

**Henry's Fork Salinity Control Area  
Monitoring and Evaluation Report  
2020**



## Wildlife/Wetland Replacement Assessments and Replacement Projects

### Wetland Assessments- Prior to Irrigation System Installation

- Petersen Ranch Pod-lines and Gated Pipe- 12.5 irrigated acres assessed and 9.8 wetland acres were found in July 2019. There were two fields assessed. The north field was planned to improve from flood to gated pipe irrigation. The south field was planned to improve from flood to pod-line sprinkler irrigation. The north field is lower in elevation and very low gradient, located adjacent to the Henry's Fork river. This pasture consisted of thick wetland vegetation and the soil was saturated. Vegetation included hay/meadow grasses, timothy, milkweed, sedges and an abundance of scouring rush. The entire pasture had these characteristics so was therefore all included in the wetland assessment. The south field is located on a bench approximately 0.02 miles from the Henry's Fork river. The majority of this pasture was grazed hay/meadow grasses and bare soil. There were some dry patches of rushes and thistle present. The southwestern quarter of the field (1.7 acres) did have some wetland characteristics which included sedges, rushes and scouring rush. The surrounding area is upland sagebrush, irrigated pastures and riverine corridor. No wildlife was documented at the time of the assessment but it's location directly along the riparian corridor likely makes it secondary habitat to riparian dependent species.
- **32.34** total wetland habitat values prior to irrigation improvement.



Photo 1: The north field facing northeast showing thick scouring rush and hay grasses July 2019.



Photo 2: Milkweed and scouring rush located in the north field, July 2019.



Photo 3: The south field facing south showing a mix of mostly hay grasses and bare soil, July 2019.



Photo 4: The southwestern section of the south field that contained wetland characteristics at the toe of the slope, such as scouring rush patches, July 2019.

- D. Beck Ranch Pivots- Approximately 80 acres were assessed and 31 wetland acres found in July 2019. There are two pivots proposed on two separate fields located approximately 0.1 miles from the Henry's Fork River near Lonetree, WY. The western pasture was all dry upland habitat containing mowed sagebrush and bare soil with patches of grazed hay grasses. No wetland acres were found. However, the eastern pasture contained mostly wetland characteristics with a dry upland patch in the southeast corner that was not included in the assessment. The section that was not included contained cheatgrass, white-top and field pennycress. For the wetland acres, the dominant vegetation included hay/meadow grasses such as timothy, wild pea, arrowgrass, sedges, rushes and some curly dock. There was some ponding found in the center of the field with saturated soils surrounding those areas. The surrounding area is upland sagebrush, irrigated pastures and riverine corridor. No wildlife was documented at the time of the assessment but it's location directly along the riparian corridor likely makes it secondary habitat to riparian dependent species.
- **105.4** total wetland habitat values prior to irrigation improvement.



Photo 5: Southern end of the western field that contained upland habitat and no wetland characteristics, July 2019.



Photo 6: Southern end of the eastern field facing north, July 2019.



Photo 7: Ponding in center of the eastern field with timothy grass and arrowgrass abundant, July 2019.



Photo 8: View of the southeast section of the eastern field that was not included in the wetland assessment- cheatgrass, pennycress and white-top dominant, July 2019.

- DR Livestock Pivots 2 & 3- 42 irrigated acres were assessed and 2.6 wetland acres were found in July 2019. Two center pivots will be installed on 42 acres. The proposed pivots will be installed on two separate fields. The north field is located on a bench approximately 0.6 miles from the Henry's Fork River. This pasture contained mostly upland vegetation with hay/meadow grasses and sagebrush. There were wetland characteristics found in the northwestern corner of the field near the irrigation ditch. There was standing water and saturated soils in depressions and along the steeper slope on that end of the field. Vegetation included wild iris, rushes and sedges. This is where

the wetland acres were assessed. The southern field is located across a draw, slightly lower in elevation and approximately 0.3 miles from the river. This field was dominated by patches of hay grasses, thistles and bare soil. No wetland characteristics were found. The area surrounding the fields contained upland sagebrush habitat and pronghorn were present during the assessment.

- **7.8** total wetland habitat values prior to irrigation improvement.



Photo 9: Center of northern field facing south contains mostly upland habitat with patches of wetland vegetation, July 2019.



Photo 10: Wetland area assessed in northern field near ditch, July 2019.



Photo 11: The southern field facing south- contained no wetland values, July 2019.

