



Agenda

Vermillion River Watershed Planning Commission

July 14, 2021 – 4:00 p.m., In-person and Teleconference via Zoom

1. Call to Order
2. Roll Call
3. Audience Comments on Items Not on the Agenda
(*please limit audience comments to five minutes*)
4. Approval of Agenda Action
5. Approval of Minutes from the June 9, 2021 Meeting Action
6. Business Items
 - a. Landspreading of biosolids Information
 - b. Mid-term Vermillion River Watershed Management Plan Review Information
7. Updates
 - a. Chairperson's Report
 - b. Staff Updates
8. Adjourn Action

Please note, the July 14, 2021 Watershed Planning Commission meeting will take place **in-person** in Meeting Rooms 1 and 2 at the Extension and Conservation Center, 4100 220th Street West, Farmington Minnesota **and via teleconference** on the web-based application, Zoom. The Extension and Conservation Center building remains locked. In-person participants must notify staff of their plan to be present beforehand or ring the doorbell at arrival for the meeting.

Join Zoom Meeting

<https://dakotacountymn.zoom.us/j/96709415758?pwd=L0dsai9lNThieDRManpxM0hZOVVWZz09>

Meeting ID: 967 0941 5758

Passcode: 833300

One tap mobile

+16513728299,,96709415758#,,,833300# US (Minnesota)

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Find your local number: <https://dakotacountymn.zoom.us/u/ac126QrmDB>

Vermillion River Watershed Joint Powers Organization

4100 220th Street West, Suite 103, Farmington, Minnesota 55024



Other Information

Next Meeting Date: **August 11, 2021** at 4:00 p.m.

Please confirm your attendance by contacting Mark Zabel at mark.zabel@co.dakota.mn.us

You will be notified if the meeting is cancelled due to an anticipated lack of quorum.



Minutes

Vermillion River Watershed Planning Commission Meeting

June 9, 2021 – 4:00 p.m.

Zoom Videoconference

WPC Members in Attendance

Mark Henry Chuck Clanton
Josh Borton Carolyn Miller
Ken Betzold Tony Wotzka
Andy Riesgraf Steve Hamrick
James Kotz

Staff in Attendance

Mark Zabel, VRWJPO
Mark Ryan, VRWJPO
Travis Thiel, VRWJPO
Brita Moore-Kutz, VRWJPO
Paula Liepold, VRWJPO

Others in Attendance

Curt Coudron, Dakota County SWCD

1. Call to Order

The meeting was called to order by Commissioner Henry at 4:02 p.m.

2. Roll Call

All members present.

3. Audience Comments on Items Not on the Agenda

None. Before the call to order, Commissioner Wolf from Scott County thanked WPC members for their service on the Commission.

4. Approval of Agenda

Chair Henry asked for any changes to the agenda. Upon hearing none, Chair Henry called for a motion to approve the agenda as provided in the packet.

Motion by Commissioner Clanton, second by Commissioner Miller, to approve the agenda. The agenda was unanimously approved by a 9-0 roll call vote.

5. Approval of Minutes

Chair Henry requested any adjustments to the minutes as presented. Upon hearing none, Chair Henry called for a motion to approve the minutes of the April 14, 2021, meeting of the WPC.

Motion by Commissioner Borton, second by Commissioner Betzold, to approve the minutes of the April 14, 2021, meeting, as distributed. The minutes were unanimously approved by a 9-0 roll call vote.

6. Business Items

a. Introduction of Brita Moore-Kutz, Communications and Outreach Specialist for the VRWJPO

Chair Henry asked Mark Zabel to introduce the new staff member of the VRWJPO. Mark Zabel introduced Brita Moore-Kutz as the new Communications and Outreach Specialist for the VRWJPO with Dakota County who started Monday, June 7, 2021. Mark Zabel then asked Brita to introduce herself to the WPC and provide any information she wished. Brita described her most recent employment as the Director of Communications with Minnesota Farmers Union, working with media relations, social media, photography, and e-newsletters, which she'll also be doing in service to the VRWJPO. Brita has been getting up to speed with social media accounts and procedures for the VRWJPO's online presence, with mentorship from Paula Liepold and others at the County. Brita hopes to expand the VRWJPO social media presence, enhance telling VRWJPO stories and get more people engaged with us. Mark Henry requested the VRWJPO be involved with the Natural Resources building at the Dakota County Fair and described some of his interests and endeavors with the VRWJPO. He asked members to introduce themselves and what motivated them to become involved with the VRWJPO and WPC.

