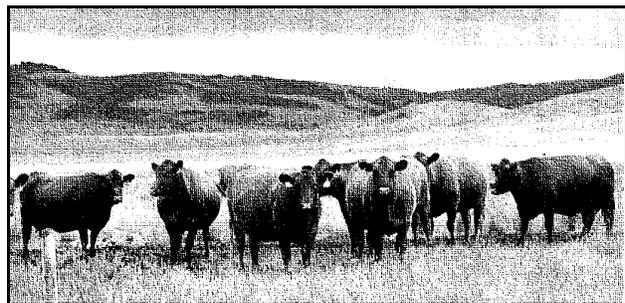
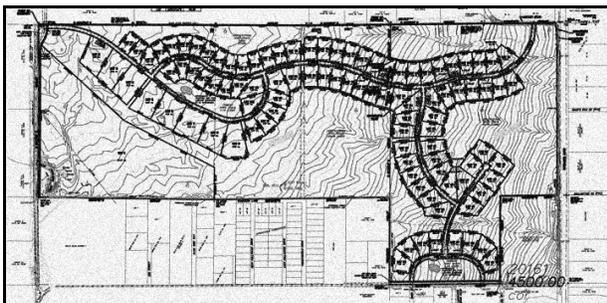


# The Exemption

*To change or not to change?*



A study of water wells allowed without a permit



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A Report to the 63rd Legislature  
by the Water Policy Interim Committee  
October 2012

Prepared by Joe Kolman



Water Policy Interim Committee Members  
Before the close of each legislative session, the House and Senate leadership appoint  
lawmakers to interim committees.\*

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\* This information complies with section 2-15-155, MCA.



This report is a summary of the work of the Water Policy Interim Committee pursuant to House Bill No. 602 as passed by the 2011 Legislature. Members received additional information and public testimony during meetings. This report is an effort to highlight key information. To review additional information, including written minutes, exhibits, and audio minutes, visit the WPIC website:

[www.leg.mt.gov/water](http://www.leg.mt.gov/water)



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## Executive Summary

This is the fourth consecutive interim that legislators made the topic of water wells that are exempt from permitting part of their work between sessions. However, the 2011 Legislature and the 2011-12 Water Policy Interim Committee (WPIC) devoted more time and resources to the issue than before.

The evolution of the exempt well in Montana and the study of it by the WPIC are well documented.<sup>1</sup>

To summarize, since Montana started requiring permits for most types of water use in 1973, there has been an exemption for some ground water wells. The amount of water allowed and the rules used to implement the law have changed, but the current law and accompanying rules have been around almost 2 decades.

The law states that a permit is not required for a well or developed spring that diverts water at 35 gallons per minute or less and does not exceed a volume of 10 acre-feet a year. It adds, however, that a combined appropriation from the same source from two or more wells or developed springs exceeding this limitation requires a permit.



Since Montana started requiring permits for most types of water use in 1973, there has been an exemption for some ground water wells.

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<sup>1</sup> Boiling It Down, <http://leg.mt.gov/content/Publications/Environmental/2010-water-policy.pdf>  
Water: Montana's Treasure; Water Policy in Montana, <http://leg.mt.gov/content/Publications/Environmental/2008montanastreasure.pdf>.

The term "combined appropriation" is not defined in law. That is left to administrative rules, which explain the term as "an appropriation of water from the same source aquifer by two or more ground water developments, that are *physically manifold into the same system.*"<sup>2</sup> (emphasis added).

In recent years, legislative attempts have been made to change the exemption, including codifying the administrative definition of combined appropriation. The rules also have been challenged. None of the attempts succeeded.

What makes exempt wells controversial?

Most debate centers on the use of exempt wells in residential housing developments. About two-thirds of the subdivision lots created between July 2004 and June 2011 received water from exempt wells.<sup>3</sup>

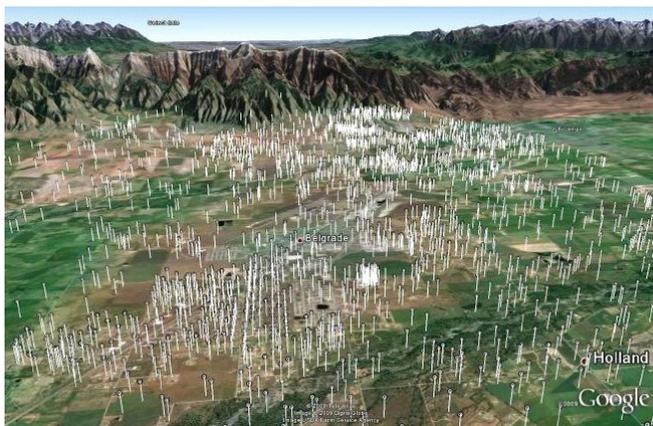


Illustration of wells constructed in the Belgrade area.  
Montana Bureau of Mines and Geology.

Most debate centers on  
the use of exempt  
wells in residential  
housing developments.

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Even if each well uses only a small amount of water, there are those who argue that the cumulative effect is not analyzed for harm to existing water right holders to the same

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<sup>2</sup> 36.12.101 ARM.

<sup>3</sup> Department of Environmental Quality Subdivision Review Program.

extent that another use of the same amount of water would be, such as an irrigation system. Others note that in some areas, if the effects of an exempt well are even measurable, they are so small in the larger scheme of water use as to be harmless.

Given the rural nature of Montana, some argue that an outright ban on exempt wells is unrealistic. The permitting system could be overloaded evaluating new applications. Furthermore, allowing relatively small amounts of water for domestic or stock use could be seen as an unalienable right.

But after that, options for addressing concerns about providing water for new uses, including housing, while protecting existing water right holders become more controversial.

In 2011, the Legislature passed House Bill No. 602 requiring a study of exempt wells. Among other things, the Legislature found that exempt wells may be adversely affecting existing water rights and that existing water law does not give the Department of Natural Resources and Conservation adequate direction on how to administer exempt wells. (Appendix A).

The legislation requires the WPIC to examine a wide variety of topics related to exempt wells, including the amount of water used, the effects on other water rights, the enforcement of water rights, the relationship of exempt wells and land use, how other states deal with exempt wells, and the adequacy of existing programs.

With that direction, the WPIC pledged most of its time and efforts to evaluating the issue and gathering as much public comment as possible, including three meetings around



Wolf Creek, Montana. Photo by Ron Zeller, courtesy of Travel Montana.

Given the rural nature of Montana, some argue that an outright ban on exempt wells is unrealistic.

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western Montana, where most of the exempt wells used in subdivisions have been drilled in the last 2 decades.

At its final meeting in September 2012, the WPIC approved the findings and recommendations included in this report as well two committee bills to be introduced in the 2013 Legislature.

The committee voted 7-2 in favor of legislation that would create stream depletion zones, an area where hydrogeologic modeling concludes that the withdrawal of water from an exempt well would have specific effects on surface water. Within these areas, which would be adopted through administrative rule, the exemption would be limited to 20 gallons per minute and no more than 1 acre-foot a year.

The committee voted 7-1 for a bill that would define the term combined appropriation as "an appropriation of water from the same source aquifer by two or more wells or developed springs that are physically connected into the same system."

## Exempt From What? A Permitting Overview

For someone unfamiliar with western water law, the idea that a bureaucratic permit system must be negotiated prior to using water may seem needless. If you can see water in a creek or someone assures you that cool, clean liquid is bountiful below the surface, what more does one need to know?

Quite a bit. The actual presence of water at the time one wants to use it and in the quantity one needs are just a couple of the criteria that must be proven before most would-be water users can appropriate the precious but reusable resource.

The use of water is a property right. Montana and other western states allocate that right based on when the water was put to use or the right was permitted. This is known as the Prior Appropriation Doctrine. For example, a water right dating to 1889 is entitled to be exercised before any right occurring after that date.

More than a century ago, western lawmakers started seeing the need for a regulated system of water rights. The use and reuse of water by many parties, the complexity of a water right, was a recipe for confusion and disagreement without a centralized system.

In Montana, the 1972 Constitution required that "The legislature shall provide for the administration, control, and regulation of water rights and shall establish a system of



Water tank at Mullen Road Tunnel circa 1900. Montana Historical Society photo.

More than a century ago,  
western lawmakers started  
seeing the need for a regulated  
system of water rights.

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centralized records, in addition to the present system of local records." A permit system administered by the Department of Natural Resources and Conservation (DNRC) was created within the Water Use Act of 1973.

Revisions in 1997 to the declaration and purpose section of the Water Use Act reiterate the role of permitting and how it relates to the adjudication of rights that existed prior to the Water Use Act. Subsection (5) of 85-2-101, MCA, reads in part:

It is the intent of the legislature that the statutory determinations for issuing new water use permits and authorizing changes do not require the adjudication of all water rights in the source of supply. The legislature recognizes the unique character and nature of water resources of the state. Because water is a resource that is subject to use and reuse, such as through return flows, and because at most times all water rights on a source will not be exercised to their full extent simultaneously, it is recognized that an adjudication is not a water availability study. Consequently, the legislature has provided an administrative forum for the factual investigation into whether water is available for new uses and changes both before and after the completion of an adjudication in the source of supply.

The permitting requirements of the law apply to both surface water and ground water. To understand more about exempt ground water wells, it may be helpful to examine the process from which these appropriations are exempt.

The criteria for a permit in Montana are contained in 85-2-311, MCA. An applicant must prove that:

- √ the proposed use of water is a beneficial use;
- √ water is physically available at the proposed point of diversion in the amount and during the period that the applicant seeks to appropriate;
- √ the amount of water requested can reasonably be considered legally available during the period in which the applicant seeks to appropriate. Legal availability includes an analysis of the physical availability and the existing legal demands on the source.
- √ the water rights of a prior appropriator will not be adversely affected;

- √ the proposed means of diversion, construction, and operation of the appropriation works are adequate; and
- √ the applicant has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use.

The determination of physical availability for a ground water well entails an aquifer test supervised by a hydrogeologist or other professional, a minimum duration of pumping, an observation well, and a report that includes ground water and surface water monitoring data.

