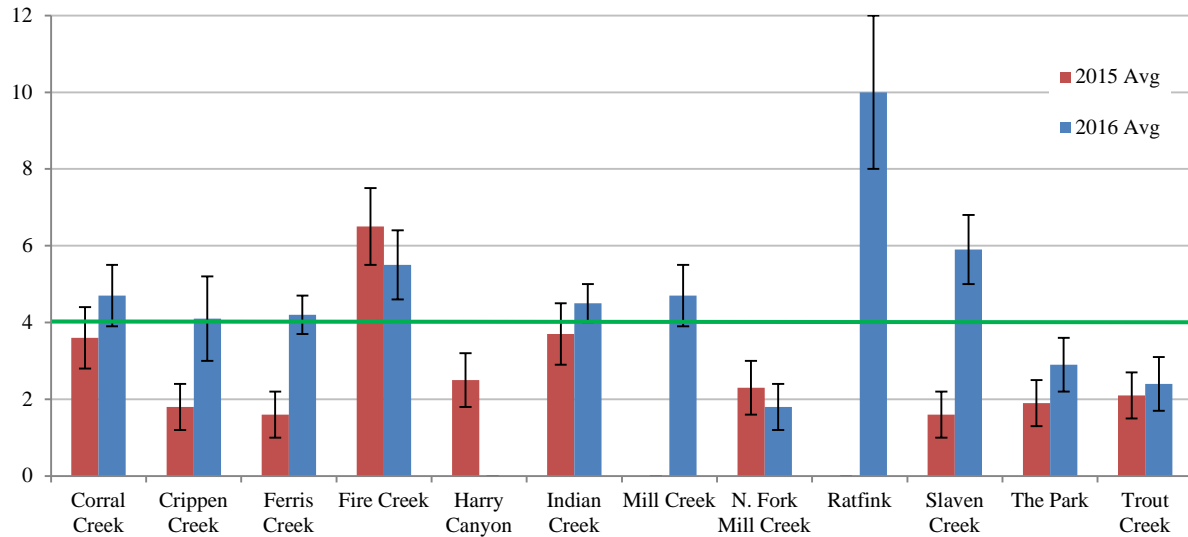


Figure 30. Comparison of end of season residual stubble height at DMAs in 2015 and 2016. Error bars represent 95% confidence interval. No stubble height measurements occurred at Mill Creek DMA and Ratfink DMA in 2015 and Harry Canyon DMA in 2016. The green line represents the threshold as established by the 2015 Argenta Settlement Agreement.

Eight of the 13 riparian DMAs were monitored for woody species use in 2016 across 8 use areas (Figure 31). Four of the 8 DMAs were successful in not meeting woody species use thresholds. One of the 8 DMAs were more likely than not to not have met use thresholds. Two of the 8 DMAs where more likely than not to have met the woody species use thresholds. One of the 8 DMAs met the woody species use threshold.

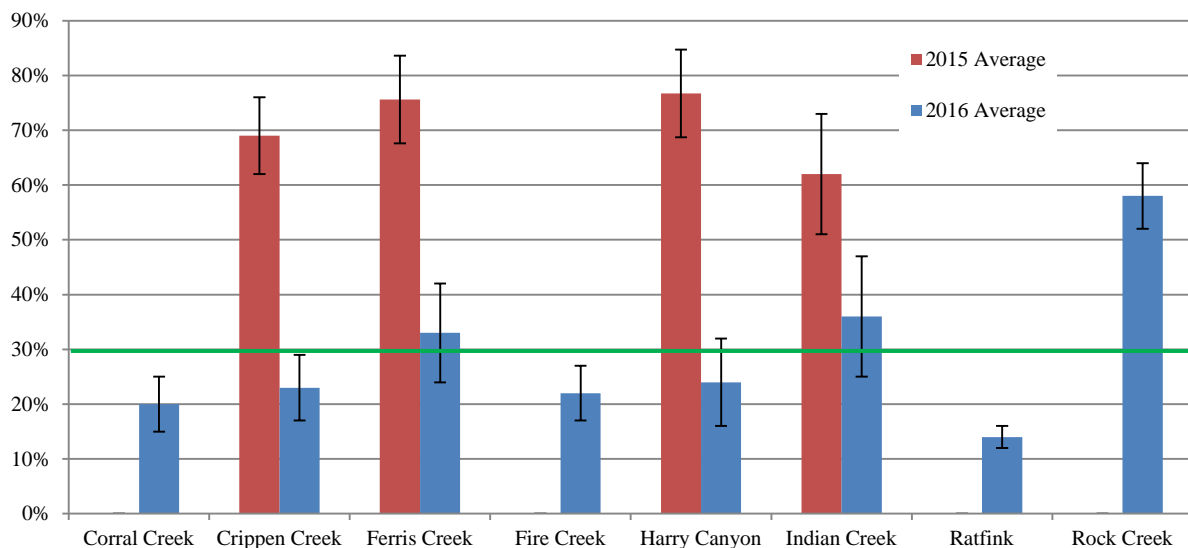


Figure 31. Comparison of end of season woody species use at DMAs in 2015 and 2016. Error bars represent 95% confidence interval. No woody browse measurements were reported for the Corral Creek, Fire Creek, Ratfink and Rock Creek DMAs in 2015. The green line represents the threshold as established by the 2015 Argenta Settlement Agreement.

In sites where confidence intervals in 2016 don't overlap the confidence intervals from 2015, there is statistically significant difference in utilization (See Figure 30 for key herbaceous species and Figure 31 for key woody species). In comparing monitoring stubble height data from 2016 compared to 2015, 3 DMAs show a demonstrable improvement over the previous year. One of the 3 sites that showed demonstrable improvement over 2015 clearly did not exceed the 4 inch threshold. The two of remaining sites while showing improvement did not clearly exceed the 4 inch threshold given the statistical uncertainty defined

by the confidence intervals.

Comparing woody species use from 2016 to 2015, 4 DMAs showed statistically significant improvement. One of those sites did not meet woody species thresholds. One was more likely than not to not have met woody species use thresholds. Two of those sites were more likely than not to have met monitoring thresholds.

Corral Canyon

Location in UTM: 11T 522916m E 4474937m N

Observations and Results: This DMA includes a mixed complex with herbaceous and woody plants. There are few key woody plants present, most of which are non-rhizomatous mature willow species; however, Woods rose was common throughout the site.

At the conclusion of 2015, stubble height was 3.6 inches \pm 0.8 inches. The residual stubble height threshold as set by the settlement agreement was more likely than not to have been met. Woody browse was not reported on this site in 2015 due to an insufficient sample size. The average streambank alteration was 26% \pm 7%.

At the conclusion of 2016, stubble height was 4.7 inches \pm 0.8 inches. The residual stubble height threshold as set by the settlement agreement was more likely than not to not have met. Woody browse use was 20% \pm 5%. The utilization threshold for woody browse was not met. The average streambank alteration was 16% \pm 6%.

Because this site was unsuccessful in meeting the thresholds, the CMG has determined this site will be prioritized for more intensive within-season monitoring and increased focus on stockmanship to ensure that thresholds are not met during the 2017 grazing year.

The Corral Canyon Use Area was used by C Ranches, a non-signatory party of the Settlement Agreement, and was not actively grazed by any of the signatory permittees this grazing year.

