



# STAFF REPORT

**Agenda Item:** 3D

**Report To:** Open Space Advisory Committee

**Meeting Date:** February 24, 2020

**Staff Contact:** Lyndsey Boyer, Senior Natural Resource Specialist

**Agenda Title:** For Possible Action: Discussion and possible action regarding the annual monitoring report for the Horse Creek Ranch Conservation Easement for 2019.

**Staff Summary:** See below

**Agenda Action:** Formal Action/Motion

**Time Requested:** 10 minutes

**Proposed Motion**

I move to approve the annual monitoring report for the Horse Creek Ranch Conservation Easement for 2019.

**Board's Strategic Goal**

Quality of Life

**Previous Action**

N/A

**Background/Issues & Analysis**

The Horsecreek Ranch Conservation Easement was purchased by Carson City in 2009 to protect the property from development. The Conservation Easement requires annual monitoring to ensure that the property is being maintained and continues in good condition. The initial assessment condition photos were taken in 2009 and each year staff has taken new photos at the same locations for comparison. The 2019 monitoring visit was conducted on September 12, 2019. The areas that require continued monitoring are the lower drainage area, the cattle loafing area, the channel headcut as well as a new lateral irrigation ditch.

In 2018, Mr. Fagen applied for and received a USDA EQIP grant to help fund irrigation improvements, including additional repair to meadow diversion boxes, culverts, and a new ditch at upper meadow for better water distribution. This work was completed in 2019. In addition, invasive weed monitoring and removal is anticipated to continue into future years. Mr. Fagen has extended his invitation to scout troops or volunteers to assist in this effort. The property continues to be in good condition and the full report is attached.

**Applicable Statute, Code, Policy, Rule or Regulation**

N/A

**Commission Action Taken:**

Motion: \_\_\_\_\_

1) \_\_\_\_\_

Aye/Nay

2) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
(Vote Recorded By)

## **Carson City Open Space – Conservation Easement Monitoring**

**Date:** September 12, 2019

**Start time:** 8:00 a.m. depart from office

**End time:** 2:30 p.m. return to office

**Monitor(s):** Lyndsey Boyer & Shyla Pearson (Carson City)

**Persons Attending Inspection (landowner or others):** William Michael Fagen

**Current Landowner(s):** William Michael Fagen (William Michael Fagen 2005 Trust)

**Mailing Address:** P.O. Box 703 Zephyr Cove, 89448

**Easement Address:** APNs 007-051-82, 007-051-83, and 007-051-84. Located approximately 2.5 miles west of the paved terminus of Kings Canyon Road.

**Easement size:** 175.33 acres

**Parcel size:** 3 parcels, 201 acres total

**On-site land use(s):** Agricultural in the meadow, open sagebrush and forest in the plan.

**Surrounding land uses(s):** On west, north, and east, the lands are under public ownership by Carson City Open Space and the U.S. Forest Service. The land use consists of undeveloped, dispersed recreation. On the south, the lands are under private ownership and the land use continues as agricultural.

### **Conservation Easement, Exhibit C, Prohibited Uses and Practices**

1. Impairment of Protected Values

No change. The landowner is in compliance.

2. Commercial or Industrial Use

No change. The landowner is in compliance.

3. Construction

No change. The landowner is in compliance.

4. Subdivision

No change. The landowner is in compliance.

5. Motorized Vehicles

No change. The landowner is in compliance.

## Carson City Open Space – Conservation Easement Monitoring

### 6. Tree Cutting

No change. The landowner is in compliance.

### 7. Dumping

No change. The landowner is in compliance.

### 8. Soil Degradation

No change. The landowner is in compliance.

Near the southeast corner, one specific area is being monitored for landscape change. This low drainage area of the meadow appears to be vegetated and stable though a few isolated mounds or hummocks may be the result of cattle trampling. A qualitative assessment with the photo comparisons may be deceptive due to the time of year each photo was taken – either during the growing season or at the end of the season after grasses were grazed and/or senesced. However, monitoring completed in 2019 illustrates that the erosion is recovering naturally. Additionally, the new headcut observed in 2017 on the creek northeast of the cabins was attempted to be monitored, but after thorough searching could not be identified on the landscape. This site and associated reach of creek should be monitored in future years to confirm successful revegetation of the headcut, or to document change in size or location, as it could have migrated upstream. In conjunction with the USDA EQIP grant funding that was awarded to repair irrigation structures and efficiency, Mr. Fagen also applied for additional USDA EQIP grants to fund the design and repair plan for the existing headcuts.