The examination of legal demands and possible adverse effects includes:

- √ identification of prior appropriators;
- √ a comparison of physical water supply within area of impact at point of diversion during the period of diversion requested with existing legal demands;
- √ describing the effect on existing wells and hydraulically connected surface water; and
- √ demonstrating that the proposed diversion can be regulated during periods of water shortage to satisfy rights of prior appropriators.

At this point in the process, if the above criteria are satisfied, the DNRC issues a preliminary determination that the permit will be granted. That triggers the public notice and objection portions of the law. General notice is provided by publication in a newspaper and specific notice is provided to senior water right holders and others who may be affected by the new appropriation. The notice may result in someone objecting to the application and being granted a hearing. An objector may be anyone whose property, water rights, or interests would be adversely affected.

Objections may be withdrawn or denied, or the approval may be conditioned to mitigate objections. The permit might be granted for less water than applied for, or the water use

may require the retirement of another water right to offset the new use. Monitoring and reporting of the water use also may be required.

In September of 2011, the WPIC heard about two projects for which water right permits were granted and another that used exempt wells.

The town of Stevensville obtained a permit for a ground water well to serve the 117-lot Twin Creeks Subdivision, which sits on 40 acres. The appropriation is for municipal use with 33.6 acre-feet per year for in-home domestic uses and 62.7 acre-feet per year for lawn and garden uses. The total consumptive use is about 50 acre-feet a year.<sup>4</sup>

Because the appropriation is in a closed basin, the applicant also was required to obtain an aquifer recharge plan. The plan shows how water historically used for irrigation will be diverted to a pond and gravel pit to recharge the aquifer, thereby offsetting the new use.

Another project reviewed by the WPIC was a preliminarily approved application in Lewis and Clark County for a three-well system serving the Elk Creek Colony. The water will be for use in 28 homes for up to 150 people, stock use, and industrial use which will include a concrete batch plant and shop use. Again, this application is in a closed basin. The mitigation plan is to retire two water rights on 65 acres for a mitigation amount of about 50 acre-feet per year.<sup>5</sup>

Both the Stevensville and the Lewis and Clark County appropriations will be required to meter the wells and monitor ground water levels.

The third project, Timberworks Estates in the Helena Valley, chose to use exempt wells on 108 lots. While this project is also located in a closed basin, the use of the exemption means that no analysis for legal availability or adverse effect was required.

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<sup>4</sup> <http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Meeting-Documents/September-2011/stevensville-permit.pdf>.

<sup>5</sup> <http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Meeting-Documents/September-2011/elk-creek-permit.pdf>.

To use the exemption, one drills the well and puts the water to use. To obtain a certificate of water right, which includes a priority date, the water user pays the DNRC \$125 and provides the location, the flow rate, and the beneficial use of the well.

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All western states except Utah and California provide a ground water exemption. Most exemptions were created decades ago, with the idea that evaluating small uses of water for homes or stock would consume more time and money than it was worth.<sup>6</sup>

However, Montana and other states also share common challenges associated with exempt wells, including concern about the cumulative effect of withdrawals not subject to analysis of their effect on ground water or hydrologically connected surface waters. Exempt wells are often shallow, making them susceptible to contaminants. They are also often used in conjunction with septic systems to treat sewage and can become contaminated depending on location.<sup>7</sup>

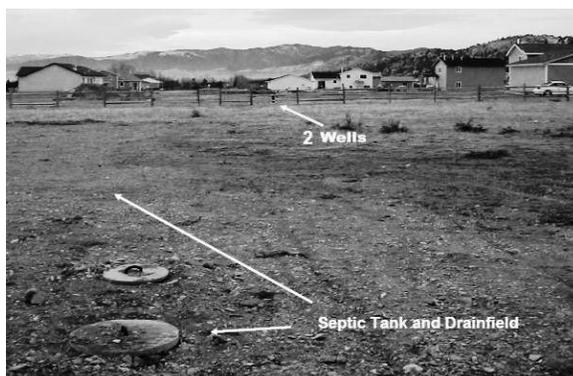


Illustration of proximity of wells and septic systems in the Helena Valley. From 2007 Department of Environmental Quality presentation to the WPIC.

Exempt wells are often used in conjunction with septic systems and can become contaminated depending on location.

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<sup>6</sup> Report: Exempt Well Issues in the West, Nathan Bracken, Western States Water Council, <http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Meeting-Documents/September-2011/exempt-well-issues-west.pdf>.

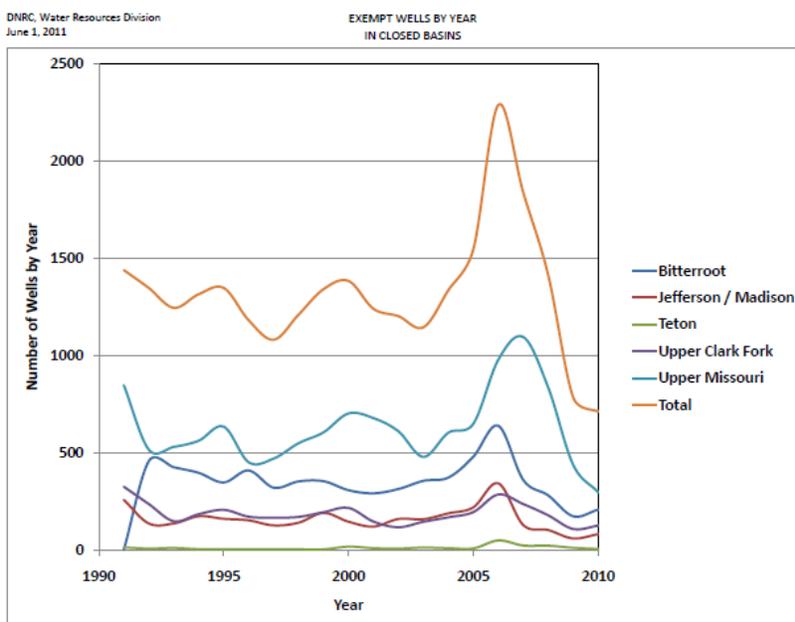
<sup>7</sup> Ibid. At the request of the WPIC, the 2011 Legislature passed House Bill No. 28, which revised requirements for septic mixing zones. <http://data.opi.mt.gov/bills/2011/sesslaws/ch0083.pdf>.

## Exempt Wells: How Many? How Much Water?

There are more than 113,000 wells around Montana for which a permit was not necessary.<sup>8</sup>

About 56,000 of those wells were drilled after 1991, when the current law took effect. Of those, about 26,000 were drilled in closed basins. (Appendix B)

Closed basins are areas of the state where new surface water appropriations are mostly banned to protect existing uses and permit applications for ground water undergo extra scrutiny for possible effects to surface water. Ground water permits that are approved may be required to mitigate those effects. The closed basin restrictions do not apply to exempt wells.<sup>9</sup> (Appendix C)



- ▶ Of the approximately 56,000 wells drilled in Montana after 1991, about 26,000 were drilled in closed basins.

<sup>8</sup> DNRC database of water rights as of March 2012.

<sup>9</sup> Basins can be closed by the Legislature, the DNRC, a court, or a negotiated compact. See 85-2-319, 85-2-321, 85-2-330, 85-2-336, 85-2-341, 85-2-343, and 85-2-344, MCA.

Most closed basins are in western Montana, which is also where much of the state's population growth occurred over the last 2 decades. Between 1990 and 2010, the populations of Gallatin County and Broadwater County, both located in the closed Upper Missouri Basin, increased by about 70% each. In Gallatin County, that was an increase of almost 40,000 people.

Ravalli County, located in the closed Bitterroot Basin, increased in population by about 15,000 people during those 2 decades for a 61% increase.

To house new residents in those and other areas, subdivisions were created. Many lots within those developments are served by exempt wells. Of the more than 28,000 lots created between July 2004 and June 2011, about two-thirds were slated to get water from exempt wells.<sup>10</sup>

The DNRC estimates that the number of exempt wells in existing closed basins could double to 53,000 by the year 2030.<sup>11</sup>

While the effect of water use by exempt wells is not analyzed by the permitting process, the committee examined several scenarios based on well location, assumptions of actual use, and area-specific availability and allocation of ground water.

The exemption allows for a flow rate of 35 gallons per minute, not to exceed a volume of 10 acre-feet a year.<sup>12</sup>

That amount is equal to a football field under 10 feet of water. To put that much water on the gridiron, one would have to fill a 1 gallon milk jug every 10 seconds, around the clock, for an entire year.

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<sup>10</sup> Department of Environmental Quality Subdivision Review Program.

<sup>11</sup> DNRC presentation to WPIC. June 1, 2011. Number does not include stock wells.  
<http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Meeting-Documents/June-2011/exempt-well-statistics-dnrc.pdf>.

<sup>12</sup> This reflects the 1991 change in law from 100 gallons per minute with no limit on volume.



Water is deemed consumed if it does not return to the system. How much water is consumed depends on the use.

The amount of water allowed under the exemption is sufficient for a variety of uses. Ten acre-feet could quench the thirst of 500 cows for a year, keep 5 acres of grass green in Bozeman, sprinkle up to 7 acres of pasture, serve a 150-room hotel, run a gravel operation, or supply a 10-lot subdivision in Billings.<sup>13</sup> (See Appendix C)

In terms of the water used in a housing development, it is estimated that a household of 2.5 people would divert about one-third of a single acre-foot per year for in-house uses, including drinking, cleaning, and toilet operation. In Bozeman, an acre of lawn and garden could be irrigated with 2 acre-feet a year.<sup>14</sup>

The language in the exemption refers to the amount of water pumped out of the ground. But while the use of water is a property right that can be owned by an individual, the water returned to the system, such as through a septic system, will be used by many water right holders as it cycles through each use. When it comes to debating the effect the exemption may have on existing users, the other component is the amount of water consumed.

Water is deemed consumed if it does not return to the system, meaning it cannot be used by other water right owners. The largest consumptive uses are evaporation from soil and surface water bodies and transpiration, which is water used by plants.<sup>15</sup>

<sup>13</sup> DNRC presentation to WPIC. Sept. 13, 2011  
<http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Meeting-Documents/September-2011/water-use-table.pdf>.

<sup>14</sup> Ibid.