Table 46. Short-term MIM indicators collected at Corral Canyon

Year	Stubble Height			Woody Browse			Streambank Alteration		
	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size
2016	4.7	0.8	57	20%	5%	21	16%	\pm 6%	85
2015	3.6	0.8	76	N/A	N/A	5	26%	\pm 7%	80



Figure 32. Top of Corral Canyon DMA looking downstream.

Crippen Canyon

Location in UTM: 11T 509860m E 4470629m N

Observations and Results: Crippen Creek DMA is located along a high elevation reach with a channel slope over 4%. In general, DMAs are located in reaches with gradients under 4%. However, after the stream was stratified, the reach selected for the DMA was the most sensitive complex given its combination of accessibility by livestock, sensitivity to grazing, and vegetation communities present.

At the conclusion of 2015, stubble height was 1.8 inches \pm 0.6 inches. The residual stubble height threshold as set by the settlement agreement was met. Woody browse use was observed at 69% \pm 7%. The utilization threshold for woody browse was met. The average streambank alteration was 8% \pm 5%.

At the conclusion of 2016, stubble height was 4.1 inches \pm 1.1 inches. The residual stubble height threshold as set by the settlement agreement was more likely than not to not have met. Woody browse use was observed at 23% \pm 6%. The utilization threshold for woody browse did not meet the limit of the settlement agreement. The average streambank alteration was 10% \pm 5

While the confidence interval overlaps the stubble height threshold observed in 2016, compared to data collected in 2015 there is a statistically significant improvement on both annual use indicators. Because the results on woody browse and stubble height are statically uncertain of success, the CMG has determined this site will be prioritized for more intensive within-season monitoring and increased focus on stockmanship to ensure that thresholds are not met during the 2017 grazing year.

Table 47. Short-term MIM indicators collected at Crippen Canyon

Year	Stubble Height			Woody Browse			Streambank Alteration		
	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size
2016	4.1	1.1	31	23%	6%	41	10%	\pm 5%	78
2015	1.8	0.6	102	69%	7%	29	8%	\pm 5%	80



Figure 5. Bottom of Crippen Canyon DMA looking upstream

Ferris Creek

Location in UTM: 11T 516428m E 4463145m N

Observations and Results: The Ferris Creek DMA has a mix of both herbaceous and woody riparian plants. Willows occur in two distinct age/size classes. The older willow plants are largely unavailable to grazing and thriving; the younger plants are showing clubbing from chronically high levels of browse, which tend to prevent them from reaching taller height classes and older age classes. Towards the downstream end of this DMA, the stream channel is not well defined and appears to be more of a lentic (still water) system than lotic (stream) system. The MLFO has issued a Final Decision which would exclose most of the federally owned riparian area from grazing and would include the DMA (Round 2 fencing project). At the time of writing, the exclosure has not been constructed.

At the conclusion of 2015, stubble height was 1.6 inches \pm 0.6 inches. The residual stubble height threshold as set by the settlement agreement was met. Woody browse use was observed at 76% \pm 0.8%. The utilization threshold for woody browse was met. The average streambank alteration was 41% \pm 9%.

At the conclusion of 2016, stubble height was 4.2 inches \pm 0.5 inches. The residual stubble height threshold as set by the settlement agreement was more likely than not to not have met. Woody browse use was observed at 33% \pm 9%. The utilization threshold for woody browse was more likely than not to not have met. The average streambank alteration was 41% \pm 9%.

While the confidence interval overlaps the threshold in both stubble height and woody browse observed in 2016, when compared to data collected in 2015 there is a measurable improvement on both annual use indicators. Because this site is more likely than not to not have met the stubble height threshold, the CMG has determined this site will be prioritized for more intensive within-season monitoring and increased focus on stockmanship to ensure that thresholds are not met during the 2017 grazing year.

Table 48. Short-term MIM indicators collected at Ferris Creek

Year	Stubble Height			Woody Browse			Streambank Alteration		
	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size
2016	4.2	0.5	65	33%	9%	23	28%	\pm 8%	90
2015	1.6	0.6	72	76%	8%	18	41%	\pm 9%	74



Figure 34. Top of Ferris Creek DMA looking downstream

Fire Creek

Location in UTM: 11T 528886m E 4478962m N

Observations and Results: Fire Creek DMA contains an herbaceous complex with abundant panicled bulrush, Nebraska sedge, and Baltic rush. Woods' rose is common and located along the channel margin. Although it is not generally considered a key woody species, it provides important protection to the banks by limiting animal access. Where rose is present, bank alteration is low or absent.

At the conclusion of 2015, stubble height was 6.5 inches \pm 1.0 inches. The residual stubble height threshold as set by the settlement agreement was not met. Woody browse was on observed on this site in 2015 because woods rose was not collected as a key species. The average streambank alteration was 42% \pm 9%.

At the conclusion of 2016, stubble height was 5.5 inches \pm 0.9 inches. The residual stubble height threshold as set by the settlement agreement was not met. Woody browse use was observed at 22% \pm 5%. Woods rose was added as a key species because observations by the CMG in 2015 and 2016 across the Argenta Allotment indicated that there was likely use occurring on this species. The utilization threshold for woody browse was not met. The average streambank alteration was 40% \pm 9%.

This site was identified by the NRST as a priority for improvement through the exclusion of livestock through jackrail fencing and the stabilization of knickpoints or headcuts. The exclosure was originally planned to be analyzed through an EA written by the MLFO (Round 2 projects); however, Klondex (a gold and silver mine that operates adjacent to Fire Creek) expressed a desire to analyze, purchase materials for and install the jackrail fencing as mitigation. Within the scope of this project, Klondex is proposing to provide stream channel stabilization and off-site stock water projects. At the time of writing, the NEPA analysis (EA) has not been completed.

Table 49. Short-term MIM indicators collected at Fire Creek

Year	Stubble Height			Woody Browse			Streambank Alteration		
	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size
2016	5.5	0.9	120	22%	5%	79	40%	\pm 9%	83
2015	6.5	1.0	145	N/A	N/A	N/A	42%	\pm 9%	83



Figure 35. Bottom of Fire Creek DMA looking upstream

Harry Canyon

Location in UTM: 11T 501648 4462619

Observations and Results: This monitoring site occurs within a defined stream channel, and it primarily exhibits lentic (still water) characteristics. There is a distinct ecotone on this site as the site changes from well-watered at the upstream end of the monitoring site to poorly watered at the downstream end of the monitoring site. There is a water diversion for a stock water trough upstream of this monitoring site, which may be contributing to dewatering the reach.

At the conclusion of 2015, stubble height was 2.5 inches \pm 0.7 inches. The residual stubble height threshold as set by the settlement agreement was met. Woody browse use was observed at 77% \pm 8%. The utilization threshold for woody browse was met. The average streambank alteration was 31% \pm 8%.

When this site was visited in October 2016, the lower end of the monitoring site had dried out. It was determined that measuring herbaceous vegetation was not appropriate due to a steep moisture gradient and its effect on herbaceous species within the monitoring site. Woody species at the site are capable of drawing on surface and subsurface water; and therefore woody browse can be evaluated at this site. Woody browse use was observed at 24% \pm 8%. The utilization threshold for woody browse was more likely than not to not have met. The average streambank alteration was 31% \pm 8%.

