



April 7, 2021

Submitted electronically to DEQWPBPublicComments@mt.gov , jkenning@mt.gov ,
esivers@mt.gov

Jon Kenning, Bureau Chief
Eric Sivers, Section Supervisor
DEQ Water Quality Division
Water Protection Bureau
PO Box 200901
Helena, MT 59620

Re: Comments Opposing Groundwater Discharge Permit to Lazy J South,
PN MT-21-03

Dear Mr. Kenning, Mr. Sivers & Department Staff:

Upper Missouri Waterkeeper and the Montana Environmental Information Center submit this comment letter in response to the Department's proposed groundwater discharge permit for the Lazy J South subdivision, within Big Sky's Canyon Area (hereinafter the "Permit"). For the reasons discussed below DEQ cannot lawfully issue this groundwater permit, and we request that DEQ withdraw the Permit and conduct the requisite pollution control and degradation analyses before offering this discharge for public comment and decisionmaking.

About Us

Upper Missouri Waterkeeper is a non-profit, membership-based 501(c)3 advocacy organization dedicated to protecting and improving fishable, swimmable, drinkable water and healthy rivers throughout the 25,000 sq. miles of Southwest and West-Central Montana's Upper Missouri River Basin. This river basin includes more than a dozen urban, suburban, and rural watersheds, including the Upper Gallatin Watershed where the proposed permit would authorize pollution.

Our supporters live, work, or recreate in dozens of waterways across the Basin, and especially the Gallatin River adjacent to and downstream of the community of Big Sky. Members enjoy fishing the Gallatin's trophy blue ribbon trout populations, possess local businesses dependent on a good water quality in the Gallatin, enjoy the solitude and scenic views of clean, free-flowing stretches of the Gallatin River winding through Gallatin Canyon, and enjoy a variety of river boating and swimming activities, whether in whitewater, jumping off the Green Bridge, or swimming in the Gallatin's clear and deep pools during the summer's heat. Our members are expressly supportive of Waterkeeper's advocacy demanding government accountability and

thoughtful, science-based decisionmaking by public officials that protects local water resources and complies with federal and state law, and are concerned by decisions – such as the proposed groundwater discharge permit - that may negatively affect local water resources in the Upper Gallatin.

The **Montana Environmental Information Center** is a nonprofit organization founded in 1973 with approximately 5,000 members and supporters throughout the United States and the State of Montana. MEIC is dedicated to the preservation and enhancement of the natural resources and natural environment of Montana and to the gathering and disseminating of information concerning the protection and preservation of the human environment through education of its members and the general public concerning their rights and obligations under local, state, and federal environmental protection laws and regulations. MEIC is also dedicated to assuring that federal officials comply with and fully uphold the laws of the United States that are designed to protect the environment from pollution, including GHG pollution

Our organizations are concerned by recent, summer algal blooms in 2018, 2019, and 2020 on the mainstem Gallatin adjacent to and downstream of Big Sky and the Canyon Area where the Permit is proposed, and by scientific evidence indicating ongoing direct, indirect, and cumulative discharges of nutrients to hydrologically connected ground and surface water systems in the Upper Gallatin and how these discharges are negatively affect waters of the state. We therefore have direct interests in both the instant proposed permit and any potential impacts arising from authorization of the Permit.

I. The Upper Gallatin Watershed and mainstem Gallatin River are challenged by existing and increasing sources of nutrient pollution

A. Nutrient Pollution

EPA and Montana have long understood that nitrogen and phosphorus pollutants (“nutrients”) in lakes, rivers, and streams cause serious water quality problems. Nutrient pollution feeds algal blooms that choke waterways, deplete oxygen for fish and aquatic organisms, and change the balance of ecosystems. At its worst, nutrient pollution can result in toxic or hazardous algal blooms, which can sicken humans and animals, negatively affect property values, and contaminate drinking water sources, which can drastically increase treatment costs and subsequently increase consumer utility bills. According to EPA the primary sources of nutrient pollution to our waters are fertilizer, manure, sewage discharges, detergents, stormwater, cars and power plants, failing septic systems, and pet waste. Montana DEQ has ranked nutrients as top 5 pollutants of concern leading to impairment of Montana’s surface waters in several recent Integrated Reports.

Nutrient pollution has diverse and far-reaching effects on the economy, impacting many sectors that depend on clean water. In Montana, the outdoors-based economy - arguably the largest single GDP contributor in the state estimated at more than 4 billion annually - is directly reliant upon clean water and healthy rivers because of the aesthetic qualities and trophy fisheries that such water resources create.