Unfortunately, due to access challenges and a lack of available contractors willing to complete the work, Mr. Fagen had to withdraw his application. In the future, a conservation organization such as the Great Basin Institute or Nevada Division of Forestry could be contracted to complete the work through non mechanized means. This would mitigate the challenge of getting large pieces of mechanized equipment to the site to complete this project. However, a repair design still needs to be completed.

(continued on next page)

## Carson City Open Space – Conservation Easement Monitoring

Photo Point: The photo of this drainage, located south of the cabins, has been included to document change and vegetation growth. N 39 07' 42.7" W 119 50' 10.2"

2010 Condition, photo taken November 1, 2010 (initial assessment – view west)



2019 Condition, photo taken September 12, 2019



## Carson City Open Space – Conservation Easement Monitoring

2013 Condition, photo taken July 23, 2013 (initial assessment – view south)



2019 Condition, photo taken September 12, 2019



## Carson City Open Space – Conservation Easement Monitoring

2013 Condition, photo taken July 23, 2013 (initial assessment – view south)



2019 Condition, photo taken September 12, 2019



## Carson City Open Space – Conservation Easement Monitoring

Photo Point: The photo of this headcut, located northeast of the cabins, has been included to document stream channel changes and erosion. N 39 07' 51.0" W 119 50' 11.4"

2018 Condition, photo taken October 8, 2018 (view north)



2019 Condition, site visit September 12, 2019

After completing a thorough survey of the site and associated creek, staff could not see the headcut on the landscape. This feature appears to have healed and revegetated beyond identification of the conditions shown above. Monitoring of this feature will continue in 2020, but if it cannot be identified at that time the photo point will be removed from the monitoring report.

## Carson City Open Space – Conservation Easement Monitoring

Photo Point: The photo of this newly constructed lateral irrigation ditch, located in the upper meadow has been included to document site improvements. Additionally, bull thistle was already observed colonizing the banks of the new ditch, so these areas will need to be monitored and focused on in future volunteer thistle dig events. N 39° 7' 58.1196"W 119° 50' 14.0172"

2019 Condition, photo taken September 12, 2019 (view west)



## Carson City Open Space – Conservation Easement Monitoring

### 9. Water Quality Degradation

No change. The landowner is in compliance.

It should be noted that specific measurements have never been taken to determine water quality. However, the average amount of surface water from Neal's Flume and two other springs is minimal and most of the water percolates into the ground to recharge the Carson City aquifer and/or reappear as groundwater discharge into Clear Creek. Due to these reasons, contamination from livestock grazing would be negligible.

### 10. Surface Alteration or Excavation

No change. The landowner is in compliance.

### 11. Fencing Restrictions

No change. The landowner is in compliance.

### **Additional Comments:**

- Stewardship Account: There are no expenses to report. The account has a current balance of \$47,375.00. Additionally, it should be noted that approximately \$5,643.00 in out of pocket expenses was spent by Mr. Michael Fagen for irrigation repairs, road grading and new culverts.
- The irrigation ditch known as "Neal's Flume" was flowing during this field monitoring visit and appeared to be providing adequate flow to the upper meadow at Horsecreek Ranch; lateral ditches in the meadow were also flowing. While the lower portion of the Flume was maintained in spring 2018, upper portions of the Flume remain overgrown. This upper portion of the Flume will be monitored in the future and will be cleared if the vegetation begins to impact water flow and delivery.
- The Pasture Utilization and Condition Assessment was conducted by Ms. Boyer and Ms. Pearson, Senior Natural Resource Specialist and Invasive Plants Coordinator, respectively. This Pasture Utilization and Condition Assessment included a visual observation of the monitoring plot as described in the Baseline Condition Report. A diversity of pasture, wetland-associated (*Juncus*), and invasive grasses (cheatgrass) exhibited various utilization levels depending on species. It should be noted that cover of invasive grasses (cheatgrass)

## Carson City Open Space – Conservation Easement Monitoring

has reduced. Overall, grazing appeared negligible and an average stubble height of 3 – 4” was recorded.