While the confidence interval overlaps the woody species threshold observed in 2016, when compared to data collected in 2015 there is a statistically significant improvement on annual use indicators. Because the results on woody browse are statically uncertain of success, the CMG has determined this site will be prioritized for more intensive within-season monitoring and increased focus on stockmanship to ensure that thresholds are not met during the 2017 grazing year.

Table 50. Short-term MIM indicators collected at Harry Canyon

Year	Stubble Height			Woody Browse			Streambank Alteration		
	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size
2016	N/A	N/A	N/A	24%	8%	26	18%	\pm 6%	81
2015	2.5	0.7	99	77%	8%	18	31%	\pm 8%	80



Figure 6. Bottom of Harry Canyon DMA looking upstream

Indian Creek

Location in UTM: 11T 522762m E 4463989m N

Observations and Results: This DMA was moved from where it was located last year. The previous DMA was within an intermittent reach. The new DMA was stratified and reviewed by the CMG in summer 2016 and was established upstream where hydric riparian species were present indicating the reach was perennial and a high-water table was maintained throughout the growing season.

At the conclusion of 2015, stubble height was 3.7 inches \pm 0.8 inches. The residual stubble height threshold as set by the settlement agreement was more likely than not to have met. Woody browse use was observed at 62% \pm 11%. The utilization threshold for woody browse was met. The average streambank alteration was 15% \pm 6%.

At the conclusion of 2016, stubble height was 4.5 inches \pm 0.5 inches. The residual stubble height threshold as set by the settlement agreement was not met. Woody browse use was observed at 36% \pm 11%. The utilization threshold for woody browse was more likely than not to have met. The average streambank alteration was 39% \pm 1%.

The Indian Creek Use Area was used by C Ranches, a non-signatory party of the Settlement Agreement, and was not actively grazed by any of the signatory permittees this grazing year.

While the confidence interval overlaps the woody species threshold observed in 2016, when compared to data collected in 2015 there is a statistically significant improvement on annual use indicators. Because the results on stubble height did not meet utilization thresholds and because the results on woody browse are statically uncertain of success, the CMG has determined this site will be prioritized for more intensive within-season monitoring and increased focus on stockmanship to ensure that thresholds are not met during the 2017 grazing year.

Year	Stubble Height			Woody Browse			Streambank Alteration		
	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size
2016	4.5	0.5	50	36%	11%	18	39%	\pm 1%	98
2015	3.7	0.8	60	62%	11%	24	15%	\pm 6%	79

Table 51. Short-term MIM indicators collected at Indian Creek



Figure 37. Bottom of Indian Creek DMA looking upstream

Mill Creek

Location in UTM: 11T 508319 4462523

Observations and Results: This site was not monitored at the conclusion of the 2015 grazing season. In spring 2016, a small jackrail exclosure was installed on this site. This DMA was monitored to compare the recovery from the exclosure. In October, it was evident that livestock use was present within the exclosure.

At the conclusion of 2016, stubble height was 4.7 inches \pm 0.8 inches. The residual stubble height threshold as set by the settlement agreement was more likely than not to not have met. Woody browse was on collected on this site due to no key species being identified. The average streambank alteration was 40% \pm 9%.

Because the results on stubble height are statically uncertain of success, the CMG has determined this site will be prioritized for more intensive within-season monitoring and increased focus on stockmanship to ensure that thresholds are not met during the 2017 grazing year.

Year	Stubble Height			Woody Browse			Streambank Alteration		
	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size
2016	4.7	0.8	76	N/A	N/A	N/A	40%	\pm 9%	75

Table 52. Short-term MIM indicators collected at Mill Creek



Figure 38. Top of Mill Creek DMA looking downstream

North Fork Mill Creek

Location in UTM: 11T 511570m E 4465620m N

Observations and Results: The North Fork of Mill Creek has a mix of lentic and lotic characteristics and is dominated by early successional, low-stabilizing, hydric herbaceous species with no woody species present at the site. This DMA has a jackrail enclosure upstream that was installed in the summer of 2016. The MLFO has issued a Final Decision to extend the existing enclosure for $\frac{3}{4}$ mile downstream, which will include the existing DMA.

At the conclusion of 2015, stubble height was 2.3 inches \pm 0.7 inches. The residual stubble height threshold as set by the settlement agreement was met. Woody browse was not collected on this site due to no key species being present. The average streambank alteration was 15% \pm 6%.

At the conclusion of 2016, stubble height was 1.8 inches \pm 0.6 inches. The residual stubble height threshold as set by the settlement agreement was met. Woody browse was not collected on this site due to no key species being identified. The average streambank alteration was 35% \pm 8%.

In 2016, livestock drift from other use areas was a major issue. To address this in 2017, Julian Tomera Ranches is working with a private land owner to install drift fences to control livestock from moving into the canyon. At the time of writing, the enclosure has not been constructed.

Table 53. Short-term MIM indicators collected at North Fork Mill Creek.

Year	Stubble Height			Woody Browse			Streambank Alteration		
	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size
2016	1.8	0.6	108	N/A	N/A	N/A	35%	\pm 8%	82
2015	2.3	0.7	130	N/A	N/A	N/A	15%	\pm 6%	83



Figure 39. Bottom of North Fork Mill Creek DMA looking upstream

The Park

Location in UTM: 11T 521958m E 4475021 m N

Observations and Results: A high water table maintains a hydric herbaceous community dominated by Arctic rush and Nebraska sedge. There are no riparian shrubs or trees in the Park DMA.

At the conclusion of 2015, stubble height was 1.9 inches \pm 0.6 inches. The residual stubble height threshold as set by the settlement agreement was met. Woody browse was not collected on this site due to no key species being identified. The average streambank alteration was 42% \pm 9%.

At the conclusion of 2016, stubble height was 2.9 inches \pm 0.7 inches. The residual stubble height threshold as set by the settlement agreement was met. Woody browse was not collected on this site due to no key species being identified. The average streambank alteration was 36% \pm 9%.

Because the results on stubble height are show this site was not successful in meeting the threshold, the CMG has determined this site will be prioritized for more intensive within-season monitoring and increased focus on stockmanship to ensure that thresholds are not met during the 2017 grazing year. Additionally, The NRST has recommended to Julian Tomera Ranches and the Bureau of Land Management to exclose the public land within the park complex with temporary electric fence for a few years to jump start recovery.

Table 54. Short-term MIM indicators collected at The Park

Year	Stubble Height			Woody Browse			Streambank Alteration		
	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size
2016	2.9	0.7	71	N/A	N/A	N/A	36%	\pm 9%	81
2015	1.9	0.6	129	N/A	N/A	N/A	42%	\pm 9%	85



Figure 40. Lower end of The Park DMA looking upstream

Ratfink Canyon

Location in UTM: 11T 523579m E 4493819m N

Observations and Results: This DMA is located in a canyon that experienced a severe, high-magnitude discharge event in 2015; as a result, it was not monitored in 2015 as there was little evidence of riparian plant establishment along the scour line. In the spring of 2016, a jackrail exclosure was constructed along part of Ratfink Canyon and includes the existing DMA. At the conclusion of the 2016 grazing year, the CMG monitored this DMA to track recovery within the exclosure.

At the conclusion of 2016, stubble eight was 10.0 inches \pm 2.0 inches. The residual stubble height threshold as set by the settlement agreement was not met. Woody browse use was observed at 14% \pm 2%. The utilization threshold for woody browse was not met. The average streambank alteration was 0% \pm 0%.