Recognizing the negative effects and increasing threat that nutrient pollution and noxious algal blooms pose to Montana's surface waters, in July 2014 DEQ adopted protective water quality standards for nutrients in DEQ Circular 12-A. Based upon a large body of scientific work, 12-A sets stringent numeric criteria for phosphorus and nitrogen to protect all designated uses such as health, fishing, and recreation, in most waters of Western Montana, including the Gallatin watershed at issue here. These phosphorus and nitrogen concentrations are tied to Montana's ecoregional approach, with the water quality criteria calling for total instream phosphorus and nitrogen concentrations in surface waters of the Gallatin watershed to not exceed .03 mg/L and .3 mg/L respectively. Conversely, DEQ has separate standards regulating nutrient wastewater discharges to groundwater including, generally, a 10 mg/L nitrate concentration adopted from the corollary federal MCL, 7.5 mg/L nitrate concentration at the boundary of a mixing zone for some discharges, and 5 mg/L nitrate concentration limit for other discharges.

These and related regulatory criteria and are meant to ensure a precautionary approach to water pollution control such that no degradation of surface or ground water resources occurs, as required by Montana's Nondegradation Policy under 75-5-301 MCA, the federal Clean Water Act, and as envisioned by Montana's constitutional guarantee of a "clean and healthful environment" under Article II, Section 3 and Article IX, Section 1.

B. The Adjacent West Fork Gallatin Watershed Is Impaired for Nutrient Pollution That Is Directly Related to Development Like That Occurring in Big Sky's Canyon Area

After years of scientific research DEQ listed the W Fork Gallatin and many of its primary tributaries as impaired for nutrient-based pollution on its 303d List and created, and EPA approved, nutrient TMDLs among others in 2010. Decades of significant land alteration to private landscapes within the W Fork watershed have resulted in a disproportionate volume of unnatural nutrient loading to this watershed.¹

Similarly, as a volcanic region local streams in the Gallatin Watershed, including the W Fork, possess naturally elevated concentrations of phosphorus approaching trigger levels at which noxious algal blooms can occur given the addition of nitrogen; therefore nitrogen is viewed as the "limiting" pollutant capable of triggering adverse nutrient effects in W Fork watersheds and deserves close scrutiny in pollution permit decisions.² The W Fork nutrient TMDLs all pinpoint anthropogenic nutrient sources as the highest contributing factors to receiving stream impairment designations. In particular, these TMDLs demonstrate that unnatural nutrient loading comes

¹ See generally MDEQ, W Fork TMDL, available online at:

<http://deq.mt.gov/Portals/112/water/wqpb/CWAIC/TMDL/M05-TMDL-01a.pdf>

² DEQ, Circular 12-A, available online at:

https://deq.mt.gov/Portals/112/Water/WQPB/Standards/PDF/NutrientRules/CircularDEQ12A_July2014_FINAL.pdf

; see also Suplee, M.W., and V. Watson, 2013, Scientific and Technical Basis of the Numeric Nutrient Criteria for Montana's Wadeable Streams and Rivers—Update 1, and *addendums*. Helena, MT: Montana Dept. of Environmental Quality, available online at: <http://deq.mt.gov/wqinfo/standards/NumericNutrientCriteria.mcp>; see also "PER Canyon Area Wastewater Treatment and Disposal," DOWL HKM, November 2008, pp.26 ("nitrogen as the limiting nutrient in the Gallatin River"), available online at:

<https://bigskywatersewer.com/myfiles/Canyon%20Study.Preliminary%20Engineering%20Report.2008-11.HKM%20copy.pdf>

from sewer systems, golf course fertilizer, land-applied effluent, and residential landscape management practices. To this day the W. Fork and its tributaries continue to suffer from unnatural nutrient pollution and experience seasonal algal blooms. It is well-established in the scientific community that septic system pollution such as that seen widely in the Upper Gallatin results in degradation of surface waters.^{3 4}

In short, two key takeaways from the adjacent W Fork Gallatin watershed. One, significant human development of private landscapes, including in particular the effects of disposal of treated wastewater, has significantly degraded local water quality. Two, the Upper Gallatin's surface waters are very sensitive to chronic, cumulative nutrient loading and in particular additions of nitrogen via sewage. DEQ should take these scientific relationships and data into account when considering a new sewage discharge to groundwater that is adjacent to the mainstem Gallatin directly upstream of the W Fork.

C. Groundwater Testing Throughout Big Sky's Canyon Area Shows Existing Nutrient Pollution Problems

In the WGM Group's 2020 Gallatin Nutrient Assessment Study, the most recent scientific analysis of nutrient loading to the Upper Gallatin, the authors recognize that (a) the Gallatin's surface and ground water resources contain natural elevations of nutrients that make it uniquely sensitive to additional nutrient loads, and (b) the majority of anthropogenic sources of nutrients into the watershed result from the addition of treated wastewater applied to the surface or discharged into the groundwater.⁵ Sadly, Big Sky's Canyon area – in which the proposed discharge squarely rests – exhibits many of the same signs of nutrient pollution problems seen in the adjacent West Fork watershed. Its geography and hydrology mirror in many key respects the W Fork (in terms of alluvium and geologic folds that are highly transmissive of shallow groundwater). Available data indicates that, in large part, the Canyon's struggle with nutrient pollution concerns existing, poorly treated sewage from large and/or poorly treated septic and community systems.

