

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: Petroleum County Conservation District
PO Box 118
Winnett, MT 59087

2. Type of action: Application for Beneficial Water Use Permit 30047745-40C

3. Water source name: Horse Creek

4. Location affected by project: The point of diversion (POD) is a dam to be located in the SW NE SW of Section 27 T10N R31E in Rosebud County. The place of use is generally located in the following Townships and Ranges: T10N R31E; T11N R31E; T12N R31E; T13N R30E; T14N R30E; T15N R30E; T16N R30E; T17N R29E; T17N R30E; T18N R29E; T18N R30E & T19N R29E.

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

The Applicant proposes to divert up to 560 acre-feet (AF) of water from Horse Creek by means of an on-stream dam and reservoir located in Rosebud County. Water will be impounded on the source from March 1 to June 30 and from October 1 to November 15, inclusive of each year. The application is filed in conjunction with permit application 40C 30047744, which requests 3,950 AF annually from the Musselshell River. The water will be stored in a proposed 46-foot deep reservoir that has a maximum capacity of 4,464 AF and a corresponding surface area of just over 323 acres. The purpose of the requested permit is water marketing that will supply water to a general service area from June 1 to September 30, inclusive of each year. This permit would authorize the Applicant to appropriate water when it is legally available, to allow for distribution from the reservoir during the irrigation season when flows in Horse Creek and the Musselshell River have diminished.

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 Fergus 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: Minor impact.

Water quantity in the source would be diminished by up to 560 AF in some years. Horse Creek, a tributary to the Musselshell River, has not been identified as a chronically or periodically dewatered stream by DFWP. Water will be stored in a 4,464 AF on-stream reservoir, filled primarily by the Melstone South Canal from the Musselshell River. The Musselshell River has been identified as chronically dewatered stream, see environmental assessment completed for associated provisional permit application 40C 30047744. There are no water users on Horse Creek between the proposed dam location and the confluence of Horse Creek and the Musselshell River. Flows impounded from the Horse Creek drainage will have both negative and positive affects to water quantity. The flows generated in the drainage will now be impounded by the reservoir and will not reach the Musselshell River with the same timing as they have in the past. However, abundant water availability in Horse Creek coincides with runoff or precipitation events that generally affect a broad area making plenty of water available during that specific occasion. Once impounded, any Horse Creek water not lost to evaporation or seepage could be available for release later in the year when stream flows in the Musselshell have diminished. The depletion of 560 AF from this total volume during the specified months will have a minor impact on water quantity.

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: Minor impact.

Horse Creek is not listed on the DEQ website and therefore it is assumed that no water quality assessment for this source has been completed. Horse Creek is tributary to the Musselshell River, which is listed on the website. The reach of the Musselshell River from Roundup to the confluence with Flatwillow Creek has been designated as needing a TMDL plan. The 2000 303d listing identifies impairments to aquatic life support & warm water fishery probably caused by flow alteration, riparian degradation and other habitat alterations. As mentioned above under

water quantity, both negative and positive effects may occur as a result of impounding water when available, to release when stream flows have diminished. Some water would be lost to evaporation from the reservoir surface and to seepage. This application could have a minor impact to water quality because the project proposes to impound up to 560 AF of water from Horse Creek annually.

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: Low likelihood of impact.

The localized groundwater table under the requested places of use may increase slightly, due to legally stored water now being available for application at later times during the irrigation season. Base flows in the Musselshell River could also show a slight increase later in the year due to return flows associated with this seasonal irrigation. There is a low likelihood that groundwater will be adversely affected as a result of this proposal.

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: Minor impact.

It is likely that the project will have some minor impacts related to the diversion works. The Applicant proposes to inundate the historic Melstone Canal by constructing a large dam in the Horse Creek drainage. Flows originating in the Horse Creek drainage will be captured by the new reservoir. The reservoir will have a maximum capacity of 4,464 AF, which would equate to a surface area of approximately 323 acres.

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: Low likelihood of impact.

The Montana National Heritage Program lists eight animal species as Species of Concern and three Potential Species of Concern within Township 10 North Range 31 East. Common names for the six bird, one amphibian and one fish listed as Species of Concern are the Greater Sage-Grouse, Great Blue Heron, Chestnut-collared Longspur, Loggerhead Shrike, Sage Thrasher, Brewer's Sparrow, Northern Leopard Frog and the Sauger. The common names for the three Potential Species of Concern, a fish and two insects are the Plains Minnow, Emma's Dancer (damselfly) and a dragonfly, the Plains Clubtail. The website does not identify any Plant Species of Concern in the area of interest. The USDI Fish & Wildlife Service Website shows that Rosebud County, the proposed dam location, has five species on Montana's Threatened and Endangered Species list. There are two species listed as endangered, the Black-footed Ferret and

the Interior Least Tern. The website also shows two candidate species, the Greater Sage-Grouse and Sprague's Pipit. One additional species have been proposed for listing, the Mountain Plover. The places of use requested for irrigation in this application has been historically utilized for agriculture production and are consistent with other agricultural developments commonly found in the area. Reservoir construction and the potential inundation of about 320 acres may cause displacement of some species; however, impacts are expected to be temporary and relatively inconsequential. The regional extent of the impacts to the fisheries resource is somewhat unclear; little is known about the species distribution in Horse Creek. 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: Low likelihood of impact.

