Additional Information: WPIC Exempt Well Discussion

The WPIC exempt well working group met with stakeholders on February 24, 2026, to discuss possible policy options and a framework. Participants reviewed and discussed a proposal submitted by the stakeholders, referred to as the de minimus proposal in Table 1 and throughout this document. The exempt well working group discussed the original proposal and three variations on the de minimus proposal for additional analysis and consideration: (1) "de minimus-any use," (2) "de minimus with additional stock water," and (3) "larger volume." The proposed volume allowances and beneficial uses associated with the original proposal and all three variations are summarized in Table 1. The following is DNRC's attempt to analyze these potential policy options and provide relevant data to support continued conversations per the WPIC working group's request. The preliminary data and assumptions used below were prepared for the March WPIC meeting and are subject to revision.

Table 1. Summary of 2027 proposals and up to volume limitations in acre-feet (AF)

Parcel Size/Location	De Minimus Proposal (Original)	De Minimus – Any Use Proposal	De Minimus with Additional Stock Water Proposal	Larger Volume Proposal
CGWA parcels <20Ac	0.5 AF *in-house domestic + stock	0.5 AF *any use	0.5 AF *in-house domestic + stock	1 AF *in-house domestic + stock
CGWA parcels between 20-160Ac	1 AF *in-house domestic + stock	1 AF *any use	1 AF *in-house domestic + stock	2.8 AF *in-house domestic + stock
CGWA parcels >160Ac	1 AF *in-house domestic + stock	1 AF *any use	2.5 AF *stock	2.5 AF *stock
Outside CGWA parcels <20Ac	0.5 AF *any use	0.5AF *any use	0.5AF *any use	1 AF *any use
Outside CGWA parcels between 20-160Ac	1 AF *any use	1 AF *any use	1 AF *any use	2.8 AF *any use
Outside CGWA Parcels >160Ac	1 AF *any use	1 AF *any use	5 AF *stock	5 AF *stock

Notes: Controlled Ground Water Area (CGWA)

Table 2. Water volume by average number of groundwater certificates (602s) and 2027 policy proposals. Focus aquifers are analyzed as CGWAs in this analysis.

	1-Year Average (2022-2024)			De Minimus Proposal and De Minimus - Any Use Proposal			De Minimus with Additional Stock Water Proposal		Larger Volume Proposal	
Areas[1]	**602 Count**	**Total Volume (AF)**	**Consumed Volume (AF)**	**Total Volume (AF)**	**Consumed Volume (AF)**	**Any Use[2] Consumed Volume (AF)**	**Total Volume (AF)**	**Consumed Volume (AF)**	**Total Volume (AF)**	**Consumed Volume (AF)**
Gallatin Valley Aquifer	138	390	178	95	14	41	95	15	219	41
Helena Valley Aquifer	85	179	76	45	6	16	45	6	94	16
Bitterroot Valley Aquifer	223	531	251	123	18	46	124	19	263	50
Missoula Valley Aquifer	58	131	62	30	4	10	30	4	62	9
Billings Terrace Aquifer	17	43	22	10	1	3	10	1	20	2
Flathead Valley Aquifer	126	309	104	69	11	26	69	11	148	32
Focus Aquifer Subtotal	647	1,583	693	372	54	143	373	56	805	150
Outside Focus Aquifers	1,463	3,639	1,825	1,192	634	634	2,482	2,039	3,705	3,097
Total	2,109	5,222	2,519	1,563	689	777	3,101	2,096	4,646	3,248

Notes: Acre-feet (AF)

[1] Aquifer areas are those described in the Comprehensive Water Review Exempt Well Bill publication found here: https://dnrc.mt.gov/_docs/water/Comprehensive-Water-Review/MAIN.PAGE.CONTENT/Exempt-Well-Bill-DNRC-Recomendations-Closure-Criteria.pdf

[2] Any use proposal is only analyzed for consumptive use as total volume is identical to the de minimus proposal.