The Gallatin County Health Department database indicates that within Big Sky's traditional Canyon area – from Rainbow Lodge upstream to roughly ¼ mi downstream past the Conoco and Main Fork-West Fork confluence – at least 62 septic systems are permitted and discharging at least 92,968 gpd. A May 2020 study from WGM Group and AE2S engineering examining wastewater disposal and existing conditions in Big Sky's Canyon area indicates the Canyon is likely discharging an estimated 115,000 gpd of poorly treated wastewater to local groundwater.⁶

Existing Canyon sewage discharges are problematic because, as well data from the Montana Bureau of Mines and Geology database shows, ambient nutrient concentrations in the Canyon far

³ Tri-State Water Quality Council, "Septic System Impacts on Surface Water", A Review for the Inland Northwest, 2005, available online at: <https://clarkfork.org/wp-content/uploads/2016/03/septic-system-impact-surface-waters-2005.pdf>

⁴ EPA, "Proceedings of the Ground-Water Surface-Water Interactions Workshop," EPA/542/R-00/007, 2000, available online at: https://www.epa.gov/sites/production/files/2015-06/documents/gws_w_workshop.pdf

⁵ WGM Group, "Big Sky Nutrient Assessment Study," July 2020, pp. 10-12, attached as Exhibit A.

⁶ WGM Group, "Canyon Area Feasibility Study," May 2020, pp. 9 of 200 (hereinafter "Canyon Study"), attached as Exhibit B.

exceed natural background levels in surface or groundwater, in some cases exceeding Circular 12-A's nutrient criteria 10x over.⁷ 12-A's numeric nutrient criteria is a relevant criteria for benchmarking and qualifying nutrient concentrations in both surface water and hydrologically connected groundwater that flows downgradient to surface water in the Canyon area as consistently elevated nutrient levels indicate a high likelihood of negative effects in surface waters, such as algal blooms, and therefore violations of water quality standards.

Consistently elevated nutrient concentrations in Canyon groundwater strongly suggest that cumulative nutrient pollution from groundwater discharges is elevating pollutant concentrations to levels that approach trigger or action values, and likely discharging those same nutrient pollutants to the hydrologically connected Gallatin River, located on average 1,000 – 2,000' downgradient. These general findings – the propensity of septic systems discharging pollutants to groundwater to also negatively affect nearby surface water – are corroborated by expert science throughout the Pacific Northwest, not just the Upper Gallatin.⁸

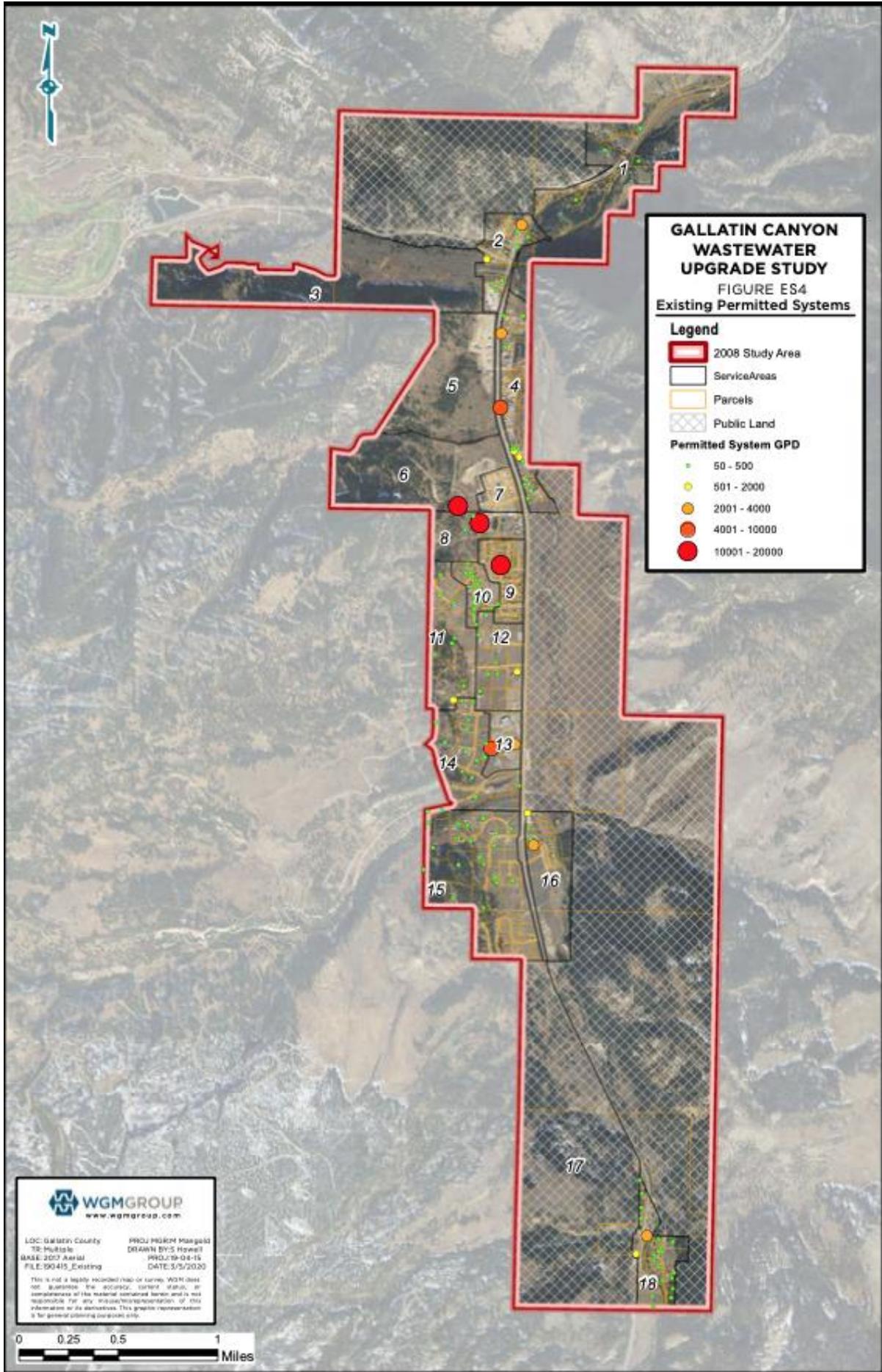
The WGM Group Canyon Study also illustrates the key contextual fact that the proposed Lazy J South discharge is *not* nonsignificant in terms of volume and level of treatment when compared to other existing Canyon wastewater discharges. The Fact Sheet states that Lazy J South has an average daily discharge design of approximately 11,672 gpd with a maximum of 20,000 gpd. Lazy J South's wastewater volume would place it among the largest existing wastewater systems in the Canyon (wastewater systems averaging 10,000-20,000 gpd), systems that are – as discussed further below – causing and contributing to unnaturally elevated and concerning levels of nitrate in groundwater, and to nutrient loading to the Gallatin River, which is suffering unprecedented noxious algal blooms downstream of the Canyon and W Fork confluence.⁹

