

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 and address: Rick A Hilyard
PO Box 381
Plentywood, MT 59254
2. Type of action: Application for Beneficial Water Use Permit No. 40R-30025565
3. Water source name: Big Muddy Creek
4. Location affected by project: SESESE, Section 14, T35N, R54E, Sheridan County
SESWNE, Section 24, T35N, R54E, Sheridan County
5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:
This project is to pump water out of Big Muddy Creek to irrigate 171.7 acres of alfalfa/grass mix for hay. The two points of diversion are located in the SESESE of Section 14 and the SESWNE of Section 24, T35N, R54E, Sheridan County. The place of use is 34.1 acres in the S2S2SW of Section 13, 9.8 acres in the SESESE of Section 14 and 127.8 acres in the N2 of section 24, all in T35N, R54E, Sheridan County. The applicant is requesting 7000 gpm up to 260 acre-feet per year. The applicant proposes to irrigate only once, for approximately one week, during the requested period of use of March 1 – May30 when the flows are high due to spring runoff. The applicant will benefit by increasing their hay production to feed their cattle.

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)

Sheridan County Soil Survey
Montana Natural Heritage Program
Montana Department of Environmental Quality Website (TMDL 303d Listing)
Montana State Historic Preservation Office (SHPO)
Montana Department of Fish, Wildlife & Parks Website
National Wetland Inventory – Website

Part II. Environmental Review

1. Environmental Impact Checklist:

<h2>PHYSICAL ENVIRONMENT</h2>

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: Big Muddy Creek is not identified as a chronically or periodically dewatered stream by the Montana Department of Fish, Wildlife & Parks.

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: Big Muddy Creek is listed on the 2006 Montana 303(d) list as fully supporting recreation and partially supporting aquatic life and warm water fishery. The probable sources for the impairment are agriculture and grazing in riparian zones. The applicant will need to acquire a 310 permit from the Sheridan County Conservation District to develop the pump sites. As water will only be pumped for a short period of time during the high flows that occur during spring runoff, no significant impact should occur.

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

Determination: This surface water appropriation should have no significant impact on groundwater in the area.

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: The diversion will consist of two pump sites. A Lloyds Model RE-140 pump, powered by a 200 hp tractor, will be moved between the two sites to deliver water into a border dike system that will be divided into five separate fields. Water will be released from on field to the next through gates. At a flow rate of 7000 gpm it will take a maximum of 8 days to fill all of the dikes, depending on the soil and weather conditions during the pumping time. As this appropriation would only occur during high spring creek flows, no significant impact on flow modifications, barriers, riparian areas or dams should occur.

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: According to a report from the Montana Natural Heritage Program (MNHP) there are two species of special concern in the general project area. The Grasshopper Sparrow and the Sprague’s Pipit are both small birds that are classified as sensitive by the Bureau of Land Management. Due to the short term nature of the proposed appropriation, no significant impact should occur. Additionally, the pump sites will not create a barrier to the migration or movement of fish or wildlife.

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: According to the National Wetland Inventory there are numerous palustrine wetlands to the north and east of the proposed acres to be irrigated. It is possible that some of the water may be released from the dike system at the end of the fields and that this water could end up in one of the wetlands instead of returning to Big Muddy Creek, however the impact should not be significant.

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

Determination: Not applicable.

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: According to the Sheridan County Soil Survey the soils at the proposed place of use are Haverlon silt loam and Nobe clay. Haverlon soils are well drained on the flood plain of Big Muddy Creek. Permeability is moderate, runoff slow, available water capacity is high and the hazard of erosion is slight. This soil is used for crops, alfalfa hay and range. Nobe soils are moderately well drained on the flood plain and adjacent slopes of Big Muddy Creek. Permeability is very slow, runoff slow to medium, available water capacity is high and the hazard of erosion is slight. Nobe soils are saline soils and used mainly for range. The applicant proposes to seed the acres to alfalfa and alfalfa/grass mix, which are salt tolerant plants and will only be irrigating the once a year. If managed properly, the irrigation of these acres should not have a significant impact on the soil quality, stability or saline conditions.

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: The fields are currently are seeded in alfalfa and alfalfa/ grass mix and cut for hay. This project is to add one irrigation per year to increase the hay yields. The control of noxious weeds is the responsibility of the property owner.

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

Determination: There will be no deterioration of air quality as a result of this appropriation.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.*

Determination: According to the Montana State Historic Preservation Office (SHPO), there are no previously recorded cultural sites within the area. SHPO feels there is a low likelihood that cultural properties will be impacted and that a cultural resource inventory is unwarranted at this time. The project is located on private property and any inventory that might be conducted in the future would be at the property owner's discretion.

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 additional impacts on other environmental resources were identified.

HUMAN ENVIRONMENT

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

Determination: There are no known local environmental plans or goals in this area.

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: This project will have no significant impact on recreational or wilderness activities.

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

Determination: This project will have no significant impact on human health.

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: There are no additional government regulatory impacts on private property rights associated with this application.

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? No significant impact.
- (b) Local and state tax base and tax revenues? No significant impact.
- (c) Existing land uses? No significant impact.
- (d) Quantity and distribution of employment? No significant impact.
- (e) Distribution and density of population and housing? No significant impact.
- (f) Demands for government services? No significant impact.
- (g) Industrial and commercial activity? No significant impact.
- (h) Utilities? No significant impact.
- (i) Transportation? No significant impact.
- (j) Safety? No significant impact.
- (k) Other appropriate social and economic circumstances? No significant impact.

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

Secondary Impacts: No secondary impacts have been identified.

Cumulative Impacts: No cumulative impacts have been identified.

3. Describe any mitigation/stipulation measures: None at this time.

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: Under the no action alternative, the applicant would not have the benefit of the increased productivity that the irrigation water would provide to 171.7 acres of hay land. The applicant would continue for hay the ground as they have in the past.

PART III. Conclusion

1. Preferred Alternative: Issue a water use permit if the applicant proves the criteria in 85-2-311, MCA are met.

2 *Comments and Responses*

3. ***Finding:***

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

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action: No significant impacts have been identified, therefore an EIS is not necessary.

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

Name: Denise Biggar

Title: Water Resource Specialist

Date: February 26, 2007