<sup>15</sup> John Metesh, Hydrogeology Related to Exempt Wells in Montana, Montana Bureau of Mines and Geology.

How much water is consumed depends on the use. A household that diverts one-third of an acre-foot for 2.5 people would consume just 0.03 acre-feet because most of the water is returned through the wastewater system. Nine out of every 10 gallons of water pumped out of the ground return to the system. In contrast, a growing lawn consumes about 80% of water put on it.<sup>16</sup>

On a statewide scale, using assumptions more conservative than those above, the amount of water diverted by exempt wells in closed basins in 2010 was more than 30,000 acre-feet with the consumed volume of almost 18,000 acre-feet.<sup>17</sup>

As previously noted, any use of ground water in excess of 10 acre-feet requires an analysis of how the use would affect existing water right owners. Any single request to appropriate 3,000 acre-feet or more of ground water requires not only that analysis, but also approval by the Legislature.<sup>18</sup>

But caution should be used when looking at the cumulative use of water on a statewide basis and comparing those cumulative amounts to single, larger applications to appropriate. A water budget, much like a financial budget, can be analyzed by scale. When looking at the withdrawal of water across the state, less than 3% is ground water and only 8% of that is withdrawn by exempt domestic wells. Even less than that is actually consumed. On that scale, the effect of exempt wells could be negligible.<sup>19</sup>

The Ground Water Investigation Program at the Montana Bureau of Mines and Geology examined consumptive use on a much smaller scale. The analysis compared domestic lawn watering from exempt wells to three different types of agricultural irrigation.

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<sup>16</sup> DNRC presentation to WPIC. Sept. 13, 2011, <http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Meeting-Documents/September-2011/water-use-table.pdf>.

<sup>17</sup> DNRC presentation to WPIC. June 1, 2011. Number does not include stock wells. <http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Meeting-Documents/June-2011/exempt-well-statistics-dnrc.pdf>. Assumes .21 AF diverted for in-house use and .95 diverted for half acre lawn.

<sup>18</sup> 85-2-317, MCA.

<sup>19</sup> John Metesh, Hydrogeology Related to Exempt Wells in Montana, Montana Bureau of Mines and Geology.

As seen on page 27 of Appendix E, the percentage of consumptive use varied widely. In the lower Beaverhead River study area, exempt wells consumed just 2% of the water budget, while in the Eightmile Creek area of Ravalli County, lawn watering accounted for more than half of water consumed.

In small study areas, there also can be marked differences in consumptive use based on an annual budget and a smaller, seasonal time frame. As seen on page 29 of Appendix E, the domestic use in April and May in the Eightmile study area isn't much different in early spring than overall. However, in the Four Corners study area, the consumptive use of lawns in early spring is a much greater percentage of the water budget than when it is measured annually.

In subbasin study areas in regions where the growth of exempt wells has raised concerns, including Florence, Helena, Belgrade, and Bozeman, the study found that lawn watering from exempt wells consumed 15% of all water not returned to the system, or just less than 5,000 acre-feet annually.

What effect, if any, the consumptive use of exempt wells may have on existing surface right holders is not analyzed. However, the DNRC presented testimony on the legal availability of water in some of the areas studied by the Ground Water Investigation Program. Considering that an exempt well would be a year-round use, the DNRC concluded that in the Threemile Creek Area, any depletion of surface flows by a new ground water use would affect existing demands. While there is water legally available during certain times of the year in Eightmile Creek and the Bitterroot River, DNRC Water Division Administrator Tim Davis said that a year-round use of ground water that was subject to a legal availability analysis would likely need to also provide mitigation to offset effects on existing water rights.<sup>20</sup>

The committee also heard testimony from the Montana Association of Realtors referencing a study the association commissioned in 2008 on exempt wells. That study found that "it is difficult to conceive that there would be any practical circumstance in any closed basin in

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<sup>20</sup> Tim Davis testimony to WPIC. January 10, 2012.  
<http://leg.mt.gov/content/committees/interim/2011-2012/Water-Policy/minutes/January-10-2012/Exhibit03.pdf>.

Montana where future growth in exempt wells would result in any discernable, detectable, or measurable adverse impact to any prior surface water appropriator."<sup>21</sup>

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<sup>21</sup> Jim Day testimony for Montana Association of Realtors to WPIC, Jan. 10, 2012. Nicklin Earth and Water Inc., submitted two reports to WPIC in 2008. The one quoted above is "Update on Evaluations Significance Of Exempt Wells Montana's Closed Basins."

[http://leg.mt.gov/content/Committees/Interim/2007\\_2008/water\\_policy/staffmemos/evaluationssignificance.pdf](http://leg.mt.gov/content/Committees/Interim/2007_2008/water_policy/staffmemos/evaluationssignificance.pdf)

The other is "Water Rights in Closed Basins."

[http://leg.mt.gov/content/Committees/Interim/2007\\_2008/water\\_policy/staffmemos/waterrightsnicklin.pdf](http://leg.mt.gov/content/Committees/Interim/2007_2008/water_policy/staffmemos/waterrightsnicklin.pdf) The DNRC responded to the Nicklin studies, concluding in part that the analysis only examined annual water budgets on a basin wide scale to concluded that there are no cumulative impacts from exempt wells.

[http://leg.mt.gov/content/Committees/Interim/2007\\_2008/water\\_policy/staffmemos/nicklinreportcomments.pdf](http://leg.mt.gov/content/Committees/Interim/2007_2008/water_policy/staffmemos/nicklinreportcomments.pdf).

## Enforcing the Exemption - Making a Call<sup>22</sup>

The Legislature asked the WPIC to evaluate the legal options for integrating exempt wells into the principle that first in time is first in right when senior water rights are not fulfilled. The study also directs the committee to examine enforcement options for exempt wells.

In Montana, as with other water uses, exempt wells are issued a priority date. The date is key to the prior appropriation doctrine. When the water is applied to a beneficial use determines the user's priority in the water; i.e., the first user to obtain the right is the first user who gets to use the water in times of shortages.



Montana ranch, 1872. National Archives photo.

The notion of "first in time, first in right" is the bedrock of western water law.

This notion of "first in time, first in right" is the bedrock of western water law and has been recognized by courts throughout Montana's history. In 1911, for example, the Montana Supreme Court recognized the concept of "first in time, first in right" in a decision involving a change of use from power to agricultural.<sup>23</sup> In 1953, the Montana Supreme Court stated the rule as follows: "The rule is that he who first diverts the water to a beneficial use has the prior right thereto where the right is based upon the custom and practice of the early settlers as here . . ."<sup>24</sup> The concept of "first in time, first in right" has been integrated into the Montana Water Use

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<sup>22</sup> Adapted from legal memorandum of Helen Thigpen, WPIC attorney, Aug. 30, 2011.

<sup>23</sup> Featherman v. Hennessy, 43 Mont. 310, 316, 115 P. 983, 986 (1911).

<sup>24</sup> Midkiff v. Kincheloe, 127 Mont. 324, 328, 263 P.2d 976, 978 (1953).

Act. Section 85-2-401, MCA, specifically provides that "[a]s between appropriators, the first in time is the first in right."

To enforce a water right under the prior appropriation doctrine, a senior user can make a call on the source. When this occurs, water users with the most junior rights must cease using the water in reverse order of priority so that the more senior right is fulfilled first. In some cases each junior user upstream from the senior's point of diversion may be required to curtail use of water.

Because the concept of a call is rooted in practice and judicial common law, the concept does not appear consistently throughout Montana's statutes. The concept is defined, in a section codifying a water compact, as "the right of the holder of a water right with a senior priority and an immediate need for a recognized use to require a holder of a water right with a junior priority to refrain from diverting water otherwise physically available."<sup>25</sup> Section 85-2-351, MCA, which addresses requirements for notices to provisional permit holders in the Clark Fork River basin, provides that "[i]n accordance with Montana law, you may be subject to a call by senior water right holders, in which case you may be required to discontinue your use of water for the period of the call."

In the context of surface water, a senior user will contact junior users upstream from the senior's point of diversion to notify them that a call is being made. The senior will call each user in the order of the most junior to the most senior until the right is satisfied. If the junior user does not yield to the senior's request, the senior may seek a judicial remedy, usually an injunction. In addition to private enforcement by the senior user, the Department of Natural Resources and Conservation (DNRC) is authorized to petition a District Court supervising the distribution of water among appropriators to order the person to cease using the water.<sup>26</sup> The DNRC may direct the Attorney General or a county attorney to bring a suit to enjoin the unlawful use, or the Attorney General or a county attorney may decide to bring the action.<sup>27</sup> Either way, priority must be given to protecting the rights of prior appropriators.

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<sup>25</sup> 85-20-1501, MCA.

<sup>26</sup> 85-2-114, MCA.

<sup>27</sup> 85-2-114 (3) and (4), MCA.

In most cases a junior user cannot ignore a call by a senior user. However, this is not an absolute rule. The futile call doctrine may relieve a junior surface or ground water user from complying with the call. The futile call doctrine holds that a call may be denied if a junior user can prove that the water would not actually reach the senior to satisfy the call; i.e., if the call is futile. Courts have recognized the doctrine, but according to some, the doctrine can be difficult to establish, especially if some water will eventually reach the senior user.<sup>28</sup>

The case most often cited to illustrate the difficulty of establishing the futile call doctrine is State ex rel. Cary v. Cochran, 138 Neb. 163, 292 N.W. 239 (1940). In Cary, junior users alleged that a call by downstream seniors would be futile because of substantial losses from seepage and evaporation along the way to the seniors' point of diversion. The Nebraska Supreme Court refused to apply the doctrine even though the juniors would be required to let 700 cfs of water go by to satisfy senior users who needed only 162 cfs. Because some water would actually reach the seniors, the court reasoned that the call would not be futile even though the result created significant waste.