Below is a graph from the Canyon Study demonstrating the significance of Lazy J South's effectively "new" wastewater discharge to Canyon Area water resources as compared with existing, problematic wastewater discharges. *Id.*

⁷ See Montana Bureau of Mines and Geology, GWIC Database, Mapping Tool, available online at: <https://mbmg.mtech.edu/mapper/mapper.asp?view=Wells&>

⁸ See generally *supra* FN 3, pp. 12-17.

⁹ Canyon Study, *supra* FN 4, pp. 10/200.



GALLATIN CANYON WASTEWATER UPGRADE STUDY
FIGURE ES4
Existing Permitted Systems

Legend

- 2008 Study Area
- Service Areas
- Parcels
- Public Land

Permitted System GPD

- 50 - 500
- 501 - 2000
- 2001 - 4000
- 4001 - 10000
- 10001 - 20000

WGMGROUP
 www.wgmgroup.com

LOC: Gallatin County PROJ: PRGM Mainfield
 TO: Multiple DRAWN BY: S. Howell
 BASE: 2007 Aerial PROJ: 19-04-15
 FILE: 190415_Existing DATE: 3/3/2020

This is not a legally recorded map or survey. WGM does not guarantee the accuracy, content, status, or completeness of the material contained herein and is not responsible for any misinterpretation of this information or its derivatives. This graphic representation is for general planning purposes only.



Below we also share a graph pulling recent water quality monitoring results from the MBMG GWIC public database for three (3) wells located proximate to the proposed Lazy J South groundwater discharge, all of which demonstrate high nitrate concentrations relative to background conditions in local Canyon groundwater.

