

Minnesota Department of Natural Resources
Division of Ecological and Water Resources
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Re: Winnemucca Farms Cass County Potato Farm Environmental Assessment Worksheet (EAW)
Department of Natural Resources (DNR) Comments

Dear Mr. Ringle,

The Department of Natural Resources (DNR) has reviewed the EAW for the Winnemucca Farms Cass County Potato Farm. We appreciate the opportunity to review this project and offer the following comments for your consideration.

We have reviewed the EAW and do not believe the project's potential environmental impacts are adequately disclosed. Our comments indicate the potential for significant impact having to do with both potential water table drawdown effects on wetlands and surface waters, and the potential for nutrient contamination of the drinking water aquifer. If the Responsible Government Unit (RGU)/the County share this conclusion, they have two choices for moving forward: (1) make a positive declaration on the need for an environmental impact statement (EIS), or (2) postpone the decision on the need for any EIS for 30 days or other such period of time agreed upon by the RGU and the proposer. In some cases, a proposer also voluntarily withdraws an EAW to modify a project or otherwise address concerns.

While these potential impacts are subject to mitigation by ongoing regulatory authority (a consideration in determining the need for an EIS), the project triggers an EAW of which the purpose is to disclose information about potential environmental impacts. Likewise, we recommend that all potential impacts and measures to offset those impacts be disclosed in the EAW. If required by the RGU, this information would serve a dual purpose of public disclosure and meeting permit requirements.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Buessler'.

Peter Buessler, Regional Manager
DNR Division of Ecological and Water Resources

Enc: DNR Specific Comments and Winnemucca.PDF

Winnemucca Farms Environmental Assessment Worksheet (EAW)

DNR Specific Comments

Question 8. Permits and Approvals Required

If the project involves any proposed work in *Public Water Wetland 11-0654W*, a permit to work in public waters may be necessary. Exemptions provided by the Wetland Conservation Act (WCA) for wheeled booms on irrigation devices do not apply to public waters. Also, proposals with the purpose of creating upland or for the construction of roadways or pathways through public waters are explicitly prohibited (see MN Rules 6115.0190 Subp. 3). In order to permit a wheeled irrigation crossing, it will be necessary to look at non-filling crossing alternatives (bridges, boardwalks) and still meet other goals and requirements contained in MN Statutes 103G and MN Rules Chapter 6115.

Question 10. Cover Types

The answer to this question indicates that wetland acreage will remain unchanged, yet the answer to Question #12 indicates that wetland filling activities will occur to accommodate movement of the center pivot irrigation systems.

DNR recommendation:

The EAW should provide estimates of wetland fill and update the answer to Question #10 accordingly.

Question 11.a. Fish, Wildlife and Ecologically Sensitive Resources

This question asks for the identification of fish and wildlife resources and habitats on or near the site, and to describe how they will be affected by the project. While the answer to this question provides some data on existing resources, impacts and methods to minimize and avoid impacts, it falls short in adequately describing all. By not including this information, potential impacts and information about necessary mitigation measures are not disclosed (a main purpose of an EAW). DNR is providing the following supplemental information to assist the County in providing this information.

General Ecological Setting

Every state recently completed a "state wildlife action plan (SWAP)" which identifies conservation needs, actions and priorities for species of concern, including threatened and endangered wildlife and other important wildlife species. Minnesota's SWAP titled, "*Tomorrow's Habitat for the Wild and Rare*" describes conservation concerns for species of greatest conservation need (SGCN) and their *key habitats* within various landscape settings (characterized using the Ecological Classification System [ECS]).

SGCN are defined as species whose populations are rare, declining, or vulnerable to decline and are below levels desirable to ensure long-term health and stability (includes threatened and endangered species). Much of the species documentation within Minnesota's SWAP is provided by the Minnesota County Biological Survey (MCBS). Key habitats are defined as the habitats most important to the greatest number of SGCN. Key habitats are specific to individual *ecological subsection* and are not found everywhere in the state. Minnesota's SWAP identifies 292 SGCN's in the state. Each of the species was evaluated to determine the factors influencing their rarity, vulnerability, or decline (SWAP, Page 60). The

results of the species analysis indicated that habitat loss and degradation are the most significant challenges facing Minnesota's SGCN. A copy of Minnesota's SWAP is available online at http://www.dnr.minnesota.gov/cwcs/wild_action_plan.html.