The futile call doctrine has been recognized by courts in Montana. In 1892, the Montana Supreme Court recognized the concept, stating:

Under the theory of the law of this State relating to water rights, the prior appropriator may insist that the water remain in the stream, from which he has the right of prior appropriation, so long as any useful quantity thereof would reach his point of diversion, if allowed to remain. He is entitled to insist that all of such water remain, in order to carry the flow down to his point of diversion, although a large portion of it would be lost by evaporation and percolation. He has the right to the prior use of the water of the creek, and while he may be entitled to a stated quantity only, it may require much more than that quantity in the creek to carry the amount he is entitled to down to his point of diversion.<sup>29</sup>

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<sup>28</sup> Dan Tarlock, *Law of Water Rights and Resources* 5:33 (Clark Boardman Callaghan 1988 & Supp. 1989-2009).

<sup>29</sup> Raymond v. Wimsette, 12 Mont. 551, 31 P. 537 (1892).

In a later decision, the Montana Supreme Court again recognized the futile call concept.<sup>30</sup> In Irion v. Hyde, 105 P.2d 666 (1940), the Court reversed and remanded a District Court finding that junior users were entitled to use any of the water flowing in the creek at their property that, if permitted to flow, would not reach the senior user's point of diversion in any useful quantity. The Supreme Court concluded that the District Court erred because it seemed to "make the test the volume of the flow at defendant's dam." The Supreme Court held that the diversion was justified only if the juniors could prove that the seniors received their full appropriation or if no water would reach the seniors.

Not all western states have recognized the futile call doctrine. For example, courts in Washington have consistently rejected the doctrine, choosing instead to rely on the language of decrees and priorities. Most recently, in 2006, the Washington Supreme Court reaffirmed its position that the futile call doctrine is best left to the Legislature, stating that "[w]ater management is a huge issue in this state."<sup>31</sup> The Washington court went on to say that "[t]here is clearly controversy as to the best way to manage this state's water resources. However, policy decisions are the province of the Legislature, not of this court."<sup>32</sup>

The State of Idaho has incorporated the futile call concept into the state's conjunctive management rules, which apply to areas that share a common ground water supply. In 1994, Idaho adopted a set of conjunctive management rules for the management of surface water and ground water. The rules "apply to all situations in the state where the diversion and use of water under junior-priority ground water rights either individually or collectively causes material injury to uses of water under senior-priority water rights."<sup>33</sup> Under the rules, a call may be denied if it is considered futile, but the Department of Water Resources may require mitigation or staged curtailment if the diversion causes material injury to a senior user. This may be true even though the hydrological connection is remote. With respect to exempt wells, the rules provide that a call is not effective against any ground water right used for domestic purposes or stock water right so long as

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<sup>30</sup> Irion v. Hyde, 110 Mont. 570, 105 P.2d 666, (1940).

<sup>31</sup> Fort v. State Dept. of Ecology, 133 Wash. App. 90, 135 P.3d 515 (Div. 3 2006).

<sup>32</sup> *Id.*

<sup>33</sup> Idaho Admin. Code 37.03.11.020.01.

the amount used is within the limits of Idaho's exemption statute.<sup>34</sup> The Idaho Supreme Court has upheld the constitutionality of the rules. For more information, see American Falls Reservoir Dist. No. 2 v. Idaho Dept. of Water Resources, 143 Idaho 862, 154 P.3d 433 (2007).

## Ground water and surface water

Historically, Montana law distinguished ground water from surface water. Gradually, both the Legislature and the courts began to recognize the connection between ground water and surface water and treat them similarly for purposes of water appropriation and management. For example, in 1966, the Montana Supreme Court issued a decision that explicitly recognized the connection between ground water and surface water. In the decision, the court stated that "[m]odern hydrologic innovations have permitted more accurate tracing of groundwater movement."<sup>35</sup> The court also stated that "traditional legal distinctions between surface and groundwater should not be rigidly maintained when the reason for the distinction no longer exists."<sup>36</sup>

In 2006, the Montana Supreme Court issued a decision that squarely addressed the connection between surface water and ground water.<sup>37</sup> At issue in the case was the DNRC's interpretation of the state's closed basin law in the Upper Missouri River Basin, which prohibited the DNRC from granting permits within the Upper Missouri River Basin until the issuance of the final decrees.<sup>38</sup> The DNRC was not prohibited, however, from processing applications for the appropriation of ground water unless the ground water was "immediately or directly connected" to surface water.<sup>39</sup> In interpreting the meaning of "immediately or directly connected" to surface water, the DNRC determined that a well

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<sup>34</sup> Idaho Admin Code 37.03.11.020.11.

<sup>35</sup> Perkins v. Kramer, 148 Mont. 355, 363, 423 P.2d 587, 595 (1966).

<sup>36</sup> *Id.*

<sup>37</sup> Montana Trout Unlimited v. DNRC, 2006 MT 72, 331 Mont. 483, 133 P.3d 224.

<sup>38</sup> Section 85-2-343, MCA.

<sup>39</sup> Section 85-2-342, MCA. The definition of ground water was deleted from section 85-2-342, MCA, in 2007. Prior to 2007, section 85-2-342, MCA, defined ground water as "water that is beneath the land surface or beneath the bed of a stream, lake, reservoir, or other body of surface water and that is not immediately or directly connected to surface water."

for ground water could not pull surface water directly from the source (i.e., induced infiltration). The DNRC's interpretation did not prohibit wells that captured ground water that would otherwise end up in the stream (i.e., prestream capture). The Supreme Court held that both pumping methods reduced surface flows and that DNRC's interpretation did not protect senior water right holders.<sup>40</sup>

Under current Montana law, ground water and surface water are managed under the same permitting system. This means that an applicant for a ground water permit must go through the same permitting process as a surface water applicant unless the appropriation is exempt from the permitting requirements. This is significant because, like a surface water applicant, a ground water applicant must demonstrate that “the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected.”<sup>41</sup>

It also means that senior users have the opportunity to formally object to the application. As such, Montana law recognizes that a senior water right may be affected by both surface and ground water uses. In addition, Montana law does not prioritize any water use over any other, regardless of whether the use is for domestic, agricultural, or municipal purposes. The result is a strict adherence to the prior appropriation doctrine – first in time,



Demonstration by the DNRC of the interaction between surface and ground water. Photo by Joe Kolman.

Gradually, both the Legislature  
and the courts began to  
recognize the connection between ground  
water and surface water.

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<sup>40</sup> Montana Trout Unlimited v. DNRC, ¶ 43.

<sup>41</sup> Section 85-2-311(1)(b), MCA.

first in right – applied to both ground water and surface water, and without prioritization of use.

## Challenges to making a call

While senior users may legally make a call against more junior ground water users under the framework outlined above, there are significant practical and legal challenges associated with implementing and enforcing the call, especially if the call is made against a well that is exempt from the permitting process under the Montana Water Use Act.

As noted above, Montana law does not distinguish between surface water and ground water for purposes of priority enforcement, which presents unique challenges for making a call to enforce a water right. Dan Tarlock, an expert in water law, has noted that “[i]n the western states that apply the prior appropriation system to ground water, priority has proved impossible to administer in practice for basins that are not directly hydrologically connected to surface systems.”<sup>42</sup> The problem, according to Mr. Tarlock, “is that a causal connection between a victim senior well and a junior well is extremely difficult, if not impossible, to establish. All wells contribute to mining and it is difficult to insulate the causal connection between a well and the relevant cone of depression.”<sup>43</sup>

Additionally, a senior user will make a call on a source only when a water shortage exists, and thus, timing is a significant issue in the context of using a call to enforce a water right. With surface flows, it is relatively easy to predict when a senior will receive water pursuant to a call. In the context of ground water, timing can be a significant challenge because it could take several days or weeks for water to reach the surface source depending on the connection. The Montana Bureau of Mines and Geology has illustrated this problem in a report issued to WPIC in 2008. In the report the Bureau stated:

There may be a considerable time lag between the start of pumping and any reduction in stream flow depending upon the location of the pumping well (distance and depth) relative to the stream, the hydraulic characteristics of the aquifer, and the pumping rate. Furthermore, the effect of ground-

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<sup>42</sup> Dan Tarlock, *Prior Appropriation: Rule, Principle, or Rhetoric*, 76 N. Dak. L. Rev. 881, 102, (2000).

<sup>43</sup> *Id.* at 102-103.

water pumping on stream flow may persist long after pumping has stopped. This is a simplified scenario; in the real world there will be other hydrogeologic factors such as ET, recharge variability, the presence of disconnected streams or reaches, low-permeability streambeds, and deep confined ground-water systems that complicate the stream–aquifer interactions.<sup>44</sup>

Because a call may be made in an area where the connection between surface and ground water is not immediately known and because water may not be received immediately, a call against a ground water development may not be a practical or timely means of enforcing a senior surface right.

It is also unclear what a senior would have to demonstrate upon making a call against a ground water user. As discussed above, upon making a call in Idaho, senior users must allege that they have been materially injured by the ground water pumping. Under the Idaho rules “material injury” is defined as “[h]indrance to or impact upon the exercise of a water right caused by the use of water by another person as determined in accordance with Idaho Law . . .”<sup>45</sup> The Idaho Department of Water Resources looks at several factors in determining whether material injury exists, including “[w]hether the exercise of junior-priority ground water rights individually or collectively affects the quantity and timing of when water is available to, and the cost of exercising, a senior-priority surface or ground water right.”<sup>46</sup>

Unlike other western states, Montana law does not prioritize certain water uses over others. This strict enforcement of the prior appropriation doctrine means that a call could be made against a junior permitted well used for agricultural purposes or a junior exempt well used for domestic purposes. From a practical standpoint, however, a senior surface user will likely run into several challenges in attempting to enforce the call, including the futile call doctrine. For example, if a call is made in an area where the hydrological

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<sup>44</sup> See Final Case Study Report to the 60th Legislature Water Policy Committee at: [http://www.mbgm.mtech.edu/gwip/gwip\\_pdf/hb831book\\_appendix.pdf](http://www.mbgm.mtech.edu/gwip/gwip_pdf/hb831book_appendix.pdf)

<sup>45</sup> Idaho Admin. Code 37.03.11.10.14.

<sup>46</sup> Idaho Admin. Code 37.03.11.42.01.



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Unlike other western states, Montana law does not prioritize certain water uses over others.

