

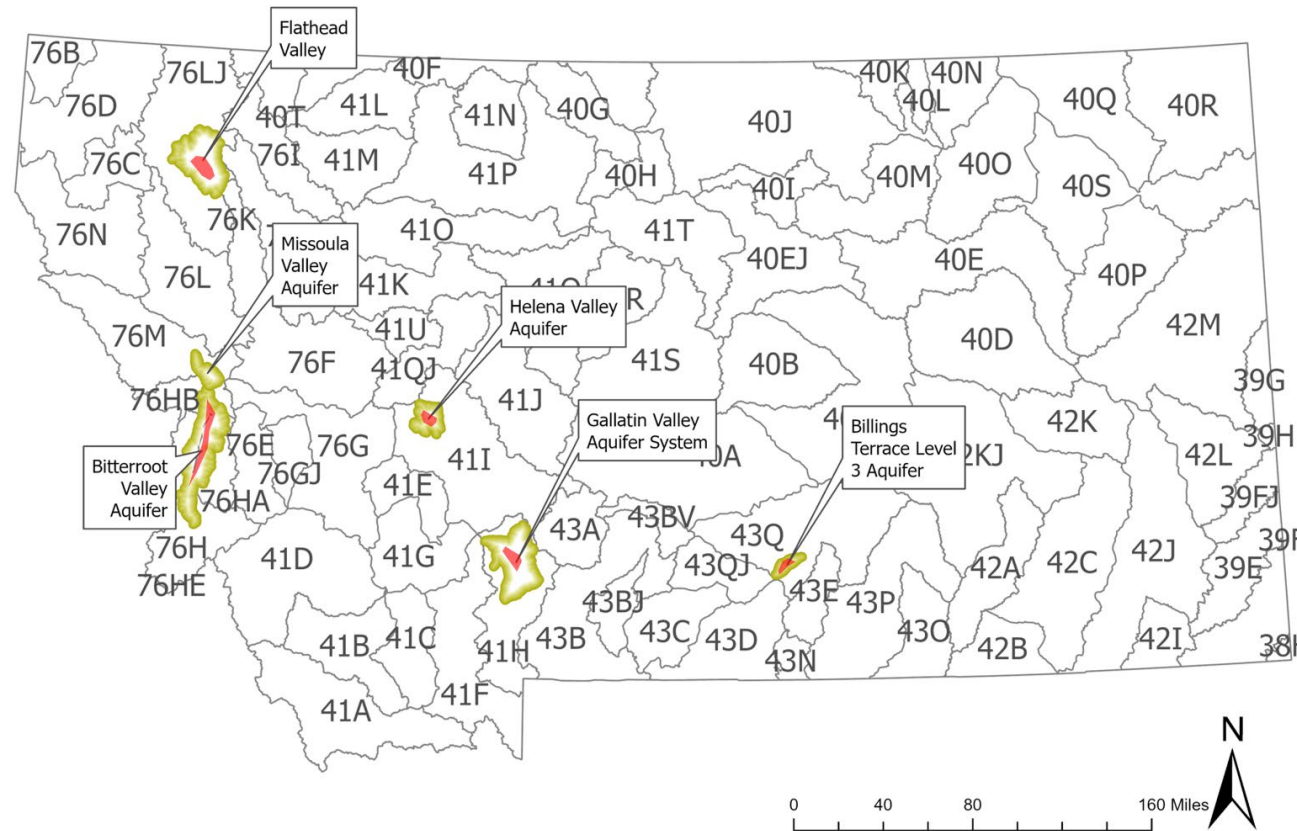
Water Planning and Growth and Exempt Wells

7/9/2024 update for the Comprehensive Water
Review Stakeholder Working Group



Recall....

Geographic differentiation. Unique exempt well policy based on science supported location specific issues.