- S. Slagowski Pod-Lines- 11.3 irrigated acres were assessed and 0.83 wetland acres were found in July 2019. Two pod-line systems will be installed on separate fields totaling 11.3 acres. The north field had a steep slope that drained north to south and contained hay grasses with some bare soil, cheatgrass and white-top present. Prairie dogs were also present throughout the field. The toe of the slope did have some wetland characteristics such as rushes, sedges and iris, but the soil was not saturated at the time of the assessment. This area was included in the wetland acres. The southern field had a gentler slope and contained thick hay grasses and alfalfa. There was also some cheatgrass and white-top present. There was a natural draw that ran down the center of the field from south to north. This draw had depressions that contained standing water, rushes, sedges and had saturated soils surrounding it. This section was included in the wetland acres. The surrounding habitat was upland sagebrush and irrigated fields. There is a major highway that runs just north of the north field.
- **2.48** total wetland habitat values prior to irrigation improvement.



Photo 12: Southern field facing East with hay grasses, July 2019.



Photo 13: Southern field standing water in draw depression- sedges and rushes surrounded the area, July 2019.



Photo 14: The north field contained hay grasses and bare soil throughout most of the sloped field, July 2019.



Photo 15: The south toe of the north field contained some wetland characteristics, such as rushes and wild iris, July 2019.

## **Follow-up Wetland Assessments of Irrigation Projects**

*Follow-up wetland assessments occur when a conservation practice has been in place for at least a year and wetland characteristics of the assessment area appear to have changed from pre-practice conditions. If no significant changes have occurred, photos are taken but a wetland assessment will be planned for the following year, so that the impacts are fully realized. Follow-up assessments will also be postponed if normal conditions are not present.*

- R. Slagowski Pivot was installed in November 2015. A site visit was completed July 2019. There appeared to be wetland characteristics still present on the 5 acres previously assessed. Since the conditions had not changed noticeably, photos were taken and the follow-up assessment was postponed for the following year.



Photo 16: Rushes, sedges, arrowgrass still present on south side of pasture, July 2019.

- D. Slagowski pivot was installed in September 2016. A site visit was completed in June 2019. There appeared to be wetland characteristics still present on the 1.02 wetland acres previously assessed. Since the conditions had not changed noticeably, photos were taken and the follow-up assessment was postponed for the following year.



Photo 17: Sedges, rushes and standing water still present on south eastern edge of pasture, June 2019.

- Crowther pivot was installed in September 2016. A site visit was completed in July 2019. There appeared to be wetland characteristics still present on the 2.95 wetland acres previously assessed. Since the conditions had not changed noticeably, photos were taken and the follow-up assessment was postponed for the following year.



Photo 18: Seasonal scrub-shrub wetland habitat still present in the ravine located on the middle of the pasture and rushes, sedges and standing water still present along eastern irrigation ditch and depressions, June 2019.

- Beck pivots were installed in September 2016. A site visit was completed in July 2019. There appeared to be wetland characteristics still present on the 83.5 wetland acres previously assessed. Since the conditions had not changed noticeably, photos were taken and the follow-up assessment was postponed for the following year.



Photo 19: The wetland characteristics throughout both fields and the pond remain the same, July 2018.

- Thomas pod-lines were installed in September 2016. A site visit was completed in July 2019. The majority of the pasture had switched from mostly dry upland habitat with hay grasses to alfalfa. There appeared to be wetland characteristics still present on the 1.3 wetland acres previously assessed at the northeastern toe of the slope. Since the conditions had not changed noticeably, photos were taken and the follow-up assessment was postponed for the following year.



Photo 20: The northeastern toe of the pasture still has standing water and moist soils, timothy, common arrowgrass, sedges and rushes, July 2019.

- Anderson pivot and gated pipe were installed November 2017. A site visit was completed in June 2019. The gated pipe field had recently been tilled and re-seeded and the pipe had not been installed yet, so no assessment was made at this time. The pivot field still contained wetland vegetation along the irrigation ditch and western edge of the pivot. No noticeable changes were found, so photos were taken and a follow-up assessment will occur next year.



Photo 21: The gated pipe field was recently tilled and not operating so could not be compared. Wetland characteristics such as sedges and rushes were still present on the southwestern edge of the pivot field, June 2019.