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connection between surface water and ground water is unclear, a ground water user could invoke the futile call doctrine and argue that the senior would not receive any water to fulfill the senior's right despite curtailment of the use. Even if the hydrological connection between the surface and ground water source was relatively clear, a junior user could argue that the senior would not receive the water in time to prevent the call from being futile or that seepage or evaporation would prevent the senior from receiving a usable quantity. However, in attempting to invoke the futile call doctrine, a junior user would have to overcome the general rule that a

call is futile only if the senior will not receive any water pursuant to the call.

### Calling exempt wells

Each of the challenges outlined above would also apply to calls made against exempt wells. However, these challenges may be even more pronounced in the context of exempt wells.<sup>47</sup>

The most significant challenge with making a call against an exempt well is likely attempting to assess how the well is affecting the senior user and determining which well or wells caused the depletion.

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<sup>47</sup> The WPIC asked for a list of water right calls made in Montana over the last several years. Unfortunately, it does not seem that such a list exists. This lack of information may be due in large part to the nature of a water right call. In a time of water shortage, a senior water user may make a call on junior water users in order to fulfill the senior's water right. This is an action between private parties and could be something as informal as a phone call, an e-mail, or a chat at the post office, though that chat may be less than friendly. In these circumstances, a call is not an action performed and recorded within a government-based system. If the junior refuses to comply, the senior may ask a court for an injunction. But it does not appear these records are centrally recorded.

The common concern with exempt wells is not necessarily the use by a few individual users but rather the cumulative effect of numerous exempt wells in a particular area or development. The question in the context of call, then, is how a senior user would actually make a call to ensure water availability. If the surface depletion is a result of numerous exempt wells in an area, a senior user would theoretically need to make a call on the wells in the entire area to enforce the senior's right. This could include making a call against a subdivision that relies exclusively on exempt wells for domestic water supply. In this context, would the senior make the call against the subdivision as a whole (i.e., against the homeowner's association if one exists) or against each individual user? What if a subdivision has 200 wells?

In addition, there could be serious health and safety problems with making a call on an exempt well. Because of the nature of the exemption itself, many exempt wells are used primarily for domestic purposes, including for drinking water. It is not practical for a senior user to attempt to enforce a call against these wells when shutting off the wells may result in a lack of drinking water for individuals and families. Courts are likely to take a dim view of such attempts. Idaho has prioritized the use of water for domestic purposes over other uses. Therefore, a call from a surface irrigator against a well used primarily for domestic purposes is not effective in Idaho.



Illustration of use of exempt and nonexempt wells. Alan English, Gallatin Local Water Quality District Manager.

The common concern with exempt wells is not necessarily the use by a few individual users but rather the cumulative effect of numerous exempt wells in a particular area or development.

Beyond practical problems associated with attempting to curtail the use of an exempt well, there may be constitutional provisions that would limit the ability of a senior user to

enforce a water right through a call. The Montana Constitution broadly recognizes that “All persons are born free and have certain inalienable rights”, which include the right to pursue life’s basic necessities and seek safety, health, and happiness.<sup>48</sup>

Water is one of life’s most essential basic necessities, and it does not take much to see that a user that relies solely on a well for water would likely invoke Montana’s constitutional protections for relief from compliance with a call.

Finally, it is worth noting that the permitting process itself may alleviate the need for a senior to make a call. To receive a surface or ground water permit from the DNRC, an applicant must demonstrate that an existing right will not be adversely affected. Oftentimes this requires applicants to mitigate effects on senior users. Whether an adverse effect exists is “based on a consideration of an applicant’s plan for the exercise of the permit that demonstrates that the applicant’s use of the water will be controlled so the water right of a prior appropriator will be satisfied”.<sup>49</sup>

Because permitted ground water users are required to first demonstrate that senior users will not be harmed by the development, many of the issues that would have otherwise resulted in a senior attempting to enforce a water right through a call may be addressed through the permitting process. Nevertheless, because the individual exemption is relatively small, a larger permitted ground water well may have a greater effect on the source than a certain number of exempt wells.

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<sup>48</sup> Mont. Const. Article II, section 3.

<sup>49</sup> Section 85-2-311, MCA.

## Exempt Wells: What Are the Options?

As legislators and others debated the exemption over the last few years, suggestions ranged from maintaining the status quo to major overhauls in the way water is dispensed. Attempts included proposed rule changes and legislation. To date, none have succeeded in changing the way exempt wells are administered.<sup>50</sup>

There are "hammer" approaches and "scalpel" approaches for addressing exempt wells, Nathan Bracken, an attorney for the Western States Water Council, told the WPIC in January 2012. Bracken, who wrote a report on exempt wells, said hammer approaches include repealing the exemption, a statewide reduction for existing wells, and requiring meters on every well.

The scalpel approaches, he said, may include refining the exemption or targeting specific watersheds.<sup>51</sup>

In his report, Bracken wrote that overloading the permitting system with small applications, reducing an existing property right, or trying to administer a statewide reporting system rendered most of the hammer solutions infeasible.<sup>52</sup>

Feasible solutions may include limiting the type of exempt development (large subdivisions, for example) or requiring local governments to condition subdivision approval based on a water right determination. Other feasible approaches Bracken discussed included reducing flow rates and volumes for new wells and reducing the exemption in areas where water

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<sup>50</sup> In a December 2011 agreement to dismiss a lawsuit brought by the Clark Fork Coalition and others, the DNRC agreed to initiate rulemaking to define the term "combined appropriation" in a way that would be broader than the current definition of only wells physically connected. House Bill No. 602 prevented the DNRC from rulemaking until after Oct. 1, 2012..

<sup>51</sup> <http://leg.mt.gov/content/committees/interim/2011-2012/Water-Policy/minutes/September-13-2011/Exhibit10.pdf>.

<sup>52</sup> Report: Exempt Well Issues in the West, Nathan Bracken, Western States Water Council, <http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Meeting-Documents/September-2011/exempt-well-issues-west.pdf>.

availability is of concern. He also discussed revising the exemption to focus on the amount of water consumed instead of the quantity withdrawn.<sup>53</sup>

The WPIC heard two examples of how exempt wells may be managed in specific areas of the state.

In 2011, the DNRC established the Horse Creek Controlled Ground Water Area, a 12-square-mile area southwest of Absarokee. According to the agency, data showed that springs in the Horse Creek drainage could dry up and the average annual flows in Horse Creek could be reduced by 25% during dry years if a platted subdivision is completed as intended. In that area, an exempt well of 35 gpm may be used if the volume does not exceed 1 acre-foot per year.<sup>54</sup>

The other example was a proposal that is part of the Confederated Salish and Kootenai Tribes' (CSKT) water right compact being negotiated in northwestern Montana. As proposed, a well for a single home or business with a rate of up to 35 gpm could divert up to 2.4 acre-feet annually. Irrigation would be limited to 0.7 acres. Up to three homes or businesses could share 2.4 acre-feet annually with 0.75 acres of irrigation allowed. Neither of these options would require metering.<sup>55</sup>

Multiple homes and businesses could share up to 10 acre-feet annually, with a quarter acre of irrigation allowed for each. However, metering and reporting would be required.<sup>56</sup>

In an effort to involve those who would be affected by any changes to exempt well policy, the WPIC asked for suggestions from stakeholders. That resulted in five bills being drafted for discussion purposes at public meetings.

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<sup>53</sup> Ibid.

<sup>54</sup> <http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Meeting-Documents/January-2012/horse-creek-gwa.pdf>

<sup>55</sup> <http://leg.mt.gov/content/committees/interim/2011-2012/Water-Policy/minutes/January-10-2012/Exhibit16.pdf>.

<sup>56</sup> Ibid.

As proposed by Trout Unlimited, LC8000 would prohibit multiple exempt wells in new subdivisions anywhere in the state. And in Gallatin, Lewis and Clark, Missoula, and Ravalli counties, a mitigation exchange would be established to offset the effects of new water uses.<sup>57</sup>

The Montana Building Industry Association proposed in LC8001 that larger, denser subdivisions (30 or more lots, with an average lot size of 3 acres or less) install public water systems, which would most likely also require a water use permit.<sup>58</sup> The association also proposed LC8002, which would reduce the volume allowed under the exemption to 10 gpm and 1 acre-foot consumed. The amount of water consumed is that amount used by plants or lost to evaporation.<sup>59</sup>

The Montana Well Drillers Association proposed in LC8003 to lower the exemption volume to 5 acre-feet for wells drilled in unconfined aquifers within closed basins, for the reason that those wells are more likely to be connected to surface water used by senior water right holders.<sup>60</sup>

The Senior Water Rights Coalition proposed in LC8004 to limit new subdivisions to an exemption of 35 gpm and 10 acre-feet a year using one or more wells. Appropriations of more water would be subject to permitting.<sup>61</sup>

At the July 2012 meeting, the WPIC voted to consider versions of three of the bills at its final meeting. The committee asked to have LC8004 apply only to basins closed by

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<sup>57</sup> LC8000

<http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Legislation/lc8000-02.pdf>.

<sup>58</sup> LC8001

<http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Legislation/lc8001-02.pdf>.

<sup>59</sup> LC8002

<http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Legislation/lc8002-02.pdf>.

<sup>60</sup> LC8003

<http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Legislation/lc8003-02.pdf>.

<sup>61</sup> LC8004

<http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Legislation/lc8004-02.pdf>.

statute. Members also wanted to combine aspects of LC8001 and LC8002, and also limit those to statutorily closed basins.

The draft LC8011 would have required public water and sewer systems in subdivisions of 20 or more lots that have an average lot size of 3 acres or less, as opposed to individual wells and septic. For lots in new subdivisions not covered by that provision, the owner would be allowed an individual water well that pumped 10 gallons a minute or less and consumed less than 1 acre-foot a year.<sup>62</sup>

The other draft, LC8012, would have limited subdivisions in those basins to a total appropriation of water of 35 gallons per minute up to 10 acre-feet a year, no matter the number of wells.<sup>63</sup>

At its final meeting, the WPIC considered and approved two bills for introduction in the 2013 Legislature.

The WPIC voted 7-2 in favor of LC8015 to limit the exemption to 20 gallons per minute and 1 acre-foot annually in "stream depletion zones." These zones would be created by administrative rule. The zones could only exist in areas where hydrogeologic data exists and must be within closed basins.