- Bull thistle remains present throughout the meadow. Mr. Fagen and staff are committed to working together towards the eradication. Mr. Fagen is continually receptive to volunteer projects to assist in the eradication effort; however, there is a short time frame for identification and removal (July-August). In July, a volunteer project was conducted in conjunction with the Carson City non-profit, Muscle Powered; 10 volunteers worked to remove 25 bags of Bull Thistle from the pastures north of the cabins at Horsecreek Ranch. In the future, staff will continue work with Mr. Fagen to implement volunteer removal projects, with the potential to contract with conservation organizations such as the Great Basin Institute or Nevada Division of Forestry crew to complete additional removal in the summer/fall of 2020.
- It should be noted that several photo point locations - such as the old pipeline and existing headcuts - have been revegetating naturally. Lastly, healthy plant communities are being maintained throughout the property.
- The previous reports recommended the monitoring of the cattle loading area located just outside the gated entrance to the cabins with the goal to limit further expansion. The following documentation provides photo points and respective measurements. The disturbed area consists primarily of cheatgrass and foxtail barley although sagebrush is successfully re-establishing on both the north and east edge of the disturbed area. The disturbed area has shown an overall reduction in size over the last two monitoring cycles, however this particular monitoring period revealed that the extent of the loafing area north-south has increased by 4 feet, while the extent east-west has been reduced by 37 feet since 2013. Lastly, it is important to note that depending on the timing of monitoring, cheatgrass abundance and cover varies indicating that cattle are likely grazing the cheatgrass.

## Carson City Open Space – Conservation Easement Monitoring

2013 Condition, photo taken July 23, 2013 (initial assessment – view south):  
The bare area measures 157' north to south along the sagebrush.



2019 Condition, photo taken September 12, 2019:  
The bare area measures 161' north to south along the sagebrush.



## Carson City Open Space – Conservation Easement Monitoring

2013 Condition, photo taken July 23, 2013 (initial assessment – view west):  
The bare area measures 145' east to west along the gravel road.



2019 Condition, photo taken September 12, 2019:  
The bare area measures 108' east to west along the gravel road.



## Carson City Open Space – Conservation Easement Monitoring

- In 2018, Mr. Fagen applied for and was awarded a USDA EQIP grant to help fund irrigation improvements. With this funding, the following work was completed in 2019:
  - Replaced three 18” diameter road culverts for better drainage/irrigation;
  - Installed seven new irrigation weir gates in the meadow;
  - Replaced six lateral irrigation pipes at distribution boxes;
  - Repaired main irrigation distribution concrete box;
  - Extended main lateral irrigation ditch at top of meadow 525 feet for better water utilization; and
  - Completed 3-4 site visits with NRCS to evaluate project accomplishments. NRCS will continue to provide consultation as to the current condition and effectiveness of the entire pasture irrigation system, including the supply flume and distribution boxes, and make updated recommendations to the landowner via an irrigation plan.
- In addition, 1.5 miles of the main entry road was regraded and repaired in 2019, not in conjunction with the USDA EQIP grant.
- Mr. Fagen applied for an additional USDA EQIP grant to fund the design and repair of the existing headcuts, but later withdrew due to a lack of available contractor willing and able to complete the work.
  - Potential to hire a conservation crew to prepare and install check dams through non-mechanized means. However, a design for the work still needs to be completed.
- Mr. Fagen has inquired with Nevada Division of Forestry (NDF) staff regarding the Forest Stewardship Program to fund selective thinning of tree stands on the property. Implementation of this program is pending funding release and availability of NDF field staff for site visit. Carson City staff followed up with NDF staff regarding this program in December 2019.
- In addition to monitoring and evaluating the current conditions related to the terms of the conservation easement, staff believes that it is important to document external factors that could potentially affect the future condition of the property. Specifically, the endemic localized infestation of non-native insects around the alpine forests. About one mile above Horsecreek Ranch, the white satin moth has caused significant defoliation to the aspen trees around Spooner Summit and bark beetles have caused significant damage to the conifers between Spooner Summit and Glenbrook.

**Carson City Open Space – Conservation Easement Monitoring**

**Summary:**

The results of the 2019 audit of the Horsecreek Ranch Conservation Easement by Carson City demonstrate that the property generally continues to be in good condition and the landowner is in full compliance with both the letter and the spirit of the Easement. The report identifies two recommendations for active measures and likely coordination between Carson City and the landowner:

- 1) Continue to work to identify a mitigation strategy and repair plan for existing headcuts to be implemented 2020-2021.
- 2) Continued removal of bull thistle.