The proposed project is within the Pine Moraines and Outwash Plains Subsection (212Nc) of the Laurentian Mixed Forest Province (212). A full profile of the Pine Moraines and Outwash Plains Subsection (which includes *key habitats*, *SGCN*, and subsection conservation actions and priorities) is available at <http://www.dnr.state.mn.us/ecs/212Nc/index.html>

Identified *key habitats* within the Pine Moraines and Outwash Plains Subsection include upland forests (Red-white Pine), shrub/woodland-uplands (Jack pine woodland), non-forested wetlands, and rivers.

89 Species of Greatest Conservation Need (SGCN) are known or predicted to occur within the Pine Moraines and Outwash Plains Subsection. These SGCN's include 29 species that are federal or state endangered, threatened, or of special concern. This is an important transition zone interspersed with lakes and wetlands valuable for wildlife. Featured wildlife includes bald eagles, gray wolves, sharp-tailed grouse, sandhill cranes, upland sandpipers, common terns, yellow rails, red-necked grebes, trumpeter swans, common loons, least darters, and eastern hognose snakes. In addition to all key habitats, other areas important for SGCN include Camp Ripley Military Reservation; Chippewa National Forest; Deep Portage Conservation Reserve; Smoky Hills, Two Inlets, Badoura, Huntersville, Foot Hills, Pillsbury, and Crow Wing State Forests; Greenwater Lake Scientific & Natural Area; *Itasca State Park*; and several *WMAs (remove italics)*.

DNR recommendation:

DNR recommends that the soil and water conservation plan identify how soil and water conservation actions and key habitats intersect on the property, then incorporate on-ground tasks that will preserve and enhance remaining key habitats (likely non-forested wetland areas).

Fish and Wildlife Habitats on and Near the Site and Potential Impacts

Fish Habitats

As indicated in the EAW, no substantial fish habitats are found on the property; however, in Section 5, immediately north of the project area, Tower Creek is a Designated Trout Stream Tributary identified or classified as a tributary to a Designated Trout Stream – Farnham Creek which flows to the southwest less than one mile from the project. Because surface water and the shallow groundwater are related in this area, pumping from future wells could impact this stream (existing wells on south end of project site less likely to impact the trout stream tributary). Per MN Statute 103G.285, pumping from a trout stream is not allowed unless temporary, and this protection may extend to protected tributaries if impacts to the tributary impact the designated trout stream.

Also, the Crow Wing River, a significant high quality resource, is located about 0.3 miles from the southwest corner of the project area with a backwater oxbow located closer. East of the project area is Swan Creek, which is as close as 0.3 miles from the east side of the project site.

DNR recommendation:

DNR recommends that the EAW included assessment of potential impacts to Tower Creek and other nearby surface waters. Testing will be required for wells located in close proximity to the trout

stream tributary and other surface waters as part of the Appropriation of Waters application process.

Wetlands and Surface Water Habitats

The EAW correctly indicates that an open water shallow water wetland community exists adjacent to the center of the property and makes mention of other wetland on the property, including shrub cars and shallow marshes, both as isolated basins and as flow-through wetland complexes.

The EAW does not describe potential hydrologic impacts to onsite and nearby wetlands and surface waters (many of which are *key habitats*) that may occur as a result of pumping and irrigation, or from construction of wheel paths. The exiting documentation of onsite *key habitats*, listed species presence, and high species diversity (DNR Heritage Review, October 10, 2012) increase the importance for thorough assessment, disclosure of potential impacts, and identification of adequate mitigation measures.

It is widely accepted that small changes in hydrology can significantly affect wetland and surface water ecological processes, species composition and ecological function. Such impacts include but are not limited to declines in vegetation diversity, shifts to tolerant species (including invasives), and declines in overall wildlife species richness. The impacts of changes in water level dynamics are further summarized in a online document titled, Working Paper No. 1 – An Overview of the Impacts of Water Level Dynamics (“Bounce”) on Wetlands.