The boundaries of the depletion zone on either side of a stream would be determined by running a hydrogeologic model to see how far away from the stream the pumping of an exempt well would result in at least half of the amount of water pumped being depleted from the stream within 30 days.<sup>64</sup>

The committee also voted 7-1 for LC8013 to define the term combined appropriation as "an appropriation of water from the same source aquifer by two or more wells or developed springs that are physically connected into the same system."<sup>65</sup>

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<sup>62</sup> LC8011

<http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Legislation/lc8011-02.pdf>

<sup>63</sup> LC8012

<http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Legislation/lc8012-02.pdf>

<sup>64</sup> LC8015

<http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Legislation/lc8015-01.pdf>

<sup>65</sup> LC8013

<http://leg.mt.gov/content/Committees/Interim/2011-2012/Water-Policy/Legislation/lc8013-01.pdf>

## Public Comment

The WPIC received much public comment, both through written comments as well as testimony at hearings.

The written comment is included in Appendix F. Other testimony is included in the minutes of each meeting, including the public hearings in Bozeman, Kalispell, and Hamilton. Please refer to the committee web site.<sup>66</sup>



Members of the WPIC listen to testimony on exempt wells during a June 2012 hearing in Hamilton. The WPIC also held public hearings in Kalispell and Bozeman in addition to its regular Helena meetings. Photo by Joe Kolman.

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<sup>66</sup> WPIC web site. <http://leg.mt.gov/css/Committees/Interim/2011-2012/Water-Policy/default.asp>.

## Findings and Recommendations

### *Exempt wells*

- 1. Finding:** The use of individual water wells exempt from permitting is appropriate and necessary in many parts of Montana, especially rural areas.
- 2. Finding:** There are more than 113,000 wells around Montana for which a permit was not necessary. The exemption of 35 gpm, up to 10 acre-feet a year, provides a sufficient amount for a variety of uses including domestic, irrigation, stock water, and some industrial.
- 3. Finding:** It is estimated that a 20-lot subdivision could be developed using less than 10 acre feet of water per year, assuming 2.5 persons and 0.08 acres of lawn and garden per household.
- 4. Finding:** The consumption of water by in-house uses is minimal, estimated to be 0.3 acre-feet a year for an average 2.5 person household. Lawn and garden use, however, can consume 80% of the water diverted. One acre of lawn and garden in Billings would divert 2.4 acre-feet of water and consume 2 acre-feet.
- 5. Finding:** On a statewide scale, there is little agreement or evidence to determine if the exemption as written is detrimental to senior water right holders. On smaller scales, such as subbasins, the effect of exempt wells may still be arguable, but more specific calculations can be made.
- 6. Finding:** The statewide regulation of water is under the purview of the Legislature however, the WPIC recognizes those regulations may have significant local economic impacts.
- 7. Finding:** In areas where exempt wells are most controversial, local testimony called for hydrologic evidence when creating water policy.

**8. Finding:** Those concerned about the effects of exempt wells mainly advocate stricter limits within the closed basins of western Montana. Furthermore, most concerns are about the use of exempt wells for subdivisions near existing urban areas, especially those that have experienced large gains in population.

**9. Finding:** Current law allows for local water users and others to establish controlled ground water areas where all ground water withdrawals are subject to review. However, there are concerns that establishing a controlled ground water area requires an applicant to provide a significant amount of hydrologic evidence that may be expensive to obtain.

**10. Finding:** Except for exempt wells, new ground water uses within closed basins are analyzed for net depletion to surface water and adverse effect on senior water rights. A subdivision that may appropriate in total more than 10 acre-feet a year through exempt wells does not undergo the analysis, while an irrigation project or any other appropriation of that amount of water is subject to permitting.

**11. Finding:** For residential development and other uses, especially in closed basins, using exempt wells is less expensive and faster than obtaining a permit. The DNRC is revising application forms and proposing legislation that the agency says will streamline the process.

**12. Finding:** The prior appropriation doctrine is enforceable in Montana, but there are challenges faced by senior surface water right holders against junior users of ground water, including exempt wells. Junior users may contend the call is futile because a senior may have difficulty proving surface water would be available even if ground water use was curtailed. For exempt wells, senior water right owners may face additional challenges, including how to make a call against the cumulative use of exempt wells in a subdivision and potential health, safety, and constitutional issues associated with curtailing drinking water.

**13. Finding:** Unlike some other states, Montana does not prioritize water uses. Water use is enforced strictly by first in time, first in right. The permitting process is a proactive way to ensure new uses do not affect existing uses.

**14. Finding:** Senior water rights must be protected as property rights while ensuring that new uses, including those that use the exemption, are allowed.

**15. Finding:** The term "combined appropriation" in 85-2-306, MCA is not defined in statute and has been defined over the last two decades in opposite ways by the DNRC resulting in debate, legislation, and litigation without resolution.

**A. Recommendation:** The DNRC should continue to work with water use applicants to identify specific issues that may unnecessarily impede the permit and change process and report those findings, along with suggestions to improve the process, to the next WPIC.

**B. Recommendation:** It is reasonable to restrict the use of exempt wells in basins where new surface water uses are mostly limited and where hydrogeologic modeling concludes that surface waters would be depleted by an exempt well within a fairly short period of time that would be most likely to affect senior water right holders.

**C. Recommendation:** Restrictions on exempt wells in certain areas should be limited to areas where hydrogeologic data exists, including studies conducted by the Ground Water Investigation Program or other hydrogeologic studies.

**D. Recommendation:** The term "combined appropriation" should be defined by the Legislature. That definition should be appropriation from the same source aquifer of more than 35 gallons per minute and 10 acre-feet by two or more wells or developed springs that are physically connected into the same system.

**E. Recommendation:** Local water users and others who are concerned about the effects of exempt wells beyond what the WPIC proposes may pursue regulations under the controlled ground water area statutes.

### *Ground Water Investigation Program*

**1. Finding:** The continued and expanded study of ground water resources is vital to shaping statewide policy as well as providing the data necessary for local decisions regarding water.

**2. Finding:** The 2007-08 WPIC proposed creating a Ground Water Investigation Program (GWIP) within the Montana Bureau of Mines and Geology. Scientists with the program conduct studies across the state, regularly report to the WPIC, and answer specific questions posed by legislators.

**3. Finding:** Each investigation completed by GWIP includes a description of the hydrogeologic system, a computer model simulating hydrogeologic features and processes, and online data. The models, reports, and supporting data are available for use by scientists and engineers representing agencies, senior water right holders, new applicants, and other stakeholders.

**A. Recommendation:** The GWIP is an unbiased source that can provide policy makers and others, including those who may petition for a controlled ground water area, with valuable hydrogeologic information about the effects of exempt wells and other ground water withdrawals. Funding for the GWIP should continue at the level needed to provide this information.



AN ACT ESTABLISHING A PROCESS FOR THE LEGISLATURE TO PROVIDE DIRECTION FOR THE IMPLEMENTATION OF EXEMPT WELL LAWS; REQUIRING AN INTERIM STUDY OF ISSUES RELATED TO GROUND WATER WELLS EXEMPT FROM PERMITTING; TEMPORARILY PROHIBITING RULEMAKING FOR WELLS EXEMPT FROM PERMITTING; PROVIDING AN APPROPRIATION; AND PROVIDING EFFECTIVE DATES AND A TERMINATION DATE.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MONTANA:

**Section 1. Legislative findings.** The legislature finds that:

- (1) the state of Montana has managed the allocation of water under the prior appropriation doctrine for more than 100 years;
- (2) Article IX, section 3, of the Montana constitution recognizes and confirms all existing water rights;
- (3) the right to the use of water through a water right is a recognized property right;
- (4) the development of ground water wells that are exempt from permitting may have an adverse effect on other water rights;
- (5) the Water Use Act requires the department of natural resources and conservation to coordinate the development and use of the water resources of the state so as to effect full utilization, conservation, and protection of its water resources; and
- (6) the Water Use Act does not provide the department of natural resources and conservation with clear direction on the administration of ground water wells exempt from permitting.

**Section 2. Interim study.** (1) The water policy interim committee, provided for in 5-5-231, shall conduct a study of:

- (a) wells that are exempt from permitting pursuant to 85-2-306, including:
  - (i) determining the number of existing exempt wells and estimating the number of ground water wells that may be exempted from permitting over the next decade under current laws and regulations;

- (ii) summarizing the types of beneficial uses to which water from exempt wells is applied;
  - (iii) analyzing the amount of water reasonably necessary for the various beneficial uses served by exempt wells compared to the current statutory limits for flow rate and volume;
  - (iv) exploring options to provide accurate measurement of water appropriated via exempt wells;
  - (v) examining enforcement options for exempt wells to ensure that they do not exceed statutory limits or disrupt the priority system for water right administration governed by the Water Use Act and the Montana constitution;
  - (vi) examining applicable research and analysis conducted by the ground water investigation program at the Montana bureau of mines and geology provided for in 85-2-525;
  - (vii) examining the historical treatment of exempt wells and the evolution of laws and rules governing exempt wells;
  - (viii) analyzing how the water appropriated by exempt wells may affect surface water appropriations, including existing claims, permits, certificates, and reservations; and
  - (ix) examining the legal options for integrating exempt wells into the principle that first in time is first in right when senior water rights are not fulfilled;
- (b) the statutes, rules, programs, and policies employed by other prior appropriation states for exempt wells, including legal challenges;
  - (c) the adequacy of existing programs and tools for managing and mitigating the development of wells that would otherwise be exempt from permitting, including but not limited to controlled ground water areas created pursuant to Title 85, chapter 2, part 5, water mitigation banks, community water system incentives, and in-lieu-of-fee programs;
  - (d) the relationship between exempt wells and land use decisions, including the relationship between exempt wells and individual septic systems, the cost comparison of installing public water systems or extending existing water infrastructure, and the role of local governments in requiring alternatives to exempt wells; and
  - (e) the rulemaking authority of the department of natural resources and conservation in relation to the statutory policy and purpose provided for in 85-2-101.
- (2) The committee shall prepare a report to submit to the 63rd legislature that provides clear policy direction and necessary legislation to guide Montana's policy regarding wells that may be exempt from the permitting process.