## **Habitat Replacement Projects**

The House Pasture riparian area on Beaver Creek was fenced in January 2019. This pasture is similar to the Molly Bullock pasture with wetland characteristics consisting of willows, cottonwoods, and riparian grasses. Approximately 15 acres were fenced with an estimated 57 habitat values present. Monitoring will occur annually to document changes. It is estimated that the habitat values will increase by 50-100 pts. TU/NRCS, FWS and the Wyoming Game and Fish Dept. surveyed two of the fenced areas and one pasture that was not fenced in August 2019. No wetland assessment was completed as this was the first year it was all in place, but vegetative monitoring results are promising. There were numerous riparian species that increased and showed regrowth. Vegetative monitoring will occur annually to document changes. Several planned projects are moving forward as funding is received. The Interstate Canal diversion improvement project is still moving forward and final designs are almost complete. Construction is planned for fall 2020. The mainstem diversion improvement project is also moving forward. Conceptual design bids and cost estimates should be completed this summer. Once those are in hand, then fundraising can occur for implementation. Below are photos documenting the changes found in the Molly Bullock riparian fence areas and the House Pasture fence. For photos of the diversion projects, please see the 2019 Monitoring and Evaluation Report.



Photo 22: Approximately 15 acres of riparian corridor in the House Pasture on Beaver Creek were fenced using wildlife-friendly barbed wire, January 2019.

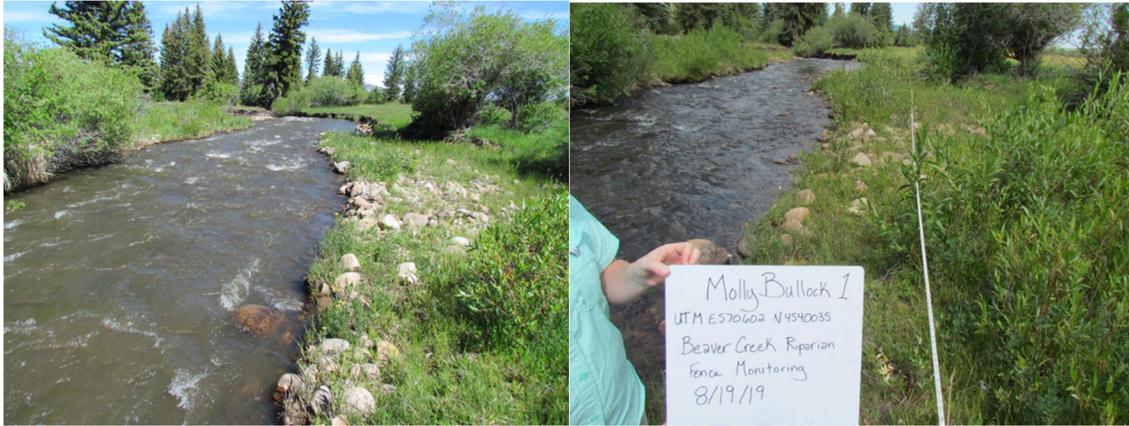


Photo 23: Photopoint for the Beaver Creek Molly Bullock pasture comparing June 2017 prior to fencing on the left and August 2019 after fencing on the right.

### **Considerations and Conclusions**

There were four irrigation improvement projects that required wetland assessments for 145.8 acres in 2019 in the Henry’s Fork Salinity Control Program Area. The wetland assessments were performed during irrigation season to best identify all wetland characteristics possible. The project areas were a mix of upland sagebrush, irrigated hay/meadow grasses and some artificial wetlands. There were 44.23 wetland acres assessed and a total of 148.02 wetland habitat values present. The wetland values that were present consisted of standing water, saturated soils and wetland vegetation such as rushes and sedges. They were all located along ditches and depressions. The wetlands that were found appeared to be seasonally induced by irrigation. They had little structural diversity and moderate disturbance due to haying and grazing. Three of the four areas were located within a mile of the Henry’s Fork River. Pronghorn and prairie dogs were documented during some of the assessments. Some of the acres had standing water or saturated soils and may provide some groundwater recharge potential. The characteristics found in these wetlands are common in the drainage, so they received low uniqueness ratings. No recreational or educational potential was found. The table below summarizes the habitat values present for all Salinity Control Program projects in the Henry’s Fork area, based on the Montana Wetland Assessment Method.