Impacts to Hydrology Caused by Pumping and Irrigation - The well logs submitted with the EAW show that all the proposed wells are located in the water table aquifer and are generally shallow. We've estimated the land surface elevation at each well and the nearby lake and wetlands using the USGS topographic map (the best available elevation data at this location). The results show static water elevations just below land surface and similar in elevation to the nearby surface water bodies (wetlands and shallow lakes). This data indicates that the shallow water table aquifer is directly connected to the nearby surface water bodies. This is expected in an outwash area such as what. Based on the pumping levels provided in the well logs, pumping levels are significantly below the nearby surface water bodies at the tested rates (see attached map Winnemucca.pdf). Pumping elevations are estimated to be between 1192 to 1248 ft mean sea level, while nearby wetlands and lakes range from 1260 to 1274 ft. The sandy soils (Figure 9 in EAW and Well Logs), in addition to pumping elevations provided, indicates that pumping these wells may impact nearby surface water bodies and wetlands by reducing water table elevations below the landsurface or otherwise affecting water level dynamics.

As acknowledged in answering Question #17, runoff will be increased from the site as a result of the project. The EAW indicates that changes in runoff will be insignificant within the watershed context. It is unclear what watershed is being referenced, but based on information described above in addition to the changes in runoff; we believe impacts resulting from changes in runoff may be significant within the watersheds of the onsite and nearby wetland habitats.

Impacts to Hydrology Caused by Wheel Boom Paths – The project will result in direct habitat loss through filling and potential indirect habitat impacts through changes in water level dynamics (i.e. “bounce”).

DNR recommendations:

The EAW should describe, through quantifiable means, the changes in hydrology that could occur (due to pumping, irrigation/changes in runoff, and construction of wheel paths through wetlands), and the effects on onsite and nearby wetlands and surface water level dynamics.

Specifically, the potential changes in water level dynamics should be informed by water pump testing and modeling. Prior to continuous pumping, all wells should be evaluated with resource aquifer tests (multiple pumping wells and longer duration), in conjunction with installation of water level observation wells at several locations. In addition, staff gages (or piezometers if no standing water is present) should be installed in the wetlands to determine the sustainability of this pumping. Once the area of potential affect is identified, operational controls and maximum use thresholds that would avoid impacts should be described.

Basic hydraulic analysis/modeling should be provided to explain and describe culvert size and placement location recommendations associated with the irrigation wheel boom pathways. Similar analysis should be provided for changes in surface water run-off and potential impacts resulting from changes in "bounce".

While DNR Appropriation of Waters applications require this testing to inform appropriate permit actions, the EAW process should disclose all potential project related impacts. Since the project has the potential for impacts to extend offsite into public use areas, this is especially important.

Existing onsite wetlands should be described by type (Circular 39 Classification) and amount of direct impact caused by filling (per type within the project area). Measures to avoid and minimize impacts should also be described (as asked by EAW Question #11).

Public Lands

It is the DNR's responsibility to avoid, when possible, all potential adverse impacts to DNR administered lands. Farnham Lake Wildlife Management Area (WMA) is located directly adjacent to the west. It was created in 2010 to secure and protect long-standing public use of Farnham Lake for waterfowl hunting, trapping, and wild rice harvesting. Farnham Lake is classified as a shallow/wildlife lake due to its mean depth of 1.7', maximum depth of 2.0', and 80% wild rice coverage (DNR wildlife lake survey, June 20, 2007). If adequate control mechanisms are not identified, the impacts described above could potentially extend into the WMA and significantly impact and degrade habitats and public use of the WMA.

DNR recommendation:

The impacts assessment described above (pump testing, operational controls, etc.) should include potential impacts and avoidance measure to protect habitats and public use of Farnham Lake WMA.