Table 55. Short-term MIM indicators collected at Ratfink Canyon

Year	Stubble Height			Woody Browse			Streambank Alteration		
	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size
2016	10.0	2.0	21	14%	2%	122	0%	\pm 0%	85



Figure 41. Bottom of Raftink DMA looking upstream

Rock Creek

Location in UTM: 11T 516286m E 4477361m N

Observations and Results: Previous to 2016, the CMG had tried to establish a DMA within the Rock Creek Drainage in the Maysville North Use Area. During the summer of 2016, a CMG Technical group stratified riparian reaches in North Maysville in accordance with methods outlined in the MIM technical reference and established a new DMA at Rock Creek. This site has a cobble substrate and should support willow communities. There are small willows throughout the DMA that are heavily clubbed from chronically high levels of browse, which may be preventing the willows from reaching taller height classes and older age classes.

The CMG only monitored for woody browse as most of the herbaceous vegetation present was mostly senescent and difficult to identify at this late stage. In addition, the herbaceous species appear to be predominantly non-stabilizing species, which play little role in stabilizing this complex. Additionally, the lower end of the DMA became intermittent. Woody browse was still collected because the shallow water table should still support a willow community.

Woody browse use was observed at $58\% \pm 6\%$. The utilization threshold for woody browse was met. The average streambank alteration was $3\% \pm 4\%$. Because this site clearly was not successful in meeting the threshold, the CMG has determined this site will be prioritized for more intensive within-season monitoring and increased focus on stockmanship to ensure that thresholds are not met during the 2017 grazing year.

Below the DMA is a drift fence that prevents livestock from moving out to the flats and may be concentrating use on this site. The NRST has recommended to Julian Tomera Ranches and the BLM to open access gates through the drift fence to allow livestock to move through earlier before woody browse is the preferred forage; and to install temporary electric fence to allow rest and jump start recovery.

Table 56. Short-term MIM indicators collected at Rock Creek

Year	Stubble Height			Woody Browse			Streambank Alteration		
	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size
2016	N/A	N/A	N/A	58%	6%	80	3%	$\pm 4\%$	95



Figure 42. Bottom of Rock Creek DMA looking upstream

Slaven Creek

Location in UTM: 11T 521559m E 4482096m N

Observations and Results: Slaven Creek DMA is in a fairly straight channel. Cobble and gravel are common in this reach; this material partially armors the site. Herbaceous vegetation within the DMA is dominated by early successional, low stabilizing species; there were no woody species present. In the spring of 2016, a jackrail enclosure was constructed to protect a majority of the riparian on federally owned land which includes the DMA.

At the conclusion of 2015, stubble height was 1.6 inches \pm 0.6 inches. The residual stubble height threshold as set by the settlement agreement was met. The average streambank alteration was 32% \pm 8%.

At the conclusion of the 2016 grazing year, the CMG monitored this DMA to track recovery within the enclosure. At the conclusion of 2016, stubble height was 5.9 inches \pm 0.9 inches. The residual stubble height threshold as set by the settlement agreement was not met. The average streambank alteration was 1% \pm 4%.

Comparing observations from 2016 to 2015, there is a statistically significant improvement in stubble height.

Table 57. Short-term MIM indicators collected at Slaven Creek

Year	Stubble Height			Woody Browse			Streambank Alteration		
	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size
2016	5.9	0.9	95	N/A	N/A	N/A	1%	\pm 4%	76
2015	1.6	0.6	126	N/A	N/A	N/A	32%	\pm 8%	81



Figure 43. Bottom of Slaven Creek DMA looking upstream

Trout Creek

Location in UTM: 11T 511969m E 4467945m N

Observations and Results: Trout Creek DMA was established in 2015 to address concerns over the previous site that was affected by a road crossing and by topography. The DMA is partially armored with cobble.

At the conclusion of 2015, stubble height was 2.1 inches \pm 0.6 inches. The residual stubble height threshold as set by the settlement agreement was met. No woody browse was collected on this site due to an insufficient sample size of key species. The average streambank alteration was 23% \pm 7%.

At the conclusion of 2016, stubble height was 2.4 inches \pm 0.7 inches. The residual stubble height threshold as set by the settlement agreement was met. No woody browse was collected on this site due to an insufficient sample size of woody riparian plants. The average streambank alteration was 35% \pm 8%.

Because the results on stubble height show this site was not successful, the CMG has determined this site will be prioritized for more intensive within-season monitoring and increased focus on stockmanship to ensure that thresholds are not met during the 2017 grazing year.

Table 58. Short-term MIM indicators collected at Trout Creek

Year	Stubble Height			Woody Browse			Streambank Alteration		
	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size	Average	Confidence Interval	Sample Size
2016	2.4	0.7	71	N/A	N/A	N/A	35%	\pm 8%	81
2015	2.1	0.6	135	N/A	N/A	1	23%	\pm 7%	82



Figure 44. Top of Trout Creek DMA looking downstream

2017 STOCKMANSHIP PLAN

Background:

The Argenta Allotment Permittees with the guidance from the NRST have developed a grazing plan for the 2017 grazing year. The purpose of this plan is to better distribute livestock off sensitive riparian areas and into the uplands. The overall philosophy for achieving the use/utilization thresholds outlined in the 2015 Argenta Settlement agreement is to more effectively move livestock through use areas with the use of low-stress stockmanship and the control of water and supplements. Protection of important water storage and riparian areas by fencing is allowed under the Settlement Agreement, and will be prioritized per NRST recommendations subject to NEPA and the other administrative remedies outlined within the CFRs.

In the spring of 2015, the BLM hosted a low-stress stockmanship workshop, which follows the philosophy of Bud Williams. The overall idea of this style of stockmanship is a calmer and more calculated approach to commonly-used stockmanship practices. Practitioners of this method claim substantially better livestock distribution and use it as an alternative to fencing out miles of riparian systems. For more information on this method refer to *Stockmanship: A powerful tool for grazing lands management* by Steve Cote.

In arid-land pastures, water is the most effective means of controlling livestock distribution other than fencing (Ganskopp 2001). Cattle will generally travel 1-2 miles away from water to available feed (Holechek et al. 2001). By distributing additional sources of water through a use area, a grazing operator can more efficiently distribute livestock. While the Argenta Allotment may not be lacking for water availability in many areas, the combination of low-stress stockmanship and supplemental water locations away from riparian areas may alleviate grazing pressure on riparian areas.

Best available science suggests that use of supplement in under-utilized rangelands can improve the distribution of livestock in foothills (Bailey and Welling 1999; Bailey et al. 2008). Livestock are attracted to supplements that contain limiting nutrients in their diet. By controlling the location of these supplements, a grazing plan can be further refined to control/influence/affect the distribution of cattle across the range.

There are three signatory operators within the Argenta Allotment under the 2015 Argenta Settlement Agreement - Julian Tomera Ranches, Inc.; Chiara Ranch; and Filippini Ranching, Co. In addition to these operators, C Ranches, Elko Land and Livestock Company and Rand Properties operate livestock on this allotment. These operators however are not signatory members of the Argenta Settlement Agreement. The grazing plan for the three signatory operators is under the same general philosophy. Upon turnout, ranchers will distribute the livestock widely across their use areas early on, and then implement tight control of location and duration of stay of cattle herds as the grazing season progresses.