Gwic id	Name	Lat	Lon	Site type	Sample Date	Total N as N (mg/l)
222627	FRENCH BETSY	45.256875	-111.2537816	WELL	7/6/11 13:15	2.28
222627	FRENCH BETSY	45.256875	-111.2537816	WELL	1/23/20 11:10	3.84
222627	FRENCH BETSY	45.256875	-111.2537816	WELL	5/21/20 14:30	3.24
222627	FRENCH BETSY	45.256875	-111.2537816	WELL	6/22/20 17:30	4.93
222627	FRENCH BETSY	45.256875	-111.2537816	WELL	7/20/20 16:05	2.76
222627	FRENCH BETSY	45.256875	-111.2537816	WELL	8/22/20 16:25	2.33
222627	FRENCH BETSY	45.256875	-111.2537816	WELL	9/26/20 17:25	2.01
222627	FRENCH BETSY	45.256875	-111.2537816	WELL	10/23/20 16:35	3.45
222627	FRENCH BETSY	45.256875	-111.2537816	WELL	12/1/20 16:07	3.82
222627	FRENCH BETSY	45.256875	-111.2537816	WELL	1/12/21 15:20	4.11
133410	WESTLAND ENTERPRISES INC * MW #227-009 4	45.249914	-111.2532377	WELL	1/22/20 14:48	5.86
133410	WESTLAND ENTERPRISES INC * MW #227-009 4	45.249914	-111.2532377	WELL	5/21/20 10:50	4.16
133410	WESTLAND ENTERPRISES INC * MW #227-009 4	45.249914	-111.2532377	WELL	6/22/20 16:20	28
133410	WESTLAND ENTERPRISES INC * MW #227-009 4	45.249914	-111.2532377	WELL	7/20/20 15:03	5.4
133410	WESTLAND ENTERPRISES INC * MW #227-009 4	45.249914	-111.2532377	WELL	8/26/20 16:30	4.82
133410	WESTLAND ENTERPRISES INC * MW #227-009 4	45.249914	-111.2532377	WELL	10/23/20 15:12	5.63
133410	WESTLAND ENTERPRISES INC * MW #227-009 4	45.249914	-111.2532377	WELL	12/2/20 13:32	5.14
133410	WESTLAND ENTERPRISES INC * MW #227-009 4	45.249914	-111.2532377	WELL	1/14/21 10:10	5.54
303694	RAMSHORN SUBDIVISION * MW-NORTHEAST CORNER	45.244287	-111.2512378	WELL	5/20/20 9:30	2.36
303694	RAMSHORN SUBDIVISION * MW-NORTHEAST CORNER	45.244287	-111.2512378	WELL	6/22/20 15:30	2.19
303694	RAMSHORN SUBDIVISION * MW-NORTHEAST CORNER	45.244287	-111.2512378	WELL	7/20/20 14:20	2.7
303694	RAMSHORN SUBDIVISION * MW-NORTHEAST CORNER	45.244287	-111.2512378	WELL	8/26/20 15:46	2.09
303694	RAMSHORN SUBDIVISION * MW-NORTHEAST CORNER	45.244287	-111.2512378	WELL	10/2/20 15:08	5.83
303694	RAMSHORN SUBDIVISION * MW-NORTHEAST CORNER	45.244287	-111.2512378	WELL	10/23/20 14:27	3.27

We point out in particular monitoring well 1333410 Westland Enterprises, which regularly contains nitrate concentrations of 4-5 mg/L. This well is NE downgradient from the proposed Lazy J South discharge by approximately 700' and contains results that contrast starkly with DEQ's single monitoring well used to make a nonsignificance determination in the Permit. Insofar as the Lazy J South permit reflects the intent of the applicant to develop significant new residential and commercial properties in the landscape directly upstream of these monitoring locations, logic indicates that DEQ's single well is not representative of actual nutrient concentrations within the proposed Permit's area.

DEQ's single monitoring well estimates background nitrates at .33 mg/L, whereas the Westland well – much less roughly a dozen other Canyon Area wells sampled by the Montana Bureau of Mines and Geology – show nitrate concentrations regularly exceeding 1-4 mg/L. DEQ should use current MBMG and recent nutrient studies reviewing the Canyon area in performing a full nondegradation analysis for the proposed Lazy J South Permit to ensure that, in fact, the Permit will not unlawfully cause or contribute to degradation of high-quality waters of the state.

d. The Mainstem Gallatin is Experiencing Recurrent, Severe Algal Blooms Downstream from Big Sky

The Gallatin River has experienced three consecutive years of severe algal blooms since 2018. These well-documented algal blooms appear as far upstream as the Riverhouse and Ophir School, and have stretched undiminished downstream as far as Moose Creek campground.

It is undisputed that excessive nutrient pollution loads the gun, and warm temperatures, sunshine, and water clarity pull the trigger, for algal blooms in the Gallatin. Of note, DEQ can control all point source contributions of nutrients, including the Permit at issue here. Water quality data collected by the Gallatin River Task Force, Montana Bureau of Mines and Geology, and DEQ itself have corroborated unnaturally elevated nutrient concentrations in the mainstem Gallatin, the W Fork Gallatin, and local groundwater in the Canyon area, all of which flow to and eventually combine to form the mainstem Gallatin River. As discussed below, most parties understand the geographic reality that groundwater and surface water in the Gallatin are inextricably tied together as one system. Pollution that enters groundwater typically makes its way in short fashion to nearby or adjacent surface water.

We are troubled by the fact that although DEQ's monitoring section is well-aware of these ongoing nutrient challenges in Big Sky, much less the mainstem Gallatin and Canyon area, that the groundwater section has ignored these nutrient pollution data points and signs of hydrologic connectivity in developing the draft Permit and supporting environmental assessment. Ignoring available data concerning hydrologic connectivity of ground and surface water in the Canyon Area is particularly worrisome given that three years of data collection and river surveys indicate the mainstem Gallatin River adjacent to and downstream from the Canyon is a likely candidate for Montana's 303d List of Impaired Waterways due to excessive nutrient pollution.