Take Away:

- Under the de minimus proposal, consumptive use within the focus aquifers is roughly 13 times less than what has annually been allocated in those areas. Through the rest of the state, the de minimus proposal could result in about three times less consumptive use of water.
- Under the de minimus-any use proposal, consumptive use within the focus aquifers is roughly 5 times less than what has annually been allocated in those areas. Through the rest of the state, the de minimus-any use proposal could result in about three times less consumptive use of water.
- Under the de minimus with additional stock water proposal, consumptive use within the focus aquifers is roughly 12 times less than what has annually been allocated in those areas. Through the rest of the state, the de minimus with additional stock water proposal could result in a slight increase in consumptive use of water.
- Under the larger volume proposal, consumptive use within the focus aquifers is roughly five times less than what has annually been allocated in those areas. Through the rest of the state, the larger volume proposal could result in an increase of about two times more consumptive use of water.

Table 2, Assumptions and Methodology:

1. Groundwater Certificates with priority dates between January 1, 2022 and December 31, 2024, for active, pending, or severed water rights with geocodes were obtained from the Water Right Query System feature service. Geocodes were then used to query the Montana Cadastral feature service and obtain total parcel acreage. Unique geocodes were subsequently used to calculate diverted and consumed volumes using the 2027 proposal criteria. The 2027 projections are based on actual 2022-2024 data, not on future potential growth/use.
2. The one-year diverted and consumed volumes and number of parcels were determined by dividing the sum of the values for the three-year period 2022-2024 by three. Consumptive use calculations for all respective beneficial uses follow DNRC's current methodology outlined in the Net Depletion Standard Methods document.
3. The number of parcels and number of 602s differ because some 602s covered multiple parcels, while some other single parcels have multiple 602s. The 2027 number of parcels count is based on one-third of the number of geocodes (or parcels) present within the 2022-2024 count.
4. The 2022-2024 602 data total volume is based on the paper water right, which is the amount the owner is legally entitled.
5. Consumptive use is the amount of volume that is consumed that is not returned to the system and is estimated at 10% consumptive use for domestic, 80% consumptive use for lawn and garden irrigation, and 100% for stock (DNRC net depletion standard methods).
6. The 2022-2024 602s include multiple different beneficial uses, with domestic, multiple-domestic, and domestic plus lawn and garden use typically representing about three-fourths of the total. For the sake of a more simplistic analysis, all projected 2027 use is assumed to be domestic, domestic plus lawn and garden use, or domestic plus stock. No other beneficial uses were assumed. For the scenarios, all volume allotments are assumed to use up to the limit of each option analyzed (i.e., under the de minimus proposal, a full 0.5 acre-feet is assumed for each domestic use, even though a more typical use is 0.34 acre-feet). Water users are only entitled to the volume that they put to actual beneficial use.
7. In-house domestic assumes an average use of 300 gal/day (typical three-bedroom household) (0.34 acre-feet/yr) (36.12.115 (2), ARM). 0.5 acre-feet is equal to 450 gal/day or a six-bedroom household.

8. In-house domestic with lawn and garden use assumes 300 gal/day (0.34 acre-feet/yr) is used (typical three-bedroom household) for in-house and the remainder (0.16 acre-feet/yr) is used for lawn use at application rate of 2.5 acre-feet/Ac. (36.12.115 (2), ARM)
9. Domestic plus stock assumes 300 gal/day (0.34 acre-feet/yr) is used (typical three-bedroom household) for in-house and the remainder is used for stock.
10. The focus aquifers are described in The Comprehensive Water Review Exempt Well Bill publication here: https://dnrc.mt.gov/_docs/water/Comprehensive-Water-Review/MAIN.PAGE.CONTENT/Exempt-Well-Bill-DNRC-Recomendations-Closure-Criteria.pdf
11. Data sources:
    a. Water right data- The Montana Water Right Query System Dataset contains water rights information for the state of Montana (https://gis.dnrc.mt.gov/arcgis/rest/services/WRD/WRQS/FeatureServer/1).
    b. Cadastral data- The Montana Cadastral Framework provides a digital representation of the written legal description of taxable parcels and non-taxable parcels, or land ownership, as defined in the Montana Department of Revenue's Computer Assisted Mass Appraisal database (https://gisservicemt.gov/arcgis/rest/services/MSDI_Framework/Parcels/MapServer/0).
    c. City limits- Montana Incorporated Cities and Towns: (https://gisservicemt.gov/arcgis/rest/services/MSDI_Framework/Boundaries/MapServer/3).
    d. Statewide Irrigation dataset- The Montana Statewide Irrigation Dataset is a GIS polygon vector representation of Montana's irrigation-equipped agricultural fields (https://mslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did=%7Bf33bc611-8d4e-4d92-ae99-49762dec888b%7D).