Movement of cattle will occur under three categories. First, cattle will be moved between use areas in accordance with authorized dates and permitted numbers of livestock. This will be the general overall schedule for livestock locations and is the basis for billing by the BLM. Second, operators will disperse livestock within use areas through range riders to minimize concentrated disturbance. An integrated part of this second part is for operators to monitor use levels as they move livestock. The third type of movement will occur when use levels are approached or exceeded. If this occurs in the uplands and/or riparian areas, operators will move their livestock to another part of the currently

occupied use area where use levels are lower or to their next permitted use area.

Julian Tomera Ranches, Inc.:

Overview of issues based on 2015 and 2016 monitoring data and CMG discussions. The Lewis, Slaven, and Trout Creek use areas did not meet the prescribed upland use levels in 2015. However, all upland areas met prescribed use levels in 2016 with the combination of improved stockmanship practices and improved growing conditions.

Only Indian Creek and Corral Canyon had riparian residual stubble height levels in 2015 that fell within a statistical uncertainty near the prescribed use level; the remainder were not successful and had met the prescribed use level. In 2016 Slaven and Ratfink DMAs met (grazing is excluded by fencing at these sites) while Indian Creek, Corral Canyon, Ferris Creek and Crippen Creek fell within a statistical uncertainty near the prescribed use level but with a mean greater than the 4 inch requirement. The Park, Trout Creek and North Fork Mill Creek still exceeded use levels.

Although significant progress was made toward meeting riparian use levels, the greater challenge continues to be control of use in riparian areas. Generally low upland utilization indicates that current stocking rate is not the problem. “Rest” for some entire use areas for riparian improvement was considered un-necessary given progress to date and the intent (goals) of the Settlement Agreement. Lack of fenced boundaries between Tomera Ranch use areas, between use areas designated for Chiara Ranch and Filippini Ranches and even between Calico Lake and Argenta allotments allows potential access by livestock by various avenues. Livestock control between allotments and between permittees must be considered as well as control within an individual permittees use areas. Although fenceless control of livestock using stockmanship principles can take several years to learn and implement effectively, progress is evident and continues to be the most likely effective management strategy in conjunction with the limited BLM and private land projects proposed.

In 2016, several riparian exclosures were installed and helped focus stockmanship efforts toward meeting use levels in many areas. The construction of additional projects around sensitive riparian areas has been delayed and need to be completed as soon as possible. If construction cannot occur prior to turn out in 2017, the NRST recommends the MLFO consider whether it is feasible to use temporary electric fence in the interim.

One of the strategies described in the 2016 stockmanship plan is to defer hot-season grazing in the Mule Canyon, Crippen Canyon, Trout Creek and North Fork Mill Creek areas. Deferment during the hot season keeps livestock out of riparian areas when they are likely the most vulnerable to overuse because of livestock water demands and the prevalence of palatable forage when much of the upland forage declines in preference. Progress was not realized in Trout and North Fork Mill Creeks because excess livestock return and drift from adjacent use areas both before (non-Tomera cattle) and after planned use. Construction of Round 2 projects, private land fencing on lower North Fork, and increased detection and removal are planned for 2017 to improve success and riparian conditions.

Although no riparian monitoring data was collected in 2015 along Rock Creek, the CMG installed a new Designated Monitoring Area (DMA) in this drainage. Woody vegetation is the key stabilizer along Rock Creek and woody browse levels were exceeded in 2016. A new water haul

site on private land, temporary electric fence to provide a jump start to the most sensitive area, and opening the drift fence gate early in August to prevent concentration of livestock are proposed to facilitate stockmanship and to improve riparian conditions. Since temporary fence is a range improvement, it is subject to NEPA and the other administrative remedies outlined within the CFRs.

The near stream channel use in the Park remains problematic even though no use was recorded in the uplands. A temporary electric fence is proposed to jump start key riparian vegetation along with increased detection and removal when triggers are approached. Since temporary fence is a range improvement, it is subject to NEPA and the other administrative remedies outlined within the CFRs.

Permittees noted that water hauls, salt blocks, and low-moisture supplement tubs all proved successful in creating greater upland distribution of livestock in 2015 and 2016. Continued practice and experience with these tools, in combination with a rotational schedule, hot-season deferment, and proposed range improvements are parts of the 2017 plan to improve the condition of the riparian areas within the Tomera Ranches' use areas.

2017 stockmanship plan for Julian Tomera Ranches. Tomera ranches will begin grazing cattle in West Flat and East Flat and South End use areas in accordance with permitted numbers and dates. As soon as conditions permit, appropriate numbers of livestock will be moved into lower portions of Mule Canyon, North Fork Mill Creek, Trout Creek and Crippen Canyon. Remaining livestock will be gradually moved into Lewis and Maysville North along a dispersed front. Late calving stock may be trucked to Maysville South if desired to facilitate dispersal. Livestock will then be dispersed throughout the use areas as growing conditions permit to minimize concentrated disturbance in potential sage-grouse nesting and brood-rearing areas.

On or about July 1, 2017, Tomera Ranches will begin removing all livestock from Mule Canyon, North Fork Mill Creek, Trout Creek and Crippen Creek drainages to effect hot-season deferment and allow adequate regrowth of riparian vegetation. All animals will be moved to the remainder of the Lewis use area (excluding Crippen Creek drainage), Maysville North and Maysville South by July 15. Tomera and Chiara ranches will work collaboratively to remove any drift and prevent return of livestock to the subject drainages.

Periodic riding/monitoring to determine when or if within-season triggers are being approached/met will be implemented. Low-stress stockmanship principles along with low-moisture block supplement placement and water hauls will be used as necessary to move/place livestock where localized habituation jeopardizes agreed upon use levels overall. Priority efforts will be placed on The Park, Ferris and Rock Creek as well as eliminating return drift to Trout, North Fork Mill Creek and Crippen Creeks noted above.

Early season use on East Flat use area is anticipated to be slight to light under the prescribed use. As settlement agreement use levels are approached during the later grazing season, livestock will be gradually moved back to East Flat, West Flat, Winter Range and/or other deeded pastures.

Additional adaptive management considerations may be implemented pending completion of round two range improvements on public lands, any additional improvements on private lands, and

within-season monitoring. Potential boundary fencing options along the southern allotment boundary and subsequent agreements in particular may provide additional management options.

The 2017 Tomera Ranches grazing schedule (depending on growing conditions, weather and adaptive management considerations) is as follows.

1. Fence designated riparian areas as approved by BLM and develop off-site water on private land
2. Use low-moisture tubs and salt to keep cattle away from creek bottoms
3. Haul water to keep cattle away from sensitive areas
4. Use low-stress livestock handling methods

March 15 or as soon as conditions will allow:

Turn cattle to East Flat, West Flat and South End 1200 head

March 15 or as soon as conditions will allow:

Put cattle in to Mule Canyon 600 head

April 20 or as soon as conditions will allow:

Take some cattle to North Fork, Trout and Crippen Canyons

May 1 or as conditions allow:

Begin moving remaining cattle from “flats” to Lewis, Maysville N., Slaven and Maysville S. and; distribute

July 1 or as conditions allow:

Take cattle out of Mule Canyon and distribute them in Lewis, Maysville N., Maysville S. and Slaven as conditions permit

July 1-15 or as conditions permit:

Take cattle from North Fork, Trout and Crippen Canyons and distribute in Maysville S. and Indian Creek. Cattle removed from the lower end of canyons may be distributed in Lewis (except for Crippen Cr. Drainage) and Maysville N. if necessary.