Neither the draft permit, fact sheet, or environmental analysis so much as mentions the ongoing nutrient pollution challenges in the Canyon area much less the downgradient Gallatin River, despite the practical reality that the proposed agency action at-hand represents the authorization of functionally "new" additions of poorly treated sewage to groundwater that is already experiencing elevated nutrient pollution and is hydrologically connected to the Gallatin River, no more than 1,800' distant.

II. The Proposed Discharge May Cause or Contribute to Adverse Effects in Hydrologically Connected Surface Water

A. Canyon Area Groundwater Is Hydrologically Connected to the Gallatin River

Scientific studies of Canyon Area hydrology from as far back at 2005 have concluded that groundwater from the aquifer recharges the Gallatin River: *i.e.*, Canyon Area groundwater is hydrologically connected to the adjacent Gallatin River.¹⁰ One report estimated that Canyon groundwater recharge of the Gallatin "represents approximately 20% of the base flow from the entire mountainous headwaters."¹¹ The Permit's Fact Sheet in Section 2.5, Hydrogeology, corroborates these findings by positing that the proposed discharge is located within alluvium

¹⁰ *Id.* FN 2, DOWL HKM PER, Section 2.1.2.4 'Groundwater,' at pp. 18.

¹¹ *Id.*

gravels that “grade easterly across the site into the alluvium associated with the present-day Gallatin River.”¹²

Furthermore, the proposed discharge is to what the Fact Sheet calls a “shallow, unconfined aquifer” which interacts – within the 500’ mixing zone - with shallow groundwater measured at “10’ or less beyond the downgradient boundary of the mixing zone and moving east towards the Gallatin River.”¹³ The admission that local groundwater directly interacts with groundwater within the proposed mixing zone indicates that the Permit’s proposed mixing zone formula may be inappropriate due to the soil profile which can readily funnel groundwater out of the mixing zone instead of filtering it, as presumed.

To this point, the Fact Sheet recognizes that the hydrologic connectivity of groundwater to surface water in the proposed discharge site is no mean thing: groundwater from the mixing zone flows NE towards the Gallatin River at an average hydraulic conductivity of 515 feet/day. With the Gallatin River located approximately 1,800’ downgradient of the proposed discharge, Fact Sheet data stands for the proposition that nutrient discharges authorized under the Permit would travel from the mixing zone to the Gallatin River within 2.5 to 3 days.¹⁴

It is documented that the connection between the Canyon’s shallow groundwater and surface water that requires consideration in the evaluation of potential effects of the proposed point source pollution discharge on the Gallatin River. Neither the Fact Sheet, Permit, or EA identify or discuss any reasonably foreseeable impacts of the proposed discharge on surface water, nor do they indicate DEQ had previously considered these issues.

B. The Montana Bureau of Mines and Geology Is Presently Studying the Hydrologic Connectivity Between the Canyon’s Groundwater and the Gallatin River

Groundwater quality and quantity is threatened by the proliferation of septic systems and individual wells in the Upper Gallatin Canyon, potentially leading to degradation of drinking water supplies and the health of the Gallatin River. To better understand these impacts, the Montana Bureau of Mines and Geology is presently conducting an extensive study. Originally proposed by the Gallatin River Task Force in partnership with the Gallatin Local Water Quality District, the Upper Gallatin Canyon Project began in early 2019 and is expected to finish summer 2021.

Among other results, the Upper Gallatin Canyon GWIP Study is expected to produce modeling of direct, indirect, and cumulative effects of existing and proposed development on groundwater and connected surface water. Put another way, the State of Montana’s expert groundwater agency is carefully analyzing the exact geography in which the instant Permit lies to better characterize and understand the connectivity of groundwater and surface water resources and impacts of development. While a draft version of this Project’s results is not yet available, the

¹² Lazy J South GWPCS Permit Fact Sheet, Section 2.5 Hydrogeology, pp. 7.

¹³ *Id.*

¹⁴ *Id.* Mixing Zone of 500’, Gallatin located 1800’ distant, the difference between is 1300’. At 515’ feet/day of movement groundwater from the discharge would enter the Gallatin in approximately 2.5 days.

fact that this project is in fact being conducted lends credible weight to the need for DEQ to examine, to the best of its abilities, the potential impacts of the proposed discharge upon local surface water resources.

III. The Permit Fails to Consider Whether the Proposed Discharge Would Cause Degradation of Surface Water, Failed to Consider Potential Cumulative Impacts, and Failed to Perform an Adequate Environmental Assessment

DEQ's Fact Sheet admits that the overarching intent of Montana's nondegradation policy is to preserve the condition of high-quality state waters, and that the policy only allows discharges to cause nonsignificant changes in water quality. Notably, the Fact Sheet is explicit in stating that "the water quality standard must not be exceeded." Groundwater underlying the Permit discharge site is high-quality groundwater requiring protection from degradation, and so too is the Gallatin a high-quality waterway that may not be degraded absent a justification under a full nondegradation analysis.