Table 3. Consumptive use of groundwater certificates for an average year vs. proposed 2027 policy changes within all focus aquifers.

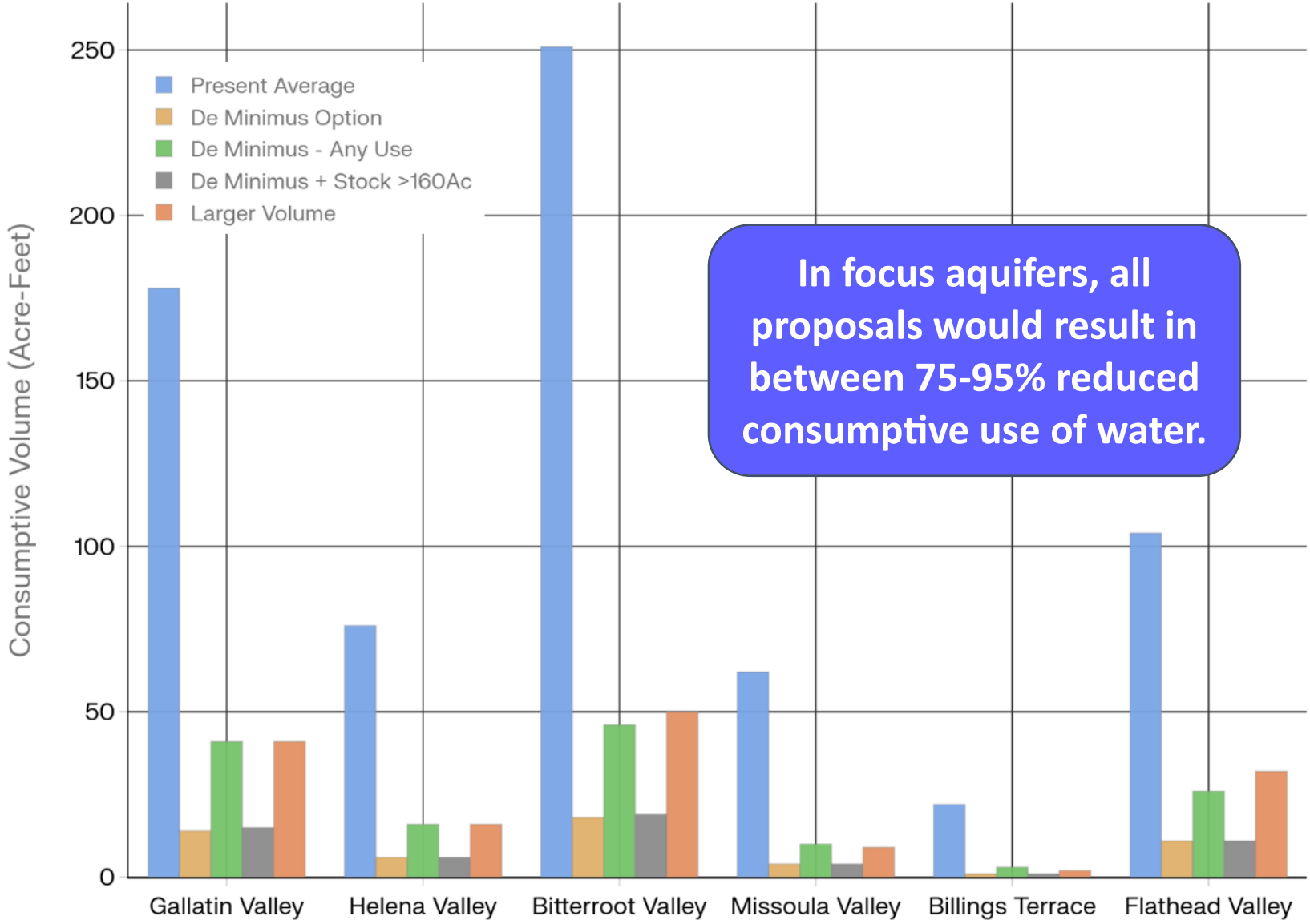

Table 4. Consumptive use of groundwater certificates for an average year vs. proposed 2027 policy changes within all focus areas and the rest of the state.