There are no known wetlands associated with this application. The USDI Fish & Wildlife Service – Wetlands Online Mapper has no data available for the project location. The project has the potential to create additional wetland resources.

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

Determination: Minor impact.

As mentioned above under the endangered and threatened species impacts, the inundation of approximately 320 acres of land may temporarily displace some wildlife species. However, the reservoir impacts to wildlife and waterfowl are anticipated to be beneficial after the initial construction and filling phases of the project.

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: Minor impact.

The USDA-NRCS Web Soil Survey indicates that the dominant soil unit in the area of the proposed dam is the Gerdum-Vanda silty clays with 0 to 4 percent slopes. The pond reservoir area description on the website says this type of soil has no limitations, indicating this soil type is very favorable for holding water behind a dam or embankment. Soil Moisture content may increase under acres irrigated later in the season, depending on available storage.

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: Low likelihood of impact.

The project would result in increased forage production on land used for agriculture purposes. Typical farm weed management should be used to control noxious weeds potentially invading

disturbed areas. 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: Minor impact.

Temporary impacts to air quality during the reservoir construction phase of the project may occur, however they are expected to be short-lived. It is unlikely air quality will be significantly affected; this project will utilize the existing Horse Creek stream channel and/or the existing South Canal to deliver water from the reservoir.

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

Determination: Minor impact.

There is likelihood that cultural resources could be affected by the proposed project. The State Historic Preservation Office (SHPO) found that there has been one previously recorded cultural resource site located within the area of interest, the historic Delphia-Melstone irrigation ditch (Site 24RB1881). The Delphia-Melstone irrigation ditch is the proposed conveyance ditch for the project and has been determined to be eligible for the National Register of Historic Places. SHPO has recommended that a cultural resources inventory be conducted in order to determine whether or not such sites exist and if they will be impacted by this project, which proposes to inundate the historic irrigation ditch. The proposed reservoir will be located on private land where the decision to carry out a cultural resource survey of the project area would be at the discretion of the landowner or the lead funding agency.

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: Low likelihood of 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: Low likelihood of impact.

The proposed action is consistent with historic agricultural practices in the 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: Low likelihood of impact.

This proposal should not impact recreational activities in the area. It may increase future recreational activities based on whether the public is allowed to use the reservoir for fishing, hunting and/or wildlife viewing purposes.

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

Determination: Low likelihood of impact.

Since its introduction to the U.S. in 1999, West Nile virus has become a potential threat in many states. In 2006, 4 in every 1000 mosquitoes captured on the Milk River near Malta, MT were infected with West Nile. Mosquito habitat development has been associated with standing water containing debris and vegetation. Proper weed management and reservoir maintenance will help to control the conditions required for larva growth, making the impacts on human health associated with the stagnant water insignificant. The reservoir is located in a remote area with little population.

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 known impacts.

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? Local and state tax base may increase slightly due to land classification changes for new irrigation.
- (c) Existing land uses? Project may provide additional irrigation water for farmland.
- (d) Quantity and distribution of employment? None
- (e) Distribution and density of population and housing? None
- (f) Demands for government services? Project may require additional government funding.

- (g) Industrial and commercial activity? None
- (h) Utilities? None
- (i) Transportation? None
- (j) Safety? Applicant needs to apply for DNRC dam hazard classification.
- (k) Other appropriate social and economic circumstances? None

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

Secondary Impacts - No secondary impacts on the physical environment and human population are indicated as a result of this assessment.

Cumulative Impacts - No cumulative impacts on the physical environment and human population are indicated as a result of this assessment.

3. *Describe any mitigation/stipulation measures:*

The Applicant will be required to measure, record and release water originating in Horse Creek to ensure they will not exceed the authorized appropriation and will not adversely affect required minimum stream flow levels in the Musselshell River.

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 of increased forage production and the related economic benefits being realized by the water users.

PART III. Conclusion

1. *Preferred Alternative*

The preferred alternative is the proposed alternative, but only if the Applicant provides the necessary criteria required for issuance of a new Provisional Permit.

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: Douglas Mann

Title: Water Resources Specialist - LRO

Date: 4/8/2011