b. Planning for Future Meetings of the Vermillion River Watershed Planning Commission

Chair Henry introduced the item. Mark Zabel asked for member input and action regarding the planning for the next meeting and potentially future meetings. A question is whether the members would like to simply move to in-person meetings or if we would like a hybrid meeting style. Currently, the facility that the WPC meets in (the Extension and Conservation Center in Farmington) is closed to the public. The County Board is beginning to hold their meetings in-person, and Zabel expected that the Farmington facility will be open and in-person meetings could be held there soon. The WPC could have a hybrid meeting if the building is still closed, though the drawback to that type of meeting can be audio issues where the online participants may have a hard time hearing everything clearly.

Chair Henry commented that Castle Rock Township has worked through several meeting formats through the pandemic and has now moved to an in-person format implementing social distancing requirements. Commissioner Betzold suggested that we start to go back to doing things the way we used to do and most people who want to be vaccinated have done so by now. Commissioner Riesgraf commented that he prefers a hybrid that allows participation through Zoom or attend in person due to challenges due to travel from his work to Farmington and being able to participate through virtual means allows him to participate. Commissioner Clanton suggests waiting until the building is officially open and allow the hybrid model if it doesn't create additional work. Zabel noted that staff will attend a facility meeting next Tuesday; more information on building opening will be available then but Zabel expects it will be probably before the July meeting. Commissioner Clanton said that if that is the case, we should plan a face-to-face meeting on July 14. Commissioner Borton asked how Zoom impacts compliance with open meeting law. Zabel said that if the emergency declaration on the pandemic is in place, meetings by teleconference, including virtual platforms like Zoom, are allowed. We allow public participation through these Zoom meetings, as we publish packets on our website that include the Zoom meeting information. However, once the emergency declaration goes away, we would have to allow a face-to-face opportunity to participate. Commissioner Hamrick commented that he would be fine with a hybrid and it would be good to meet in-person and see everyone. Commissioner Kotz agreed. Motion by Commissioner Borton, second by Kotz to hold our next meeting as a hybrid format with in-person attendance at the Extension and Conservation Center Building, in the large conference room, in Farmington. Passed on a 9-0 roll call vote.

c. Mid-term Vermillion River Watershed Management Plan Review

Chair Henry introduced the item. Mark Zabel informed the Commissioners that staff are beginning a mid-term review and evaluation of the implementation of the 2016-2025 Vermillion River Watershed Management Plan. Staff plan to engage the WPC with the Joint Powers Board in this review process. The WPC will have input and direction as to the outcomes of this review. The focus of the review will be on Section 6 of the Watershed Management Plan, which is the Goals, Objectives, and Actions section. To give a sense of what this entails; there are 295 actions listed in Section 6, and of those: 69 are Public Communication and Outreach, 75 are Collaboration and Cooperation, 61 are Land and Water Treatment, 12 are Monitoring and Assessment, 27 are Research and Planning, 25 are Regulation, and 26 are Administration and Operations.

Staff are planning to review these 295 actions and identify which have been completed, which are ongoing, and which still need action to address them. Zabel noted that we are half way through the timeframe of the Plan, but that doesn't necessarily mean that we are halfway through the plan; there are many actions that have been completed or are ongoing, and we still have half the Plan term to further address actions. Staff ask that WPC members review Section 6 before the July meeting 6. Staff will identify the status of each action and will present the outcomes of that analysis at the next meeting. Travis commented that staff will evaluate how to efficiently present the ongoing actions and the actions that need to be addressed so the WPC can provide meaningful input. Commissioner Miller asked if the staff could present highlights of what has been accomplished through implementation of the Plan. Zabel suggested that staff could pull together a summary from our published Annual Activity Reports. Commissioner Miller asked if we could review what has been accomplished in Section 7 breaking out the different subwatersheds. Travis Thiel pointed out that focusing on Section 7 may miss many of the staff-oriented functions as Section 7 is focused on CIP and project implementation. Commissioner Miller commented that she thought it would be helpful to look at what projects have been implemented in the first five years of the Plan.