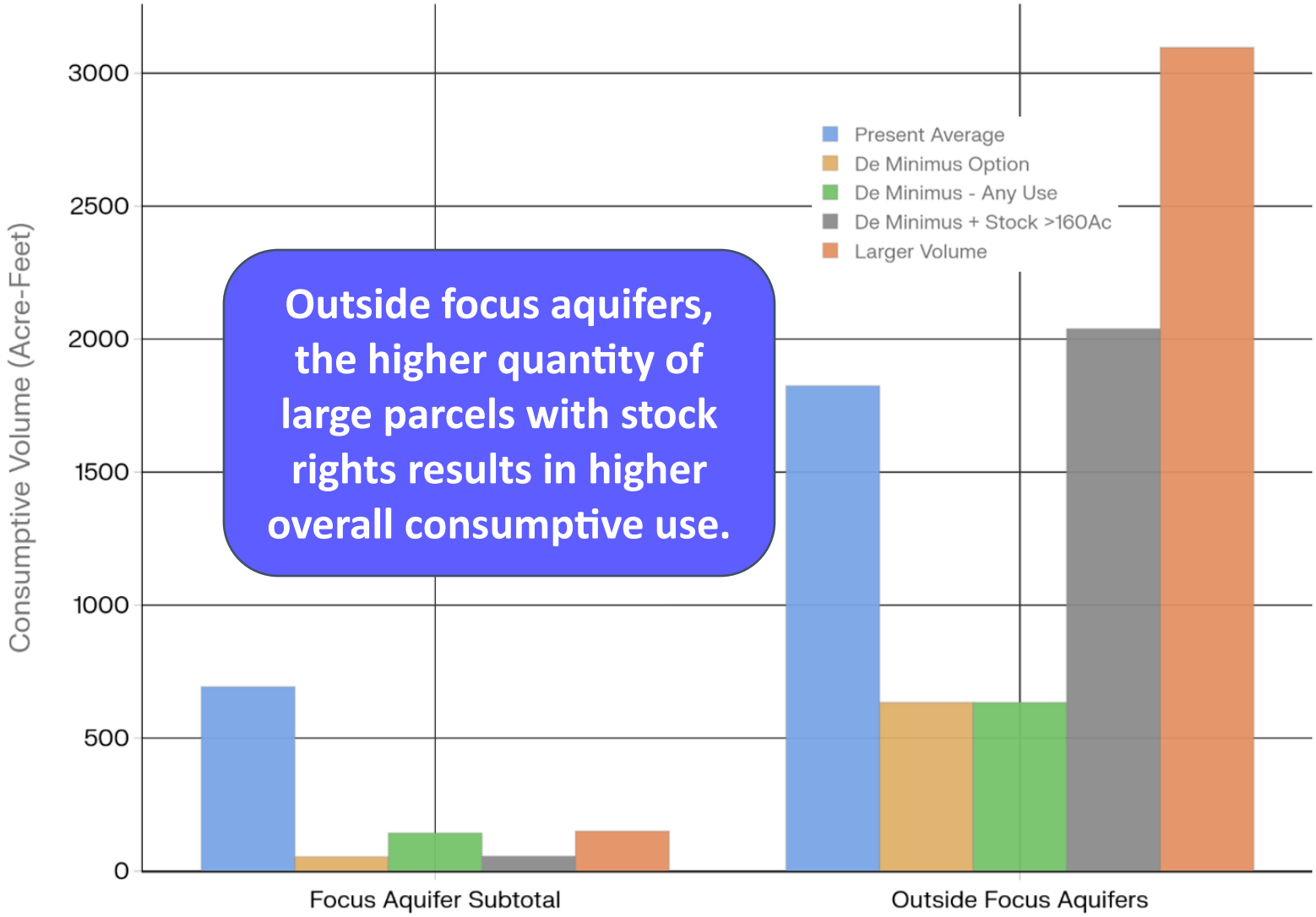

Table 5. Amount of use with volume limitations

	Up to 0.5 AF/yr	Up to 1 AF/yr	Up to 2.8 AF/yr	Up to 5 AF/yr	Up to 10 AF/yr	Up to 14.6 AF/yr (Idaho)
In Home	450 gal/day 6-bedroom house	900 gal/day 15-bedroom house	2,500 gal/day 47-bedroom house	4,450 gal/day 86-bedroom house	8,900 gal/day 175-bedroom house	13,000 gal/day 257-bedroom house
Industrial/ Commercial	450 gal/day	900 gal/day	2,500 gal/day	4,450 gal/day	8,900 gal/day	Not an authorized use
Irrigation Only	8,700 ft^2 (0.2Ac) lawn	17,400 ft^2 (0.4Ac) lawn	1.12 Ac lawn	2 Ac lawn	4 Ac lawn	5.84 Ac lawn
Home with Lawn and Garden	300 gal/day + 2,800 ft^2 (0.07 acre) lawn	300 gal/day + 11,500ft^2 (0.27 acre) lawn	300 gal/day + 1.0 Ac lawn	300 gal/day + 1.9 Ac lawn	300 gal/day + 3.9 Ac lawn	300 gal/day + 5.7Ac lawn

Table 5, Assumptions and Methodology:

1. Calculation rounded to closest 10. Typical household (three bedroom) use is 300gal/day plus 50gal/day per extra bedroom (36.12.115 (2), ARM).
2. Industrial/commercial could include a small commercial shop with a kitchen and bathroom, or something like a sand/gravel washing operation. Consumptive use ranges from 10% to 100%.
3. Irrigation assumes application of 2.5 acre-feet/Ac (lawn and garden use) (36.12.115 (2), ARM).
4. Home with lawn and garden use assumes 300gal/day is used for in-house and the remainder is used for lawn irrigation at application rate of 2.5 acre-feet/Ac.

How much water do homes typically use?

Table 6. In home domestic water use under different methodologies

In-Home Use Type	DNRC/DEQ Standard (per bedroom)	USGS Estimate (2015)	Estimate with Water Conservation Devices (Vickers, 2001)	Estimate without Water Conservation Devices (Mayer, et al., 1999)	City of Helena (per connection) (2023)
