

Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name: **T. Neil Glennie
1643 Judith Gap Rd
Judith Gap, MT 59453-8103**

2. Type of action: **Application to Change a Water Right No. 40A 30072654.**

3. Water source name: **Careless Creek**

4. Location affected by project:

The new point of diversion will consist of a pump located in the SENESE Section 20, T10N, R18E, and the place of use will be 161 acres generally located in the NE Section 28, TWP 10N, RGE 18E. All locations are located in Wheatland County.

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

Applicant proposes to change the point of diversion and place of use of three supplemental/overlapping irrigation water rights, 40A 199382, 40A 199383 and 40A 199384. The proposal includes a change from flood to center pivot sprinkler irrigation. The historic flood irrigation system included 189 acres irrigated from the Caldwell and Bouchard-Ross Ditches. The Caldwell and Bouchard-Ross Ditches will no longer be used to irrigate the 189 acres. The three water rights to be changed have a combined claimed flow rate of 11.25 CFS from two points of diversion (Caldwell Ditch and Bouchard-Ross Ditch). A mitigation plan has been proposed. The applicant proposes to convey water from Careless Creek through the Caldwell Ditch to act as an infiltration gallery to the soils adjacent to Little Careless Creek, in order to mitigate for any adverse effects to downstream water users on Little Careless Creek.

The DNRC shall issue a water use permit if an applicant proves the criteria in 85-2-311 MCA are met.

6. Agencies consulted during preparation of the Environmental Assessment:
(include agencies with overlapping jurisdiction)

Dept. of Environmental Quality Website - TMDL 303d listing

MT. National Heritage Program Website - Species of Concern
USDI Fish & Wildlife Service Website - Endangered and Threatened Species Judith
Basin County, MT
MT State Historic Preservation Office - Archeological/Historical Sites
USDA Natural Resources Conservation Service – Web Soil Survey
USDI Fish & Wildlife Service – Wetlands Online Mapper

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity - Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.

Determination: **No Significant Impact.**

The source of supply is Careless Creek, a tributary of the Musselshell River. Careless Creek is listed as a chronically dewatered stream from river mile 13.6 to river mile 47.8. The proposed pump site for the new point of diversion is roughly located at river mile 44.1 which lies within the chronically dewatered reach of Careless Creek. The flow rate of water diverted will be reduced from 11.25 CFS to 2.5 CFS for irrigation purposes, and the diverted volume will be reduced from 218.7 CFS to 122.5 CFS. For mitigation purposes, the flow rate will be an average flow rate of 68 GPM and the volume will be 36.8 AF. The consumed amount of water will be the same as historically. Considering the overall impacts, a reduction in flow rate and volume diverted will occur, the timing of return flows will change, and the amount of return flows will be reduced. The mitigation plan provides for replacement water to be returned to Little Careless Creek in amounts similar to historically under irrigation practices.

Water quality - Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.

Determination: **No Significant impact.**

Careless Creek is listed on the MT DEQ website, Clean Water Act Information Center. Aquatic Life and Warm Water Fishery uses have been impaired from alteration of streamside or littoral vegetative covers and sedimentation/siltation. This project could have temporary disturbances during the installation of the new pumpsite; however, the new pump has been installed, so no further significant affects to water quality are anticipated because of this project.

Ground water - Assess if the proposed project impacts ground water quality or supply. If this is a ground water appropriation, assess if it could impact adjacent surface water flows.

Determination: **No Significant Impact.**

The proposed change should not have a significant impact on ground water quality or supply. The proposed place of use for the new pivot may realize a minor increase in seasonal water table elevations; in turn, the potentiometric water surface under acres being retired from flood irrigation should see a decrease in seasonal elevations.

DIVERSION WORKS - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

Determination: **No Significant Impact.**

The proposed means of diversion is a 60 HP Cornell Pump (Model #5RB) capable of diverting 1,120 gallons per minute. Water conveyance will occur through a 12 inch mainline (plastic pipe) to a 161 acre center pivot sprinkler irrigation system. The system is in place, therefore no further impacts due to diversion works are expected because of this project.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species - *Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."*

Determination: **No Significant Impact.**

The Montana National Heritage Program currently lists the Greater Sage Grouse, Sprague's Pipit, Golden Eagle, Ferruginous Hawk, the Mountain Plover and one fish as Species of Concern within Township 10 North Range 18 East. There are no known Plant Species of Concern listed in the area of interest. The USDI Fish & Wildlife Service Report (Sept. 2009) indicates that Wheatland County has one species listed as endangered, the Black-footed Ferret. Pump installation and system operation plans include the use of screened inlets to protect fish. Since this project is associated with ground that has been previously farmed and grazed, there is a low likelihood of impact to endangered or threatened species because of this appropriation.