7. Updates

a. Chairperson's Report

Chair Henry reported that a member of the Castle Rock Township Board who is a member of the North Cannon WMO Board brought a report to the Township on Kernza as an alternative crop. Kernza is a perennial wheatgrass that can be used in a similar manner to other (annual) wheat grasses but doesn't require annual tilling and sowing. There was some discussion about nitrates in groundwater and the South Branch subwatershed. Chair Henry mentioned that one of the Town Board members had said that the State (DNR) was putting some wells in Dakota County and asked Zabel if he knew anything about that. Zabel answered that the Minnesota Department of Agriculture is placing 27 monitoring wells within the Hastings Drinking Water Supply Management Area (DWSMA). These are shallow monitoring wells that intersect the water table and are placed in public rights-of-way next to agricultural fields. The intent is to sample nitrates and pesticides and measure levels and trends in relation to implementation of best management practices and alternative management techniques.

Chair Henry also reported on the Dakota County Fair Property project and removal of the spoil piles and suggested that if there is anything that the VRWJPO may have an interest in coordinating in that area, now would be the time to engage in those conversations. Travis commented that he and Mark Ryan can follow up with the SWCD and Dakota County as to any potential nitrate treatment projects and concerns with water storage on site and the potential for changes to the floodplain in that area.

b. Staff Updates

Curt Coudron commented that there has been some outreach by Dakota County SWCD regarding perennial cover in the Hastings DWSMA that could include Kernza. Kernza is an emerging option as a perennial crop that also has water quality benefits. Curt also reported that project implementation is going well, in part due to favorable weather conditions. He also mentioned that there are several cover crop implementations planned for fall along with some native prairie plantings.

Travis Thiel provided an update on an inventory/assessment that staff are working on at the request of Commissioner Slavik, who has been contacted by citizens about downed trees creating obstruction in the river between U.S. Highways 52 and 61 in Hastings. Joint Powers Board members concurred that staff should pursue an inventory and report to them. Travis described the initial work which was a desktop assessment applying available GIS and aerial photography tools to survey river conditions. The inventory was organized by Township, Section, and Range with categories describing completely blocking (100% across the river channel), partially blocking (>50% of channel), limited blocking (<50% of channel), and leaners (trees on banks which would likely fall into the channel in the next 5 to 10 years). Subsequent field assessment results were compared to the desktop assessment. The differences reflect the potential difficulties with accurately assessing field conditions using available desktop tools. The field assessment took three full days on the river in May and early June. The bulk of blockages were located mainly around the City of Vermillion (i.e. some upstream and some downstream of the City of Vermillion to about Hogan Avenue). There are fewer blockages after Hogan Avenue until the City of Hastings where a few more blockages occur.

Mark Ryan noted that reporting by Township, Range, Section does not report evenly per section. Some sections have greater river length than others. There are two concerns that have come up regarding these blockages; one is recreational passage and the other is the blocking of flow. Only one spot was identified where blockage of flow was an issue and downed trees created a six-inch head difference. These blockages are not impeding flow to the extent that they are causing flooding. Chair Henry asked if the purpose of this work is to make the river navigable. Mark Zabel replied that, as Mark Ryan had indicated, there are two questions here: one is regarding making the river passable for recreation and the other is regarding flow. The passage for recreation currently is not good. The concern that downfalls are impeding flow is a non-issue.