DEQ's Fact Sheet proceeds directly to examining whether a significance determination (aka, a new nondegradation review) is required for the Permit. In making a determination that the Permit's discharges are nonsignificant DEQ appears to hang its hat on piecemeal interpretation of its own regulations. Specifically:

"This discharge has not increased or changed in character since [the original 2006 permit's significance] determination, therefore DEQ did not perform a new significance determination for this permit renewal. DEQ determined that the discharge continues to meet ground water nonsignificance / nondegradation criteria at the end of the mixing zone. DEQ used these criteria and updated ground water quality to establish effluent limits."¹⁵

However, DEQ's conclusion that "this discharge has not increased or changed in character" is undermined by the Fact Sheet's recital of the unique background for the Permit.

The Permit was originally issued on September 27, 2006, but was not used and "had no flow until 2018. [Then, f]rom 2018 to 2020 average flow was one percent of the design average flow." FS at Section 2.3, Effluent Characteristics. While the Permit is procedurally framed as a "renewal" by the Department, it is more accurately viewed as a functionally new discharge since the authorized discharge never in fact took place. On this basis alone DEQ should perform a full nondegradation analysis of the proposed discharge. Indeed, the very reason that the MWQA and federal CWA require pollution permits be renewed every 5 years is to ensure a new hard look at pollution control terms and the respective receiving environment, all towards ensuring the permit is adequately protective of receiving waters.

Further, the Permit and associated materials offer no discussion of what the original 2006 Permit's nondegradation analysis actually entailed aside from a mass balance equation that indicated compliance with applicable nonsignificance criteria at the end of the mixing zone. We can therefore safely presume the original nondegradation analysis failed to consider the

¹⁵ Fact Sheet, Section 3.4, Nonsignificance, pp. 11

discharge's effects on nearby surface water or cumulative effects, issues that DEQ should rectify now by performing a new nondegradation analysis.

The Permit appears to rely solely on compliance with ARM 17.30.715(1)(d) – nutrient effluent concentration at the end of the mixing zone – as the sole determining factor in whether a proposed discharge is significant and requires further nondegradation review. This is legal error. A change in groundwater quality from a discharge can only be nonsignificant if it does not cause degradation of surface water. *See* 75-5-301(5)(d) MCA. DEQ's inquiry does not stop solely at 17.30.715(1)(d). Rather, DEQ must also exercise its discretion and consider cumulative impacts, synergistic effects, new information regarding the effects of a parameter, and other relevant information regarding impacts of the proposed Permit under ARM 17.30.715(2), and whether the proposed discharge will degrade surface water. *Id.* Such a preventative and precautionary approach to water resource protection is exactly what the MWQA and the Montana Constitution's guarantee of a "clean and healthful environment intended. Lazy J South Permit materials demonstrate that such analyses and considerations were never performed, whether in the 2006 permit or in any iteration since. DEQ must perform these analyses now before it may authorize the requested pollution discharges.

As discussed above in detail there is a wealth of scientific data collected since the original 2006 nondegradation analysis indicating that nutrient pollution is pervasive, problematic, and approaching – and in some cases exceeding – trigger values for groundwater and surface water within the Canyon Area and in waters of the state immediately downgradient of the discharge. New data also indicates changes in flow and hydrologic connectivity to surface water and intensified effects of a pollutant parameter in the local receiving environment. Interestingly, the Permit appears to implicitly admit that upgradient development since the original 2006 Permit and nondegradation analysis may have affected groundwater quality, and therefore the Department required installation of a monitoring well at the end of the mixing zone in 2015. However, the Permit fails to then consider the cumulative effects of surrounding and adjacent development in the Canyon Area on an unconfined aquifer and shallow groundwater downgradient of the Permit's discharge, or how the Permit's functionally new pollutant loads could synergistically interact with or contribute to violations of water quality standards downgradient.

Equally troubling is the abbreviated "checklist" Environmental Assessment accompanying the Permit. The EA's myopic discussion of water quality impacts only focuses on whether ARM 17.30.715(1) has been satisfied without any meaningful inquiry into direct, indirect, or cumulative impacts of the discharge or any of the enunciated EA elements under ARM 36.2.524 or ARM 36.2.525. The purpose of MEPA is to help DEQ be proactive – not reactive – in understanding reasonably foreseeable impacts of agency decisionmaking. The Permit reflects the opposite approach where a singular query with a seemingly predetermined response fails to take into account new and emerging water science or robust data indicating nutrient pollution problems in the Permit area, or connectivity to downgradient surface water that is also experiencing nutrient pollution, both of which the proposed discharge could exacerbate.