**Landowner comments:**

The landowner is cooperative about addressing, over time and in consideration of available resources, additional improvements to the conditions on the property in a joint effort with Carson City and other local agencies.

Written by: Lyndsey Boyer 1/15/2020  
Lyndsey Boyer Date

Reviewed by: \_\_\_\_\_  
Ann Bollinger Date

Landowner: William Michael Fagen 1/15/20  
William Michael Fagen Date

## Carson City Open Space – Conservation Easement Monitoring

Please indicate the number of the following attachments to this report. Be sure to date and sign all materials and provide a description or map showing where on-site photos and illustrations were taken:

Aerial photos

Ground photos (digital or other)

- 13 ground photos – Within the Report
- 34 ground photos – Baseline Report Repeat Photo Documentation
- Digital photos taken, copied into a written report

Maps and illustrations

Other:

Date Inspection Report Sent To Landowner: 1/10/2020

Baseline Report Repeat Photo Documentation

**Photo Point 1A (view northeast): A photo point located at the edge of the shrub dominated granitic fan and the irrigated meadow. This would be used to monitor shrub invasion into the meadow area indicating irrigation problems.**

2009 Baseline Condition, photo taken February 4, 2009:  
(GPS coordinate: N39° 08' 02.3" W119° 50' 11.8")



2019 Condition, photo taken September 12, 2019



Baseline Report Repeat Photo Documentation

**Photo Point 1B (view northwest): A photo point located at the edge of the shrub dominated granitic fan and the irrigated meadow. This would be used to monitor shrub invasion into the meadow area indicating irrigation problems.**

2009 Baseline Condition, photo taken February 4, 2009:  
(Photo possibly taken from the upper meadow, near the new GPS coordinate for  
Photo Point 2 updated in 2010: N39 07' 54.9" W119 50' 11.3")



2019 Condition, photo taken September 12, 2019



Baseline Report Repeat Photo Documentation

**Photo Point 2 (view south): A photo point located in bottom of the active stable drainage channel to the southeast of the house to monitor side slope stability.**

2009 Baseline Condition, photo taken February 4, 2009:  
(GPS coordinate updated in 2010: N39 07' 54.9" W119 50' 11.3")



2019 Condition, photo taken September 12, 2019



Baseline Report Repeat Photo Documentation

**Photo Point 3 (view south): A photo point located immediately east of the house in the active channel where rip-rap has been placed for stabilization.**

2009 Baseline Condition, photo taken February 4, 2009



2019 Condition, photo taken September 12, 2019



Baseline Report Repeat Photo Documentation

**Photo Point 4A (view north): A photo point located at the most northern active headcut after required stabilization to monitor effectiveness.**

2009 Baseline Condition, photo taken February 4, 2009



2019 Condition, photo taken September 12, 2019



Baseline Report Repeat Photo Documentation

**Photo Point 4B (detail): A photo point located at the most northern active headcut after required stabilization to monitor effectiveness.**

2009 Baseline Condition, photo taken February 4, 2009



2019 Condition, photo taken September 12, 2019



Baseline Report Repeat Photo Documentation

**Photo Point 4C (detail): A photo point located at the most northern active headcut after required stabilization to monitor effectiveness.**

2009 Baseline Condition, photo taken February 4, 2009



2019 Condition, photo taken September 12, 2019



Baseline Report Repeat Photo Documentation

**Photo Point 5 (view east): A photo point on the hillside conveyance ditch at a location where a previous washout has occurred to monitor ditch maintenance.**

2009 Baseline Condition, photo taken February 4, 2009



2019 Condition, photo taken September 12, 2019



**Photo Point 6A (view north): A photo point from the Kings Canyon Road that would provide panoramic views of the ranch from a west to east perspective.**

2009 Baseline Condition, photo taken February 4, 2009



2019 Condition, photo taken September 12, 2019



Baseline Report Repeat Photo Documentation

**Photo Point 6B (view center): A photo point from the Kings Canyon Road that would provide panoramic views of the ranch from a west to east perspective.**

2009 Baseline Condition, photo taken February 4, 2009



2019 Condition, photo taken September 12, 2019



**Photo Point 6C (view south): A photo point from the Kings Canyon Road that would provide panoramic views of the ranch from a west to east perspective.**