**Section 3. Limit on rulemaking authority.** (1) Except as provided in subsection (2), the department of natural resources and conservation may not adopt rules to implement the provisions of 85-2-306(3) for ground water wells that are exempt from permitting until October 1, 2012.

(2) The department may adopt rules to implement amendments to 85-2-306(3) that were passed and approved by the 62nd legislature for:

(a) appropriations by a local governmental fire agency organized under Title 7, chapter 33, provided that the appropriation is used only for emergency fire protection; or

(b) nonconsumptive appropriations for geothermal heating or cooling exchange applications.

**Section 4. Appropriation.** (1) There is appropriated \$15,000 from the general fund for the biennium beginning July 1, 2011, to the water policy interim committee for the purpose of completing the study required pursuant to [section 2].

**Section 5. Effective dates.** (1) Except as provided in subsection (2), [this act] is effective on passage and approval.

(2) [Section 4] is effective July 1, 2011.

**Section 6. Termination.** [This act] terminates June 30, 2013.

- END -

I hereby certify that the within bill,  
HB 0602, originated in the House.

\_\_\_\_\_  
Chief Clerk of the House

\_\_\_\_\_  
Speaker of the House

Signed this \_\_\_\_\_ day  
of \_\_\_\_\_, 2011.

\_\_\_\_\_  
President of the Senate

Signed this \_\_\_\_\_ day  
of \_\_\_\_\_, 2011.

HOUSE BILL NO. 602  
INTRODUCED BY W. MCNUTT

AN ACT ESTABLISHING A PROCESS FOR THE LEGISLATURE TO PROVIDE DIRECTION FOR THE IMPLEMENTATION OF EXEMPT WELL LAWS; REQUIRING AN INTERIM STUDY OF ISSUES RELATED TO GROUND WATER WELLS EXEMPT FROM PERMITTING; TEMPORARILY PROHIBITING RULEMAKING FOR WELLS EXEMPT FROM PERMITTING; PROVIDING AN APPROPRIATION; AND PROVIDING EFFECTIVE DATES AND A TERMINATION DATE.



# Appendix B: Exempt Wells by County and Basin

**Exempt Well Certificates of Water Right by County and Year 1/1/1991 to 12/31/2010**

COUNTY	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Grand Total
RAVALLI	238	331	529	336	308	375	341	298	294	293	235	273	387	383	356	617	304	208	241	162	6509
FLATHEAD	276	223	340	311	238	119	422	215	216	206	181	210	262	614	414	623	230	399	224	139	5862
GALLATIN	193	268	324	308	352	155	298	229	243	287	219	299	153	594	296	296	520	193	187	25	5439
LEWIS AND CLARK	197	158	188	217	258	146	185	202	235	253	170	134	310	389	263	361	273	145	174	187	4445
MISSOULA	164	230	365	273	242	260	218	176	185	207	152	151	208	189	227	419	162	189	176	116	4309
YELLOWSTONE	86	130	128	106	137	157	133	172	172	190	157	177	165	212	145	300	158	136	132	15	3008
LINCOLN	80	46	86	122	73	56	162	61	90	83	60	61	94	206	111	257	99	172	91	60	2070
MADISON	50	71	70	62	107	52	90	56	75	71	36	82	51	177	131	122	177	106	62	12	1660
CARBON	41	52	70	88	70	113	77	70	107	67	65	94	64	110	80	126	88	102	76	10	1570
PARK	41	50	119	68	136	36	88	60	64	84	58	89	42	128	93	75	148	55	62	7	1503
CASCADE	52	48	91	51	76	44	71	64	72	83	74	89	51	55	56	93	91	63	60	46	1330
JEFFERSON	85	47	50	69	59	50	61	68	74	78	43	22	83	107	88	116	66	37	50	32	1285
STILLWATER	41	40	67	62	49	56	74	49	72	112	52	73	61	90	55	79	76	82	67	7	1264
LAKE	87	73	118	132	94	55	176	73	59	32	18	20	31	53	35	81	22	42	20	7	1228
SANDERS	38	35	62	89	68	50	108	47	51	45	32	33	31	78	62	118	68	95	71	30	1211
BEAVERHEAD	55	36	39	50	50	44	59	28	57	48	33	21	75	109	77	97	87	45	70	38	1118
SILVER BOW	111	98	50	47	46	38	46	46	39	58	18	8	27	70	28	36	45	14	45	26	896
BROADWATER	20	13	16	28	29	22	32	31	32	35	25	7	37	84	78	107	70	37	58	33	794
FERGUS	26	28	43	20	24	33	26	23	49	34	78	82	49	27	50	78	46	35	29	13	793
MUSSELSHELL	25	45	40	26	33	24	22	34	28	30	34	34	24	38	40	50	27	25	28	9	616
GRANITE	12	22	31	17	27	35	28	17	24	20	24	21	29	42	38	56	40	28	28	15	554
RICHLAND	24	26	26	35	41	27	36	20	20	33	14	20	12	33	24	45	29	39	29	19	552
MINERAL	15	22	24	15	26	23	30	29	38	37	10	14	25	31	33	65	24	25	15	14	515
SWEET GRASS	17	19	28	23	16	20	24	17	23	36	45	34	30	23	31	40	19	26	36	3	510
POWELL	30	16	17	29	38	21	18	23	27	33	15	4	22	45	30	41	26	24	26	22	507
DEER LODGE	28	9	17	17	33	17	28	22	33	24	13	10	28	40	23	27	18	7	22	16	432
CUSTER	10	17	18	32	22	32	21	15	10	14	15	18	20	43	24	38	21	18	20	13	421
POWDER RIVER	18	34	22	29	12	4	6	14	11	17	21	29	14	27	23	25	29	15	16	5	371
DAWSON	13	16	27	11	25	20	11	9	22	26	7	30	13	20	13	46	19	14	17	7	366
BIG HORN	13	16	8	9	23	14	11	15	12	17	8	18	66	18	14	19	12	17	14	12	336
SHERIDAN	11	3	20	14	27	25	12	16	30	27	10	22	14	4	10	21	19	12	21	12	330
JUDITH BASIN	5	6	17	3	4	6	9	7	20	31	42	43	15	9	18	25	22	19	18	8	327
ROSEBUD	9	12	16	18	12	6	15	19	13	12	19	19	7	29	17	25	11	15	20	7	301
TETON	8	8	9	7	7	6	7	2	5	20	19	14	19	13	7	72	26	24	18	9	300
GARFIELD	13	10	13	10	18	10	16	15	11	22	8	11	14	5	12	16	23	23	16	23	289
HILL	25	27	13	14	19	8	14	17	16	8	21	15	8	12	15	16	3	9	10	8	278
MCCONE	13	21	13	23	15	8	11	9	7	11	10	17	8	5	9	30	22	9	23	5	269
MEAGHER	15	14	7	5	22	5	8	8	8	13	26	20	7	21	10	19	32	10	9	4	263
VALLEY	9	8	8	16	20	8	7	10	16	7	3	13	10	8	11	14	12	10	8	14	212
CARTER	12	19	23	12	9	4	6	2	6	12	7	21	13	6	11	19	5	2	2	3	194
ROOSEVELT	7	2	14	15	17	9	14	18	13	13	13	12	5	1	5	15	5	9	2	1	190
PHILLIPS	5	9	18	6	11	6	2	2	3	5	6	18	6	2	5	28	13	11	11	15	182
BLAINE	21	23	14	5	6	1	2	1	6	2	20	17	11	3	3	13	5	3	9	2	167
PRAIRIE	3	13	6	6	8	4	8	7	4	17	6	5	13	11	3	12	13	2	9	17	167
FALLON	6	8	8	7	4	8	3	6	6	10	4	5	8	15	12	13	10	10	16	5	164
GOLDEN VALLEY	7	5	1	2	6	3	7	4	6	5	12	7	7	17	8	24	8	10	2	2	143
WHEATLAND	9	4	13	7	6	6	2	3	9	2	13	8	5	3	7	4	6	11	6	1	125
WIBAUX	15	8	6	14	5	1	4	2	6	6	4	6	3	8	2	7	2	4	14	6	123
CHOUTEAU	11	8	9	6	3	1	1	5	9	7	6	7	1	3	4	8	4	3	3	2	101
TREASURE	8	4	3	8	4	4	1	2	2	2	5	4	3	7	5	9	2	18	5	6	94
DANIELS	1	1	7	11	13	7	5	5	7	6	2	3	2	3	1	9	3	4	1	6	92
PONDERA	1	2	4	2	2	5	5	2	2	5	12	5	4	3	2	17	8	2	12	6	92
GLACIER	2	3	2	1	3	4	3	10	6	6	9	2	1	1	9	2	7	2	1	74	74
PETROLEUM	2	6	7	2	5	2	2	2	4	5	4	4	6	2	3	4	2	3	2	2	69
TOOLE	3	2	2	2	2	1	1	2	2	5	4	4	2	2	1	5	1	3	3	3	41
LIBERTY	1	1	3			1	1	1		2	6	3					1		2		22
<b>Grand Total</b>	<b>2308</b>	<b>2446</b>	<b>3269</b>	<b>2896</b>	<b>2955</b>	<b>2241</b>	<b>3069</b>	<b>2349</b>	<b>2653</b>	<b>2814</b>	<b>2198</b>	<b>2468</b>	<b>2658</b>	<b>4223</b>	<b>3120</b>	<b>4887</b>	<b>3254</b>	<b>2626</b>	<b>2390</b>	<b>1259</b>	<b>56083</b>