Regarding passage for recreation, this, or any other portion of the Vermillion River, is not a (State) Water Trail. Minnesota Department of Natural Resources (DNR) designates some rivers or portions of rivers as Water Trails. That influences their maintenance for recreational passage. The VRWJPO could investigate if DNR would be interested in designating this portion of the Vermillion River a Water Trail. The river from U.S. Hwy 52 to 61 is not a large river and is relatively shallow and narrow. There will always be these issues of how navigable this portion of the river will be at any given time. Travis commented that this was originally brought up by Commissioner Slavik as a recreational use concern.

Commissioner Riesgraf commented that a portion of it is DNR-designated trout stream and that trout may occupy the portions that are not the designated trout stream reaches. Because the stream is well known as a trout fishery and because of its location near the Twin Cities there is a lot of fishing pressure on the river. DNR may be interested in this stretch of the river to increase fishing opportunities. Commissioner Borton pointed out that tree downfalls in the river also provide habitat for fish. Zabel commented that the habitat issue is an important consideration in this and that if we were to pursue making the river passable for recreation, we wouldn't want to remove all the large woody debris, we

would only want to make it passable and leave the majority of wood in the stream for habitat. Commissioner Riesgraf volunteered that he has fished that stretch and noted that there are areas where you must physically get out of the water to go around significant deadfall blockages. Commissioner Miller commented that she was wondering about potential habitat impacts where shade or stream structure could negatively be impacted due to removals of downfalls and would stress more focus on the environmental side. Chair Henry noted that regarding flows there should be more focus on keeping water on the land and reducing downstream impacts releasing waters more slowly. Mark Ryan noted that staff were charged with identifying the completely and partially blocking, but that inventorying the stream conditions overall seemed to make sense while staff were out on the river.

Staff recognize, and with the direction heard from WPC members, we should not remove or significantly impact all the habitat or all the shade trees. Zabel commented that the conversation that we are having is the appropriate conversation; we would have to find the appropriate balance if we were to act along these lines. The direction given in the Watershed Management Plan is to identify and define the management aspects regarding obstructions, not necessarily to carry out programs to clear all of what may become an obstruction. Mark Ryan noted that there are also the issues of cost. Travis referred to also needing to identify the logistical issues associated with this activity. Zabel commented that there are also issues about access and that, as people recreate on the river, there may be other issues that come up. These are all topics that would need to be discussed for the VRWJPO to address this completely. For right now, staff were asked to simply inventory and assess the conditions on this stretch of the river. Commissioner Kotz asked if the inventory report could be shared with the Planning Commission members. Travis said he would send it to the WPC members.

Commissioner Borton asked if staff noticed any unexpected erosion or other issues that needed to be addressed at some of these sites. Travis said there were eroded banks but couldn't say if erosion was a result of downed trees or if it was the reverse. There were some interesting places where channels may have formed going around deadfalls, but they were few and not consequential and limited in quantity. Mark Ryan commented that there were some banks that were sloughed but they weren't surprising as to the extent of erosion. Zabel commented that he was along on the first day and that he noticed that the areas that had sloughed banks were usually the areas that didn't have trees. Commissioner Miller asked if this is something that would be discussed again in the future as other areas in the watershed might also be inventoried and assessed for improvement as we have targeted out one area. Zabel commented that recreational navigation on the river becomes less feasible upstream. The South Branch tributary enters the mainstem of the river just upstream from U.S. Hwy 52 and adds significant flow. Upstream of that confluence, the river is smaller with less flow and so its capacity for recreational canoeing or kayaking is limited. Travis commented that VRWJPO staff have been working with Conservation Corps of Minnesota on a section of the river in the upper watershed to address a stagnant water condition where we are losing oxygen in the water - clearing some of that area will improve water quality conditions. That work has been funded through Clean Water Fund and has a water quality component. What we are talking about in this reach would be associated with recreation or flooding and wouldn't have a water quality aspect. Commissioner Riesgraf asked about sloughing that Zabel had noticed and if that was adjacent to farmland. Zabel said that those areas were adjacent to farmland and conservation land. There weren't cropped fields adjacent to the river as these areas are required to implement a 50-foot vegetated buffer.