Aug. 1-15 (depending on cattle congregation at the Rock Creek drift fence):

Open gate on Rock Creek drift fence and encourage all cows within Rock Creek to pass to Flats and deeded land.

Sept. 1:

Start moving remaining cows off the mountain (May S, Indian Creek, Maysville N and the reminder of Lewis) and into the Winter Range, East Flat and West Flat and other deeded pastures.

Oct. 30:

Most of the cattle are off the mountain and in the Winter Range, East and West Flat and other deeded pastures (i.e., catch all drift by this point).

Dec. 31:

All cattle will be taken off the Winter Range, East Flat and West Flat and put into deeded pastures

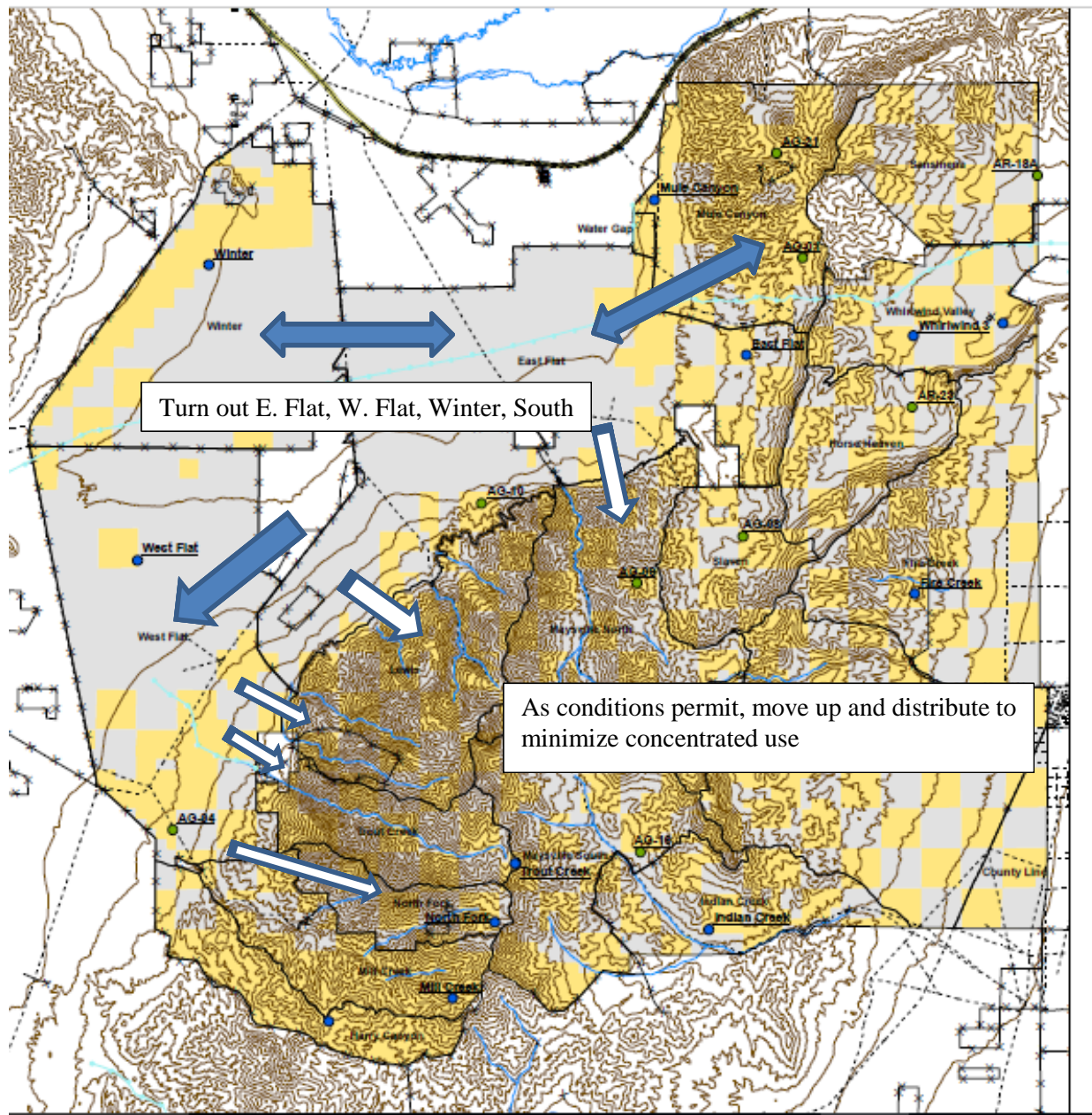


Figure 45. Tomera Ranches 2017 Grazing (Early)

LEGEND



-- Move livestock into allotment according to permitted numbers and dates



-- Disperse using low stress stockmanship and as growing conditions permit minimize concentrated disturbance. Monitor use levels.