Individual	75 gal/day (0.085 AF/yr)	80-100 gal/day (0.09-0.11 AF/yr)	<40 gal/day (0.045 AF/yr)	68 gal/day (0.076 AF/yr)	
Family of 4	300 gal/day (0.34 AF/yr)	320-400 gal/day (0.36-0.44 AF/yr)	<160 gal/day (0.18 AF/yr)	273 gal/day (0.31 AF/yr)	172 gal/day 0.19 AF/yr

Take Away:

- Given the range of estimates, 0.5 acre-feet of in-home domestic water is generally enough to supply water to 5 to 11 people per day, or a household with about 6 bedrooms.

Table 6, Assumptions and Methodology:

- Current DNRC standards identify that typical household (three bedroom) use is about 300 gal/day (36.12.115 (2), ARM). 0.5 acre-feet is equal to about 450 gal/day. 450 gal/day would accommodate a six bedroom home under that standard.
- The USGS estimated that many people use up to an average of about 80-100 gal/person/day (0.09-0.11 acre-feet/person/yr) for in-home use (USGS, 2015).
- Using water conservation devices (shower/faucet heads, washers, toilets, etc.) most people use well below 40 gal/day (0.045 acre-feet/person/yr) (Vickers, A. 2001. *Handbook of Water Use and Conservation*). With water conservation devices, a family of four would use about 0.18 acre-feet/year. Without water conservation devices, a family of four would use about 273 gal/day (0.31 acre-feet/yr) (Mayer, et al. *Residential end uses of water*. 1999).
- The City of Helena has approximately 21,000 customer connections and supplies an average of 3.6 million gal/day during non-irrigation months, thus average use per customer is 172 gal/day (0.19 acre-feet/yr) (City of Helena, 2023).