Terrestrial Habitats

Clearing for agriculture will result in permanent loss of forest areas. Replacement of forested areas with agricultural field will eliminate these areas' habitat functions. The EAW indicates that wildlife movement will be altered - we agree. The removal and fragmentation of plant communities leaves fewer habitats

for wildlife, as they are pushed into other habitats which many times are already at their carrying capacity. As limiting factors come into play, an overall net decrease in species abundance and diversity can result, leaving the residual areas populated by species that thrive in the presence of disturbance and human activity. These are often species viewed as nuisance species.

Since onsite forested areas appear to have been harvested and intensively managed in the past, their habitat value would not be the same as native plant communities and other on-site key habitats (intensively managed forests typically lack the structural diversity and habitat value of stands originating from fire).

Question 13. Water Use

There are no permitted appropriators within one mile of this EAW boundary. There are no location-verified groundwater users per MN Department of Health County Well Index (CWI) near this property. There is a domestic well located within ½ or one-half mile east of the eastern boundary of Section 18 of this EAW (see attached map Winnemucca.pdf). This domestic well is located in a deep confined aquifer (131 ft deep) and will not to be impacted by the shallower proposed production wells based on the information we have to date. There are other shallow domestic wells > ½ or less than one-half mile to the west and east, and appear to be in the same aquifer as the proposed production wells. However, impacts to these wells would most likely occur after impacts to the nearby wetlands.

Nutrient contamination from agriculture has been demonstrated in sand and gravel outwash plains in similar areas to this area (Straight River area). The soils in this area are moderately to excessively well-drained (per SSURGO soils information and well logs), with the exception of very poorly drained mucks in the wetlands. Soil textures indicate a high potential for nutrient contamination in the shallow water table if nutrient application rates are not strictly managed. This can pose a health risk if there are nearby receptors. The EAW indicates that University of MN has developed best management practices (BMP's) for sandy soils which are used to develop nutrient recommendations for individual fields; however, it is unclear from the EAW whether the BMP's are effective in preventing exceedance of minimum water quality standards or whether they will be used.

At the time of this review, there was limited use of the groundwater in and in close proximity to the project area for drinking water and, therefore, limited risk to human health. However, **if** additional wells are installed in this area **and** nutrient concentration is above MN Department of Health's Risk Limits, it is likely that the water table aquifer may be of limited use for domestic drinking water.

DNR recommendation:

DNR recommends that the EAW described effectiveness of the University of MN's BMP's and describe plans for incorporation of measures to prevent agricultural chemical contamination. Such plans should be described in context of well pump test findings.

Question 19. Geologic Hazards and Soil Conditions

Soils survey information indicates that the majority of the site contains soils classified as excessively drained to moderately well drained soils. This creates much higher potential for pumping associated with irrigation to adversely impact other uses and resources.

The testing, mentioned above, will be necessary to further define the relationship between pumping draw downs and effects on other uses and resources. With projects that trigger mandatory

environmental review, it is important that potential use conflicts be fully disclosed through the process provided by the EAW.

Question 25. Nearby Resources.

The Crow Wing River provides excellent angling opportunities, particularly for smallmouth bass and walleye, and is a popular canoe route.

DNR recommendation:

The Crow Wing River is a State Water Trail and should be included as a nearby trail resource.

Question 29. Cumulative Potential Effects

Records indicates that in Wadena County alone, 676 acres of Potlatch lands were sold to Winnemucca Farms or RD Offutt between the publications of the 1999 and 2012 plat books, and an additional 868 acres of Potlatch lands were sold since the publication of the 2012 plat book and today.

DNR recommendation:

In order to determine whether the additional holdings represent reasonably expected projects that could interact with the current proposal, DNR recommends that the EAW describe other landholdings in the area and their potential for interactions with the proposed project. At a minimum, the distance of the other projects and potential for those projects to affect the sustainability of overlapping resources (e.g. habitats, aquifers, surface waters within the same watershed) should be described.

Thank you for the opportunity to review and comment on this project. Please call Nathan Kestner, Regional Environmental Assessment Ecologist, at 218-308-2672, with general questions about this review. For specific direction about the scope and methods of the water resource testing and monitoring, it will be necessary to work directly with Michele Walker, NW Regional Groundwater Specialist, at 218-308-2664.

Winnemucca Land Conversion EAW Assessment

1/4/2013