The Science of Controlled Groundwater Areas (red and yellow)- Metric Categories

1. Groundwater physical and legal availability
2. Groundwater connected to surface water with limited legal availability
3. Groundwater quality



1. Groundwater Physical and Legal Availability

<p>Groundwater Level Trends</p>	<p>A decreasing groundwater level trend is observed, and long-term cause/effect and projected trend should be analyzed.</p>	<p>Groundwater level is declining or is projected to decline to an extent that water right holders cannot reasonably exercise their water rights.</p>
<p>Groundwater Legal Demand</p>	<p>Legal demand of groundwater is approaching 70% of the physical availability.</p>	<p>Legal demand of groundwater exceeds 80% of the physical availability.</p>
<p>Antecedent Conditions</p>	<ul style="list-style-type: none"> - Recharge is reliant on irrigation losses - Formation has limited storage or potential for storage 	



2. Groundwater Connection to Surface Water with Limited Legal Availability

Groundwater Connected to Surface Water with Limited Legal Availability

Legal demand of surface water on connected sources is within 10% above or below the physical availability for **any** month

Legal demand of surface water on connected sources exceeds 10% of the physical availability for **any** month



3. Water Quality Concerns

Water Quality in Source Aquifer	Moderate septic system density (150-299 per sq. mi)	High septic system density (>300 per square mile) or nitrate concentration >5mg/L in more than 25% of ≥ 30 wells
Water Quality in Connected Surface Water	Surface water impairment	Surface water impairment with a TMDL that requires reductions of development-related nonpoint sources.



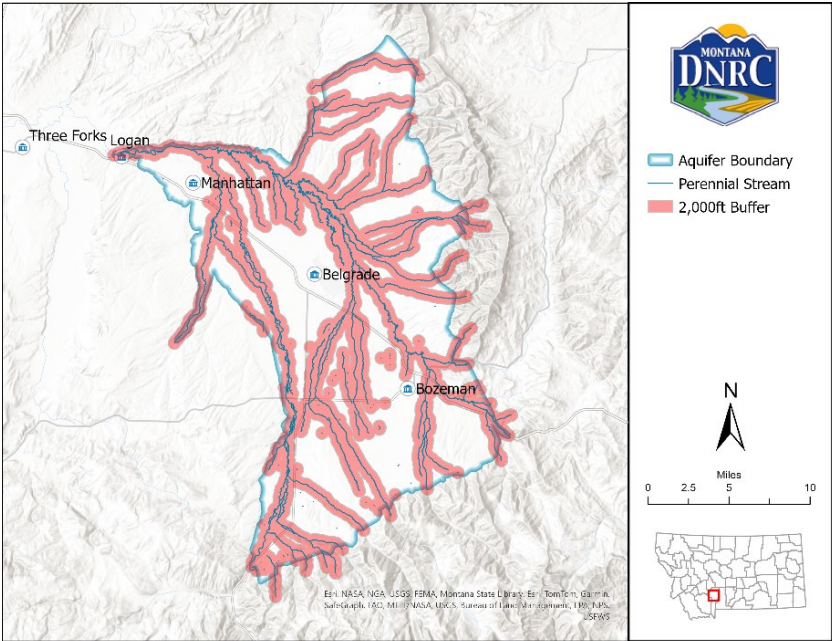
DNRC Boundary recommendation

- Options were:
- 1.) Stream buffer (Oregon approach)
 - 2.) Aquifer boundary (Idaho approach)
 - 3.) Large watershed scale (Colorado approach)

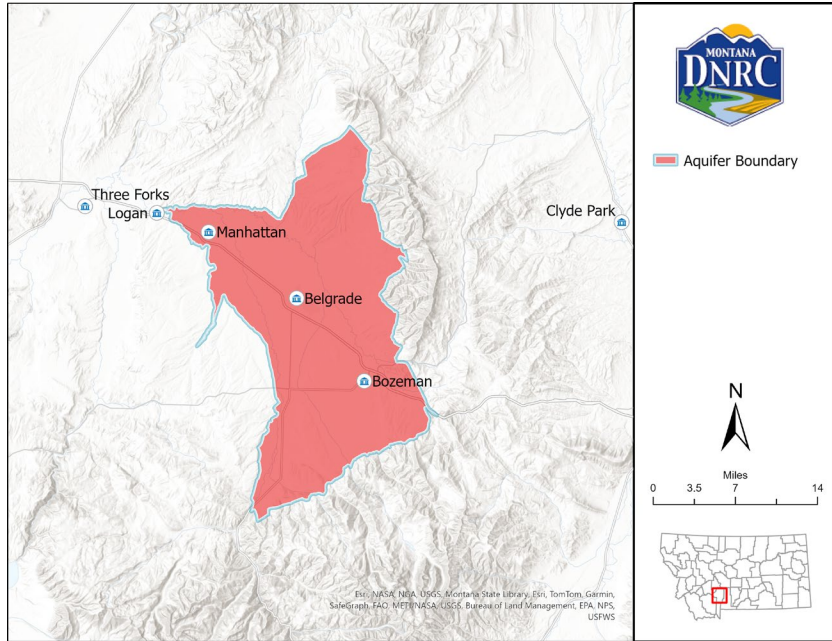
Aquifer boundary approach is DNRC's recommendation.