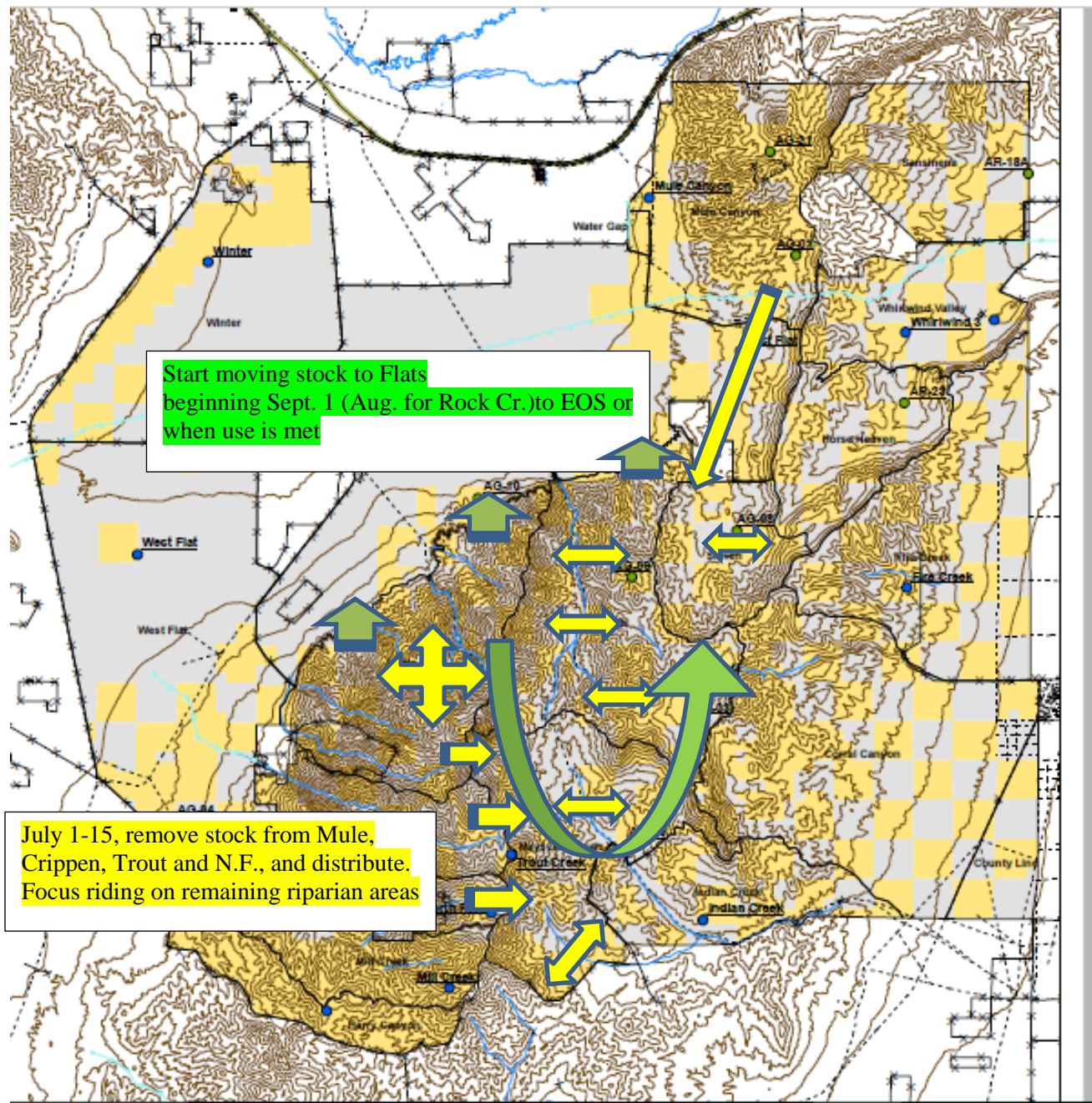




Figure 46. Tomera Ranches 2017 Grazing (Late)

LEGEND

-  -- July 1-15, remove stock from Mule, Crippen, Trout and N.F., and distribute. Focus riding on remaining riparian areas
-  -- Start moving stock to Flats beginning Sept. 1 (Open Rock Cr. Drift fence in Aug.) to EOS or when use is met

Chiara Ranch:

Overview of issues based on 2015 and 2016 monitoring data and CMG discussions. Upland use levels in 2016 met prescribed use levels in areas used by the Chiara ranch in North Fork Mill Creek (14%+/-6%), used in part with Tomera Ranches, and South Flat (28%+/-9%). Harry Canyon (30%+/- 14%) and Mill Creek (36%+/-9%) are statistically unknown as the confidence interval straddles the prescribed use level; use may or may not have been exceeded. Within-season monitoring will still be important so moves can be scheduled before utilization levels are exceeded. Adherence to a general rotation, control of animal distribution, and timely moves based on within-season monitoring should produce continued upland grazing success in 2017 on all use areas.

In spring 2016, a small riparian exclosure was installed at the site of the DMA in the Mill Creek Use Area. Although the DMA was not monitored in 2015, the CMG measured evident livestock use in the Mill Creek exclosure in 2016. Access to the exclosure needs to be corrected prior to the 2017 grazing season. Woody browse use was also measured in Harry Canyon which made significant improvement from 2015 (24%+/-8% in 2016 vs. 77%+/-8% in 2015). Attention to livestock distribution should be made so additional use is not transferred to other, unfenced riparian sites.

Dispersed use during the cool season, followed by active riding and distribution control in the hot season will be important in promoting improved riparian conditions.

2017 stockmanship plan for Chiara Ranch. Dan and EddyAnn Filippini will graze cattle in Harry Canyon and Mill Creek use areas in accordance with permitted numbers and dates (3/1-2/28). Livestock will be dispersed throughout the use areas as growing conditions permit to minimize concentrated disturbance in potential sage-grouse nesting and brood-rearing areas.

A fence on private land is being planned to prevent drift to the extent possible from Mill Creek to North Fork Mill Creek (and beyond). The Filippinis will work collaboratively with Tomera Ranches to keep livestock separated into respective use areas as described in the Settlement Agreement. Continued focus will be on preventing and removing, as necessary, any drift into North Fork Mill Creek, Trout Creek and Crippen Creek drainages to effect hot season deferment and allow adequate regrowth of riparian vegetation.

Periodic riding and monitoring to determine when or if within season triggers are being approached/met will be implemented. Low-stress stockmanship principles will be used to move/place livestock where localized habituation jeopardizes agreed upon use levels overall. Livestock will be removed at the end of permitted use or achievement of applicable use levels.

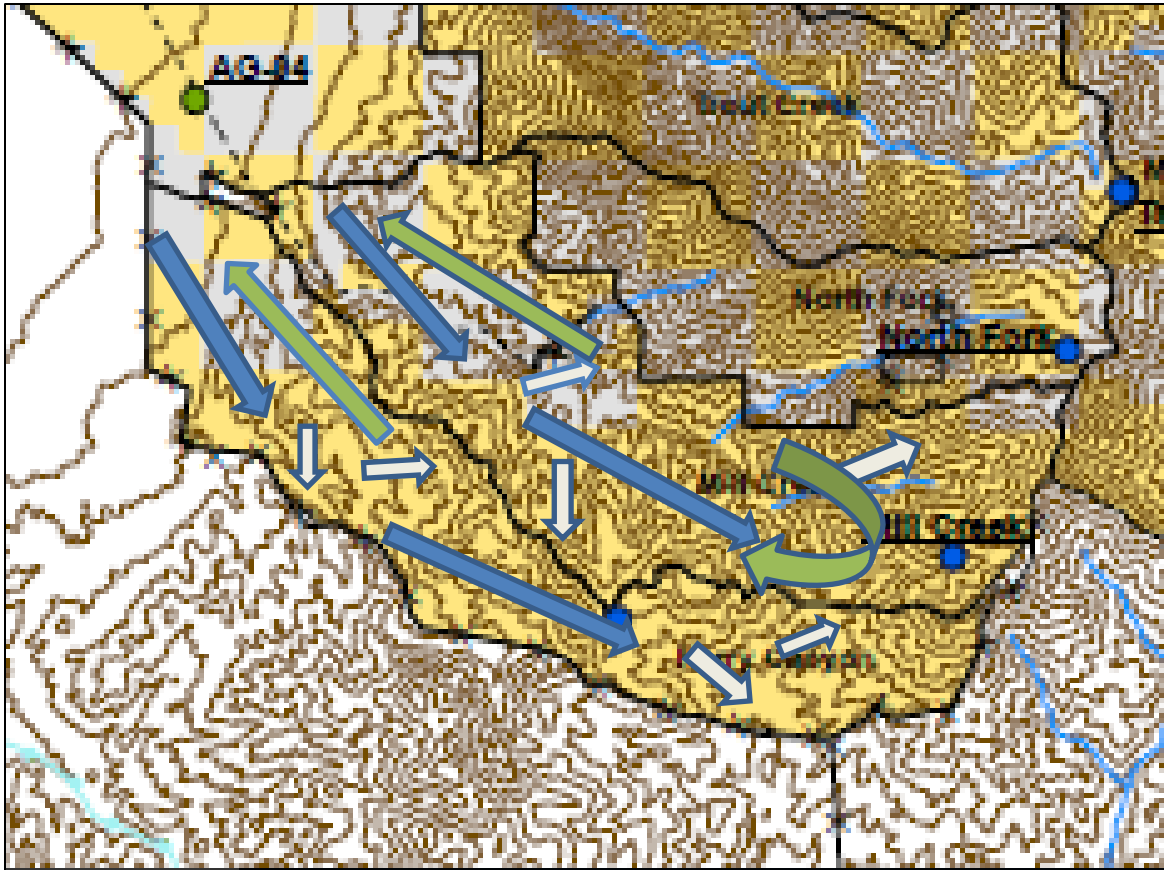





Figure 47. Chiara Ranch---Stockmanship for 2017 Grazing Season

LEGEND

-  -- Move livestock into allotment or use area according to permitted numbers and dates
-  -- Disperse using low stress stockmanship and as growing conditions permit minimize concentrated disturbance. Monitor use levels.
-  -- Remove livestock when use levels are approached or met or end of grazing season, whichever occurs earliest