2009 Baseline Condition, photo taken February 4, 2009

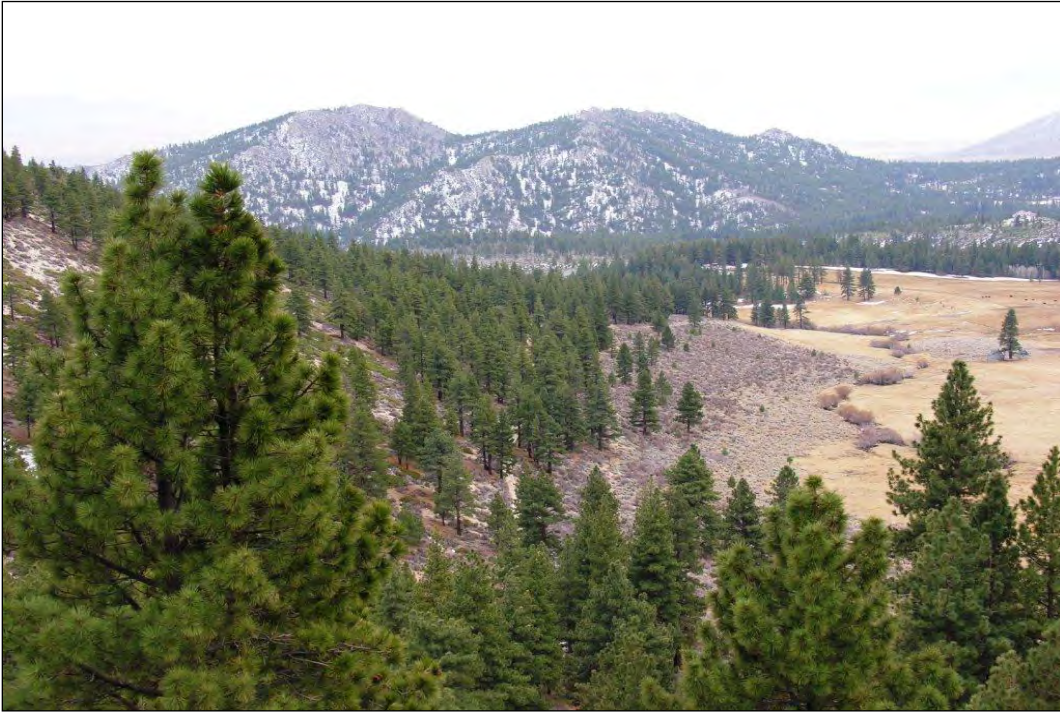


2019 Condition, photo taken September 12, 2019



**Photo Point 7A (view southeast): A photo point from Kings Canyon Road that would provide panoramic views of the ranch from a north to south perspective.**

2009 Baseline Condition, photo taken February 4, 2009



2019 Condition, photo taken September 12, 2019



**Photo Point 7B (view south): A photo point from Kings Canyon Road that would provide panoramic views of the ranch from a north to south perspective.**

2009 Baseline Condition, photo taken February 4, 2009



2019 Condition, photo taken September 12, 2019



Baseline Report Repeat Photo Documentation

**Photo Point 7C (view southwest): A photo point from Kings Canyon Road that would provide panoramic views of the ranch from a north to south perspective.**

2009 Baseline Condition, photo taken February 4, 2009



2019 Condition, photo taken September 12, 2019



Baseline Report Repeat Photo Documentation

**Photo Point 8A (view northwest): A photo point overlooking the meadow from the east to the west located next to the property corner along the new road.**

2009 Baseline Condition, photo taken February 4, 2009



2019 Condition, photo taken September 12, 2019



Baseline Report Repeat Photo Documentation

**Photo Point 8B (view west): A photo point overlooking the meadow from the east to the west located next to the property corner along the new road.**

2009 Baseline Condition, photo taken February 4, 2009



2019 Condition, photo taken September 12, 2019



Baseline Report Repeat Photo Documentation

**Photo Point 9: A permanently marked 100' x 100' area to monitor pasture condition. This annual inventory will be used to monitor not only pasture condition but irrigation efficiency, vegetative response to drought and appropriate livestock utilization.**

2009 Baseline Condition, photo taken February 4, 2009



2019 Condition, photo taken September 12, 2019