- Definable to the land surface mapped alluvial aquifer
- Fairly rapid (time) connection to connected surface waters
- Vertical connection should be considered in a multi-layered area like Bitterroot and Flathead

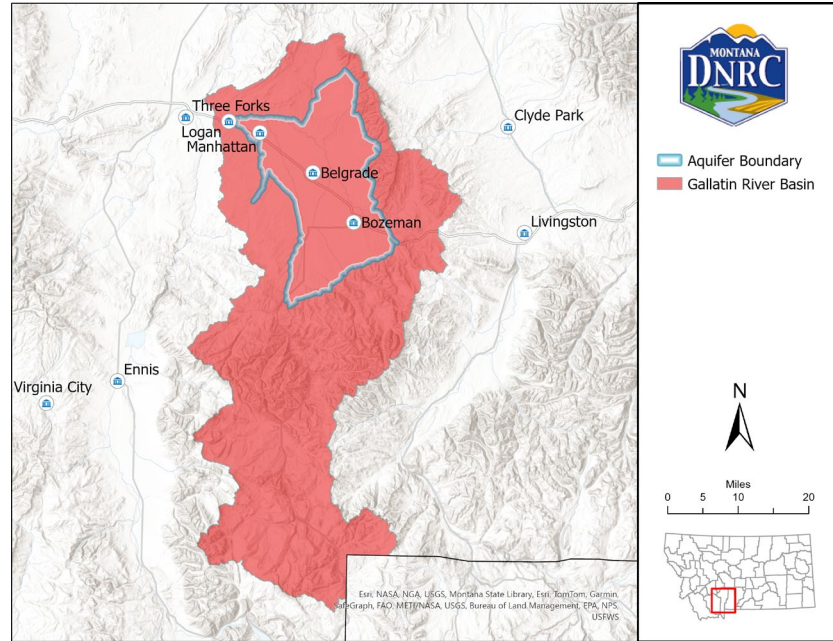




Stream
Buffer



Aquifer
Boundary



Sub-basin



Focus Aquifers- designation recommendations

The department shall designate **controlled groundwater areas** for the following locations (Red):

- The Gallatin Valley Aquifer as defined by the DNRC
- The Helena Valley Aquifer as defined by the DNRC
- Bitterroot Aquifer as defined by DNRC
- Missoula Valley – Bitterroot River connection as defined by DNRC

The department shall designate **temporary groundwater monitoring areas** for the following locations (Yellow):

- Flathead Valley Aquifer as defined by the DNRC
- Billings Terrace Aquifer as defined by the DNRC
- Missoula Valley – Clark Fork connection as defined by the DNRC



Future designation recommendations

The department shall by rule designate or modify controlled groundwater areas for water quantity if any of the following criteria are met:

- Groundwater level is declining or is projected to decline to an extent that water right holders cannot reasonably exercise their water rights.
- Legal demand of groundwater exceeds 80% of the physical availability.
- Surface Water with Legal Availability limitations where there is hydraulic connection between groundwater and surface water and the legal demand on connected surface water exceeds 10% of the appropriation threshold of the stream for any month.

The department shall designate by rule temporary groundwater monitoring areas if any of the following criteria are met:

- A decreasing groundwater level trend is observed, and long-term cause/effect and projected trend should be analyzed.
- The legal demand of groundwater is approaching 70% of the physical availability.
- Where aquifer recharge is reliant on irrigation losses or where the formation has limited storage or potential for storage
- Groundwater connected to surface water with legal availability limitations where the legal demand on connected surface water is within 10% above or below the appropriation threshold of the stream (physical availability) for any months.

The Department shall review the monitoring data on a biennial basis, to determine if change in status is needed.



Decision points for SWG:

- Boundaries
- Designations of Red and Yellow