| <b>Name</b>        | <b>Year</b> | <b>Irrigated acres Assessed</b> | <b>Wetland Acres Assessed</b> | <b>Total Habitat Values</b> |
|--------------------|-------------|---------------------------------|-------------------------------|-----------------------------|
| Pallesen Pod-line  | 2014        | 2                               | 0                             | 0                           |
| Thomas Pod-line    | 2015        | 27.6                            | 1.3                           | 3.77                        |
| Crowther Pivot     | 2015        | 40                              | 2.95                          | 7.67                        |
| S. Slagowski Pivot | 2015        | 25.1                            | 1.02                          | 1.84                        |
| B. Slagowski Pivot | 2015        | 48.4                            | 5.0                           | 15.00                       |
| M. Beck Pivot      | 2016        | 100                             | 83.5                          | 292.25                      |

|                                |      |              |              |               |
|--------------------------------|------|--------------|--------------|---------------|
| Anderson Pivot & Gated Pipe    | 2017 | 59.3         | 26.1         | 70.47         |
| DR Livestock Pivot 1           | 2018 | 31.9         | 3.4          | 8.5           |
| Petersen Pod-line & Gated Pipe | 2019 | 12.5         | 9.8          | 32.34         |
| D. Beck Ranch                  | 2019 | 80           | 31           | 105.4         |
| DR Livestock Pivots 2 &3       | 2019 | 42           | 2.6          | 7.8           |
| S. Slagowski Pod-Lines         | 2019 | 11.3         | 0.83         | 2.48          |
| <b>Total</b>                   |      | <b>480.1</b> | <b>167.5</b> | <b>547.52</b> |

Table 1: Henry’s Fork Salinity Control Program Wetland Assessment totals evaluated using the Montana Wetland Assessment Method.

Follow-up site visits to six irrigation projects that have been in operation for over a year were completed. There were no noticeable changes in wetland characteristics with one exception of a field that had been tilled and reseeded. All follow-up assessments were postponed for another year. **No replacement values are needed at this time as no wetland values have been lost.**

Although no replacement values are needed yet, we have completed habitat projects in anticipation of values that may be lost over time. There have been six habitat replacement projects completed: Peoples Canal Fish Barrier, the Beaver Creek diversion improvement project, the Nelson diversion improvement project, riparian fencing on the Molly Bullock and pasture on Beaver Creek, the Blue Bell diversion improvement project (summarized in previous reports) and riparian fencing on the House pasture of Beaver Creek.. The Beaver Creek riparian fence projects will be monitored annually beginning this summer to determine if there are any measurable vegetative changes. There are several diversion projects that will be pursued this year. **Currently, we have an excess of 240.45 replacement habitat values** (See table below).

| Name                                    | Habitat Value                          | Replacement Value Totals                         |
|---|--|--|
| Peoples Canal Fish Barrier              | 100 stream miles protected             | 178.2  |
| Beaver Creek Diversion Improvement      | 6 stream miles seasonally connected    | 14.9   |
| Nelson Diversion Improvement            | 10 stream miles seasonally reconnected | 24.9   |
| Blue Bell Diversion Improvement         | 9 stream miles seasonally connected    | 22.45  |
|   |  | <b>240.45 Total Completed</b>                    |
| Molly Bullock Riparian Fencing          | 26 acres excluded from grazing         | 139 present, estimate will improve by 50-100 pts |
| House Pasture Riparian Fencing          | 15 acres excluded from grazing         | 57 present, estimate will improve by 50-100 pts  |
| Interstate Canal Diversions Improvement | 12 stream miles seasonally connected   | 29.94 will be completed                          |
| Mainstem diversions improvement         | 27 stream miles seasonally connected   | 67.35 will be completed                          |

Table 2: Completed and Planned Habitat Replacement projects and their estimated totals using the replacement value calculator.

**Please reference Replacement Value Calculator for below totals**

(Location + Similarity + Species)Misc. Multiplier\*Size\*Ranking\*MDOT = Replacement

Peoples Canal=  $(5 + 1 + 3)1 * 528 * 0.375 * 0.1 = 178.2$

Blue Bell Diversion-  $(5+1+3)0.7*47.52*0.75*0.1 = 22.45$

Beaver Creek Diversion= $(5+1+3)0.7*31.6*0.75*0.1= 14.9$

Nelson Diversion =  $(5+1+3)0.7*52.8*0.75*0.1= 24.9$

Molly Bullock Riparian Fencing = 26 acres assessed with MDOT tool (see Molly Bullock Riparian Fence Assessment for totals calculation). Will assess in 2020 to see if any changes have occurred.

House Pasture Riparian Fencing= 15 acres assessed with MDOT tool (see House Pasture Riparian Fence Assessment for totals calculation). Will monitor in 2020 to see if any changes have occurred.

Interstate Canal Company Diversion= $(5+1+3)0.7*63.36*0.75*0.1= 29.94$

Mainstem diversions improvement= $(5+1+3)0.7*142.56*0.75*0.1= 67.35$

## References

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