Zabel mentioned that two fish kills were reported last week, one in North Creek east of Flagstaff Avenue and one in South Creek between Hamburg and Cedar Avenues. Fish kills due to natural effects, like warm water temperatures or low dissolved oxygen, are highly unusual at this time of year. DNR is doing

some pathology work on fish collected in South Creek, fish collected in North Creek were too far decayed to do effective pathology. Staff will inform the WPC if more is learned.

Commissioner Clanton mentioned that the next Hastings DWSMA Local Advisory Team meeting is occurring on July 20, and he is hoping that VRWJPO staff will be invited as he values their input to their process. Clanton also volunteered to ask UMN leads Don Wyse or Jacob Jungers to present on Kernza to the group, and to provide a presentation on land spreading of biosolids as he has been working with a group in Mille Lacs County on the issue.

8. Adjourn

Motion by Commissioner Betzold, second by Commissioner Riesgraf, to adjourn the meeting at 5:20 p.m. The motion passed on an 9-0 roll-call vote.

6a. Landspreading of Biosolids

Meeting Date: 7/14/2021
Item Type: Information
Contact: Mark Zabel
Telephone: 952-891-7011
Prepared by: Mark Zabel



PURPOSE/ACTION REQUESTED

- Landspreading of biosolids

SUMMARY

Chuck Clanton will present an overview of land application as management of biosolids as a product of wastewater treatment.

The land application of biosolids has recently become more controversial as sampling of some biosolids materials for PFAS (Per and Polyfluoroalkyl Substances) has found these “forever chemicals” in biosolids recovered in the wastewater treatment process. Landspreading of biosolids has long been utilized as a means of management and treatment of these materials which also allowed useful recovery of their plant nutrient value and organic matter content. Evaluation of other constituent matter of concern such as, pharmaceuticals, industrial chemicals, and PFAS have raised concerns about the continuing use of this practice as a means of management.

Land Application of Biosolids

Note: this lecture information is specific to municipal sludge applied in Minnesota as outlined through the Minnesota statutes

Biosolids

Sewage sludge

The solids removed from sewage during wastewater treatment

Possible solutions

- Ocean dumping

 - Create problems elsewhere

 - Contamination of fishing areas

 - Unpredictable fate

 - Changing currents and winds

 - Impractical for most states

- Incineration

 - Air pollution

 - Ash must be disposed

 - Costly

- Landfilling

 - Leachate generation/ground water contamination

 - Methane gas generation and migration

 - Finding a landfill

 - Costs

- Land spreading

 - Most appealing

 - Abundance of agricultural land

 - less than 1% of ag land in Minnesota

 - Low cost

 - Improper spreading

 - Surface & ground water pollution

 - Soil contamination

 - Crop destruction

 - Disease spread to animal & humans

Current methods

United States

Seven million dry tons / year from 16,000 facilities

Incineration 22%

Landfilling 17%

Land spreading 60%

Sludge characteristics

90% of influent total suspended solids processed and handled as sludge

Organic solids

Inorganic solids

Nutrients

Pathogens (disease; bacteria, viruses, protozoa, helminthes (worms))

Nutrients (Nitrogen and phosphorus)

Heavy metals

Persistent organic chemicals

Odor

Sampling

Very specific methods and timing to sampling techniques

Parameters

%TS, %TVS

pH

TKN, NH_3 , NO_3^-

Metals

PCB

P

K

Nutrients

Soil conditioner, not fertilizer

N—MPCA

MDA wants to know P

Metals

Arsenic, Copper, Mercury, Nickel, Zinc, Cadmium, Lead, Molybdenum, Selenium

Fate of heavy metals in soil

- Used by plants in growth

- Held by complexation

- Absorbed

- Precipitated

Phytotoxic

- (Poisonous to plants)

Pathogens

Management of diseases and nuisances

- Agent + Pathway + Susceptible host

 - Agent—causes disease

 - Pathway—route

 - Susceptible host—crop/humans/animals

Different crops / cropping

- Field (corn, soybeans, wheat, etc.)