The proposed Permit and its likely effects on state waters as a whole appears to ignore the anticipatory and preventative nature of DEQ's role as steward of Montana's public trust in water

resources. The Permit failed to use widely available science concerning dramatically changed nutrient pollution in the Project area, consider whether nutrient discharges from the project would cause degradation of surface water, or to consider potential cumulative impacts of wastewater discharges. In sum, DEQ should withdraw this Permit and perform a new antidegradation analysis that uses the above data and other best available science in taking a hard look at the direct, indirect, and cumulative impacts of the proposed Permit will have on groundwater downgradient from the mixing zone and on hydrologically connected surface water resources, such as the Gallatin River.

IV. DEQ Should Consider the Propriety of Withdrawing the Instant Permit and, Instead, Require the Applicant to Apply for a MPDES Surface Water Discharge Permit

It is undisputed that DEQ is the delegated Clean Water Act authority responsible for implementing, among other programs, Montana's NPDES point-source pollutant control program. As delegated CWA authority with the mandate to give effect to the requirements of the CWA and its implementing regulations, we are concerned that the instant state groundwater permit could properly be viewed as a MPDES permit due to a fairly traceable hydrologic connection between groundwater receiving pollutant discharges authorized under the Permit and the downgradient Gallatin River.

As DEQ may be aware, the U.S. Supreme Court recently found that point source discharges to navigable waters through groundwater are regulated under the CWA. In its decision on County of Maui v. Hawai'i Wildlife Fund, the Court held that the CWA "require[s] a permit if the addition of the pollutants through groundwater is the functional equivalent of a direct discharge from a point source into navigable waters." In other words, the CWA prohibits discharges of pollution "into navigable waters, or when the discharge reaches the same result through roughly similar means." 140 S. Ct. 1462 (2020).

The Court identified seven non-exclusive factors that may be relevant in that analysis, including (1) transit time, (2) distance traveled, (3) the nature of the material through which the pollutant travels, (4) the extent to which the pollutant is diluted or chemically changed as it travels, (5) the amount of pollutant entering the navigable waters relative to the amount of the pollutant that leaves the point source, (6) the manner by or area in which the pollutant enters the navigable waters, and (7) the degree to which the pollution (at that point) has maintained its specific identity. The facts described above indicate that Lazy J South may be a cognizable point source discharge requiring a MPDES permit because of the: short transit time and short distance to the Gallatin River; the shallow gravel alluvium through which groundwater travels from the mixing zone to the Gallatin River; the lack of absorbent soils that would dilute or chemically alter nutrient wastes when passing through said alluvium gravel; the estimated 11,000 – 20,000 gpd of wastewater pollution that the Permit would authorize; and the ongoing challenges rising nutrient pollution is already causing in the Canyon Area.

DEQ has the authority under its rules and as CWA delegated authority to withdraw the instant permit and instruct the applicant to apply for a MPDES permit. We strongly encourage DEQ to consider the aforementioned data, the contextual significance of authorizing more nutrient pollution to a river system already experiencing nutrient pollution problems, and the poor

precedent DEQ would set in allowing a new groundwater discharge from an antiquated and outdated septic system in the Canyon Area when there is widespread public and private sector support for removing septic from the Canyon and increasing collection and better treatment of wastewater across the larger Big Sky community.

V. Request for a Public Hearing

The undersigned request the Department hold a public hearing, including the ability to electronically participate through Zoom given the ongoing CV-19 pandemic, concerning the proposed Lazy J South groundwater discharge permit. The issues at stake and which will be brought to the Department's attention during this hearing include but are not limited to:

- Ongoing cumulative nutrient pollution issues in Big Sky's Canyon groundwater and the mainstem Gallatin River, each of which were not considered by the Draft Permit.
- The issue of hydrologic connectivity between Canyon groundwater and the downgradient Gallatin River, which was not considered by the Draft Permit.
- The issue of the proposed discharge's indirect and cumulative, synergistic effects on local ground and surface water resources in the Upper Gallatin, which were not considered by the Draft Permit.
- Long-standing collaborative efforts from the public and private sectors to sewer the Canyon and thereby remove old large septic systems from discharging to sensitive local waters of the state, efforts that the Draft Permit does not consider.
- The contextual significance of authorizing effectively new wastewater discharges from an antiquated Level 2 sewage system to local water resources that are already experiencing alarming increases in groundwater concentrations of nitrate.

Conclusion

Thank you for the opportunity to submit comments to the Department and share our concerns that the proposed discharge permit would degrade local water quality and have the potential to negatively affect the health of the Gallatin River. We look forward to the Department's response and the opportunity for the public to voice these and other concerns to the Department at a public hearing.

Respectfully submitted-



Guy Alsentzer, Esq.
Executive Director
Upper Missouri Waterkeeper
Guy@UpperMissouriWaterkeeper.org



Derf Johnson
Clean Water Program Director & Staff Attorney
MEIC
djohnson@meic.org

CC: Tina Laidlaw, Montana EPA Office, laidlaw.tina@epa.gov