Fillippini Ranching:

Overview of issues based on 2015/2016 monitoring data and CMG discussions. Shawn and Angie Mariluch graze cattle in the Fire Creek, Horse Haven, Whirlwind Valley and Sansinena use areas. The only riparian area monitored in these use areas is the Fire Creek DMA. Monitoring on this DMA indicates recent use has met the prescribed levels in both years. The riparian community appears to be in generally good condition; however, a series of small knickpoints should be monitored and possibly addressed in the agreement with Klondex Mining.

The upland annual-use monitoring in 2015 indicated that utilization levels met the prescribed level at 2 monitoring sites, (Fire Creek (0%) and Whirlwind 1 (26% +/- 13%). Horse Haven (48% +/- 15%) use levels fell within a statistical uncertainty near the prescribed use level. Two other monitoring sites, Sansinena (56% +/- 8%), and Whirlwind 3 (51% +/- 6%), did not meet the prescribed levels. In 2016, all monitoring sites easily met the prescribed utilization levels (Fire Creek 12% +/- 7%, Whirlwind 4% +/- 3%, Horse Haven 12% +/- 12%, Sansinena 11% +/- 7%.)

Deferment is planned in Sansinena again until seed-ripe, which should promote increased vigor prior to growing season use in future rotations.

Adherence to a general rotation, control of animal distribution with riders and supplements, and timely moves based on within-season monitoring should produce grazing success in 2017 on all use areas. Development of additional water sites (temporary water hauls in the immediate future with permanent water sites on private land possible later) should promote greater dispersal of livestock away from the Horse Haven/Whirlwind well.

2017 stockmanship plan for Filippini Ranching, Co. Mariluches will begin grazing cattle in Fire Creek use area in accordance with permitted numbers and dates. Livestock will be dispersed within the use area using low-stress stockmanship techniques and additional water haul sites if necessary. Livestock will be moved from Fire Creek to Horse Haven and Whirlwind Valley use areas on or about June 1 or when designated use levels are met in Fire Creek, whichever occurs first to defer riparian use through the remainder of the “hot” growing season.

Livestock will be dispersed throughout Horse Haven and Whirlwind using low-stress stockmanship techniques in addition to water haul sites and low-moisture block supplements to minimize trailing effects to and from existing permanent waters.

Sansinena use area will be deferred during the upland growing season until or on about August 15. Livestock will be moved to Sansinena and dispersed from localized areas in Horse Haven and Whirlwind as designated use levels are approached and/or to reduce trailing until:

- 1) Use in Horse Haven and Whirlwind dictates all livestock be removed to Sansinena or
- 2) Designated use levels in Sansinena are approached or exceeded or
- 3) End of grazing season dictates removal.

Periodic riding/monitoring to determine when or if within season triggers are being approached/met will be implemented.

Additional adaptive management considerations may be appropriate pending disposition of potential range improvements on both public and private lands.

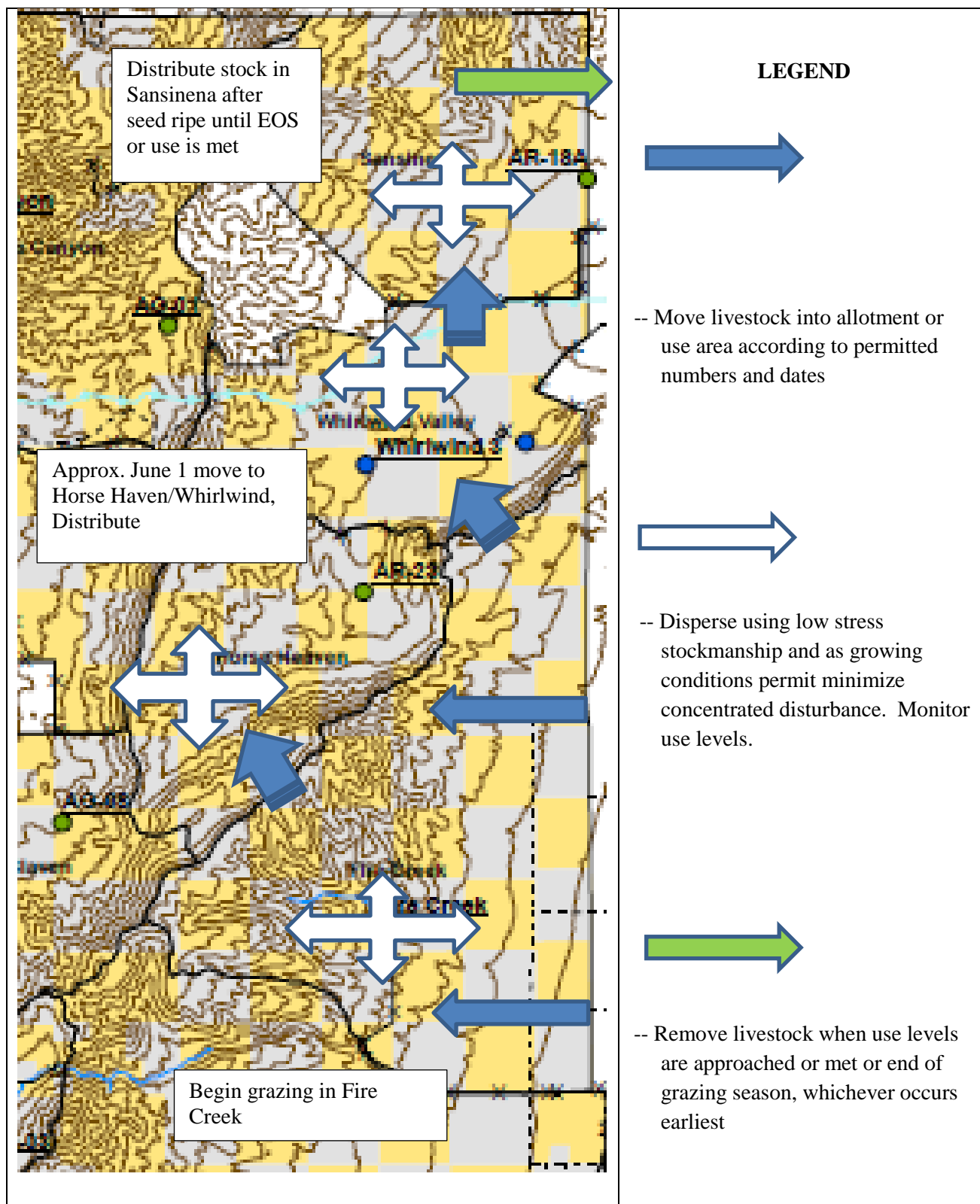


Figure 48. Filippini Ranching---Stockmanship for 2017 grazing season

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