 - Additional processing

- Forage / Hay (harvested, 7 days)

 - Additional processing / time

- Grazing / Pasture (30 days)

- Direct consumption

- Root crops

Fate of pathogens in soil

- Consumed by soil microorganisms

- Adsorbed

- Die from hot/cold or wet/dry conditions

- Trapped in organic matter

- Destroyed from ultraviolet light exposure

Persistent Chemicals (organics)

Pesticides

- Herbicides

- Insecticides (DDT, dieldrin, chlordane)

- Fungicides

Dioxin-like

- Dioxin

- PCBs

- Furans

- TEQ—Toxic Equivalent Estimates

Dioxins (PCBs)

- Target 300 ppt toxic equivalents (TEQ)—maximum

- 30-300 ppt—monitor

- 2001 NSSS (National Sewage Sludge Survey)

- 94 samples (out of 6857 facilities)

- 2 samples > 300 ppt (0.9%)

- 73-75% < 30 ppt

- EPA concluded no risk

- Farmers

- 0.003 cases / yr

- 0.22 cases over 70 yr

- General population

- Lower

Drugs (antibiotics, hormones)

Detergents

Characteristics

- Slow to decompose

- Accumulate in the food chain

- Concentrate in fatty tissues

- Toxic

- Cancer

Fate of persistent organics in soil

- Broken down by soil microorganisms

- Chemically decomposed

- Adsorbed

- Broken down by ultraviolet light

- Volatilized

Plants

- Not taken up by crops
- Generally
- Majority
- Adhere to leaves

Nuisances

- Odors & gases
 - Offensive
 - Generally a processing problem
- Insects (flies, mosquitoes)
- Varmints (rats)
- Birds (gulls)

Risk assessment

Presence of a contaminant vs. Bioavailability & harmful levels

Worse case — Biosolids eaten by child

14 different pathways

- Biosolids-Soil-Plant-Human
- Biosolids-Soil-Plant-Animal-Human
- Biosolids-Soil-Air-Humans (Dust, fumes)
- Biosolids-Soil-Predator-Human (Direct, plant, animal)
- Biosolids-Soil-Water-Human (Drinking, bathing, fish)

Compromised immune systems

- Citizens living near site
- May react differently

Public mistrust

- Self-regulated
- Limited resources to track all sludge
- Benefit if used correctly, within the regulations

Personal opinion

Encourage / favor / pro

Following current (new, future) guidelines, statues

Agricultural fields (preferably corn)

Enough farmland available (upper Midwest)

Agronomic rates (N, P, K, others)

Hay, pasture (questionable)

Inject / incorporate

Direct human consumption (nope)

Remove concerns at the source

Future land use (housing)

Higher concern decade ago, then today

6b. Mid-term Vermillion River Watershed Management Plan Review

Meeting Date: 7/14/2021
Item Type: Information
Contact: Mark Zabel
Telephone: 952-891-7011
Prepared by: Mark Zabel



PURPOSE/ACTION REQUESTED

- Mid-term Vermillion River Watershed Management Plan Review

SUMMARY

The Vermillion River Watershed Joint Powers Board adopted the 2016-2025 Vermillion River Watershed Management Plan (Plan) in June 2016. The Vermillion River Watershed Management Organization (VRWJPO) has been working toward achieving the goals, objectives, and actions identified in the Plan since its adoption. Each year the staff review the Plan Implementation Section to identify those areas listed for action and incorporate activities into work plans, develop feasibility studies, or pursue grant proposals, as appropriate. Each year the VRWJPO also prepares and publishes an annual activity report listing accomplishments from the previous year.

This is the mid-point of the term of the current Plan, therefore it is time to review the progress made and to identify any adjustments required for Plan implementation. Considerations could include identifying any amendments that would need to be processed formally, identifying any emergent issues that were not anticipated in the development of the 2016-2025 Plan and actions appropriate to address them, and reviewing existing programs.

Staff will present a review of the actions identified in the 2016-2025 Plan for discussion with the Vermillion River Watershed Planning Commission.