Wetlands - *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: **No Significant Impact.**

The USDI Fish & Wildlife Service Wetlands Online shows Freshwater Emergent Wetland and Freshwater Forested/Shrub Wetland type areas located within the existing place of use. These areas are located primarily along the ditches used for flood irrigation and along

Careless and Little Careless Creeks. The areas along the flood irrigation ditches within the place of use may see some impacts due to the cessation of historic irrigation practices.

Ponds - *For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: **No Significant Impact.**

The project does not involve nor affect any ponds.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

Determination: **No Significant Impact.**

The NRCS Web Soil Survey shows the predominant soil unit under the proposed pivot location is the Yaple-Ashuelot-Whitecow complex with 0 to 4 percent slopes. This unit consists of a loam/gravelly loam mix that is well drained and non-saline. The area proposed for pivot irrigation is not rated as prime farmland; there may be limitations on crop choices and a need for careful management. The soil is moderately susceptible to wind erosion and has an estimated average yield of 1.8 tons/acre of alfalfa production. There is a low likelihood of impact to soil quality because of this project.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

Determination: **No Significant Impact.**

Typical construction activities associated to pump & pipeline installation can cause short-term disturbances to vegetative cover; however, there is a low likelihood of any long term or significant impact because of this project. It is the responsibility of the property owner to control noxious weeds on their property.

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

Determination: **No Significant Impact.**

It is unlikely air quality will be deteriorated; this project will utilize an electrically driven pump to divert the water.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.*

Determination: **No Significant Impact.**

Not Applicable – Project not located on State or Federal Lands

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - Assess any other impacts on environmental resources of land, water and energy not already addressed.

Determination: **No Significant Impact.**

No additional impacts are anticipated.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.

Determination: **No Significant Impact.**

No locally adopted environmental plans or goals have been identified.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.

Determination: **No Significant Impact.**

This proposal should not impact recreational activities in the area. The project is located on private property.

HUMAN HEALTH - Assess whether the proposed project impacts on human health.

Determination: **No Significant Impact.**

No impacts to human health have been identified.

PRIVATE PROPERTY - Assess whether there are any government regulatory impacts on private property rights.

Yes ___ No X If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

Determination: **No Significant Impact.**

OTHER HUMAN ENVIRONMENTAL ISSUES - For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.

Impacts on:

- (a) Cultural uniqueness and diversity? **None**
- (b) Local and state tax base and tax revenues? **None**
- (c) Existing land uses? **Dryland farming to pivot irrigation.**
- (d) Quantity and distribution of employment? **None**
- (e) Distribution and density of population and housing? **None**
- (f) Demands for government services? **None**
- (g) Industrial and commercial activity? **None**
- (h) Utilities? **Electrical consumption by pivot.**
- (i) Transportation? **None**
- (j) Safety? **None**
- (k) Other appropriate social and economic circumstances? **None**

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts - Department analysis finds less return flows are expected in the riparian zone along Careless and Little Careless Creeks due to the conversion from flood to sprinkler irrigation. The Applicant proposes to divert less volume with the pivot system and as such, the timing of the flow regime will be modified. Secondary impacts are expected to be minor, more water will be available in the stream during periods of pivot diversion and consumptive use for the new center pivot system as it relates to historic flood irrigation will not change.

Cumulative Impacts - More and more historic flood acres are being converted to center pivot sprinkler irrigation to facilitate better water management, increased production and reduced labor. Water is more easily managed with a pivot and application rates can be matched to the landowners' specific soil characteristics. Generally, acres under a center pivot system will experience increased production compared to flood acres, which in turn increases crop water consumption. In this instance, the Applicant will be limited to using the same consumptive use after conversion from flood to pivot irrigation, and a water measuring device will aid in controlling the amount of water used.

3. *Describe any mitigation/stipulation measures:*

A mitigation plan has been submitted by Applicant to offset return flow depletions to Little Careless Creek. As stated above, the Applicant will divert an average flow of 68 GPM from Careless Creek and place 36.8 AF adjacent to Little Careless Creek. This will help ensure downstream users on Little Careless Creek will experience similar “pre-change” water availability conditions. The Department may impose a measurement condition to ensure required criteria are met.

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*

No action alternative: Deny the application. This alternative would result in none of the benefits being realized by the Applicant.

PART III. Conclusion

1. *Preferred Alternative*

The preferred alternative is the proposed alternative.

2. *Comments and Responses*

None Received.

3. *Finding:*

Yes___ No X Based on the significance criteria evaluated in this EA, is an EIS required?

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:

None of the identified impacts for any of the alternatives are significant as defined in ARM 36.2.524.

Name of person(s) responsible for preparation of EA:

Name: Mike Everett

Title: Water Resources Specialist – LRO

Date: 5/26/2016