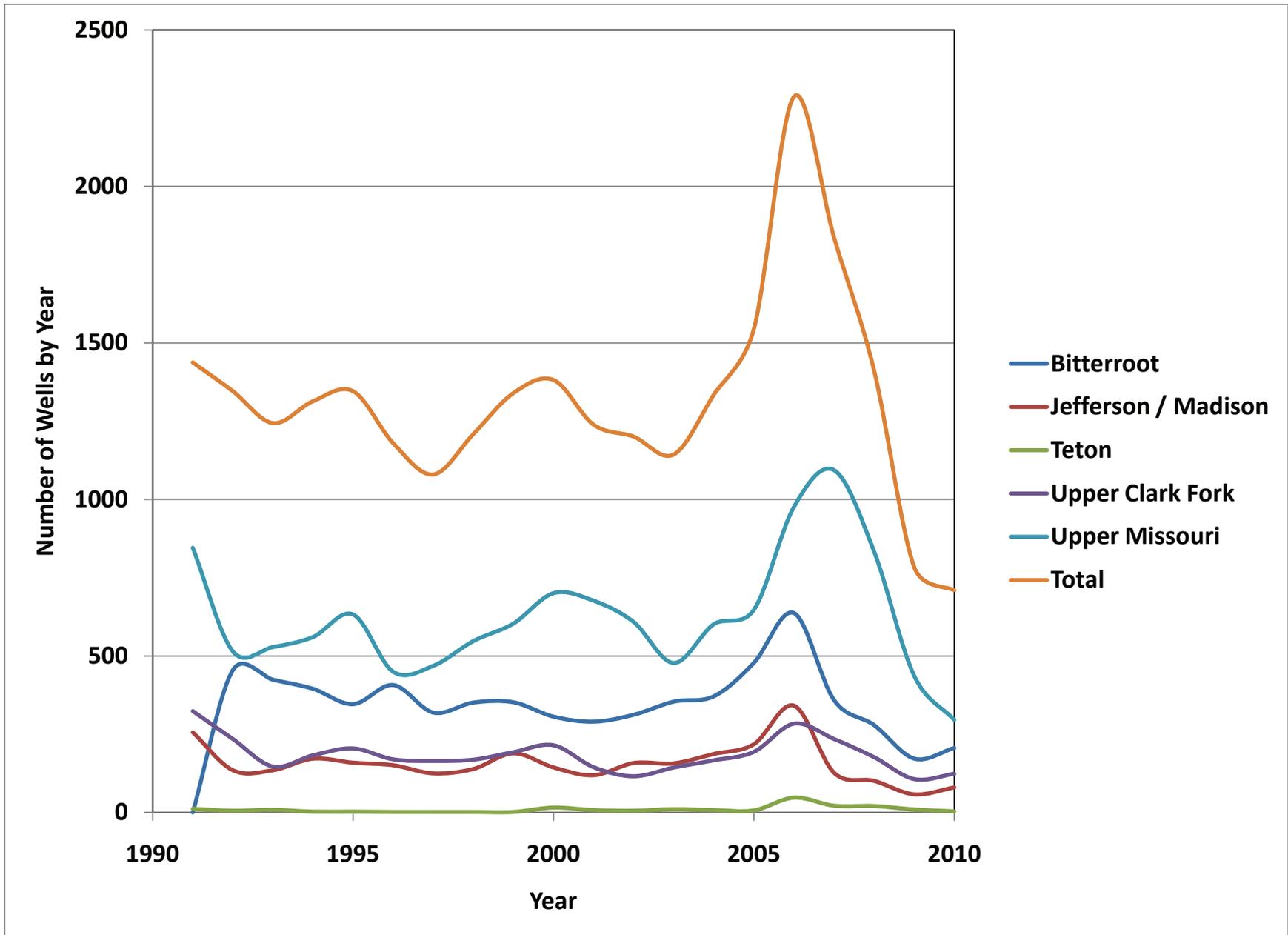
CUMULATIVE <u>NUMBERS</u> OF EXEMPT WELLS (excluding stock)							CUMULATIVE <u>VOLUMES</u> (AF) FOR EXEMPT WELLS (assuming 1/2 acre lawn)							
Year	Jefferson /		Upper Clark		Upper	Total	Year	Jefferson /		Upper		Upper	Total	Total
	Bitterroot	Madison	Teton	Fork	Missouri			Bitterroot	Madison	Teton	Clark Fork	Missouri	<u>Diverted</u> Volume	<u>Consumed</u> Volume
1991	0	256	12	324	846	1,438	1991	0	298	14	377	984	1,672	974
1992	455	391	18	559	1,361	2,784	1992	529	455	21	650	1,582	3,237	1,885
1993	879	526	27	706	1,890	4,028	1993	1,022	612	31	821	2,197	4,683	2,728
1994	1,274	698	30	889	2,451	5,342	1994	1,481	811	35	1,034	2,849	6,210	3,617
1995	1,620	857	33	1,094	3,084	6,688	1995	1,883	996	38	1,272	3,585	7,775	4,529
1996	2,027	1,008	35	1,264	3,534	7,868	1996	2,357	1,172	41	1,469	4,109	9,147	5,328
1997	2,346	1,133	37	1,429	4,003	8,948	1997	2,727	1,317	43	1,661	4,654	10,403	6,059
1998	2,697	1,272	39	1,598	4,551	10,157	1998	3,135	1,479	45	1,858	5,291	11,808	6,878
1999	3,049	1,461	41	1,791	5,155	11,497	1999	3,545	1,699	48	2,082	5,993	13,366	7,785
2000	3,355	1,605	57	2,006	5,856	12,879	2000	3,900	1,866	66	2,332	6,808	14,973	8,721
2001	3,645	1,724	65	2,151	6,533	14,118	2001	4,238	2,004	76	2,501	7,595	16,413	9,560
2002	3,957	1,882	71	2,267	7,142	15,319	2002	4,600	2,188	83	2,636	8,303	17,809	10,374
2003	4,311	2,039	82	2,411	7,620	16,463	2003	5,012	2,370	95	2,803	8,859	19,139	11,148
2004	4,682	2,226	90	2,578	8,222	17,798	2004	5,443	2,588	105	2,997	9,559	20,691	12,052
2005	5,160	2,444	97	2,772	8,870	19,343	2005	5,999	2,841	113	3,223	10,312	22,488	13,099
2006	5,797	2,785	145	3,056	9,847	21,630	2006	6,739	3,238	169	3,553	11,448	25,146	14,647
2007	6,156	2,912	167	3,291	10,941	23,467	2007	7,157	3,385	194	3,826	12,720	27,282	15,891
2008	6,435	3,013	188	3,468	11,775	24,879	2008	7,481	3,503	219	4,032	13,689	28,923	16,847
2009	6,607	3,071	198	3,575	12,212	25,663	2009	7,681	3,570	230	4,156	14,197	29,835	17,378
2010	6,813	3,151	202	3,699	12,508	26,373	2010	7,921	3,663	235	4,300	14,541	30,660	17,859
2020	11,000	4,900	280	5,500	19,000	41,000	2020	13,000	5,700	330	6,400	22,000	48,000	28,000
2030	14,000	6,500	380	7,300	25,000	53,000	2030	16,000	7,600	440	8,500	29,000	62,000	36,000
2040	18,000	8,100	480	9,100	31,000	67,000	2040	21,000	9,400	560	10,600	36,000	78,000	45,000

2020-40 future year projections estimated by linear regression

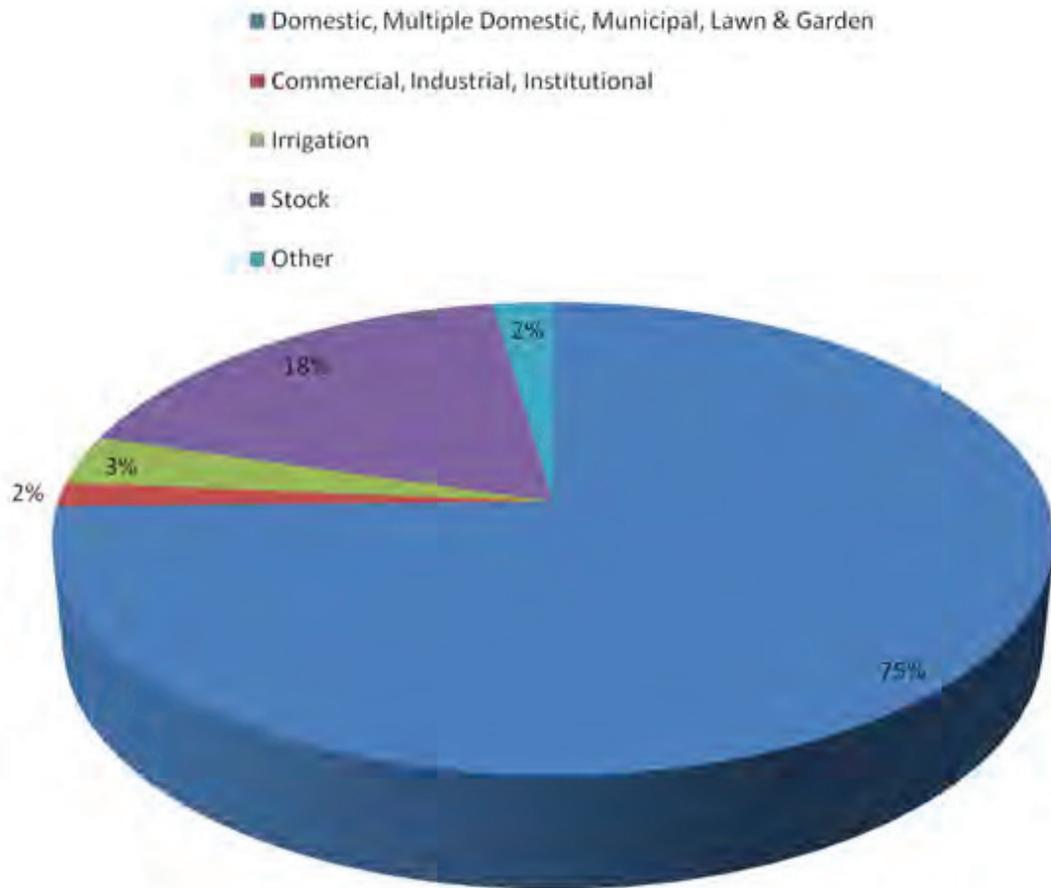
Standards Used for Volume			
<u>Domestic In-House Use</u>		<u>Lawn irrigation</u>	
	GPD	AF	AF/acre
Diverted	187.5	0.21	1.9
Consumed	9.375	0.01	1.33

DNRC, Water Resources Division  
June 1, 2011

EXEMPT WELLS BY YEAR  
IN CLOSED BASINS



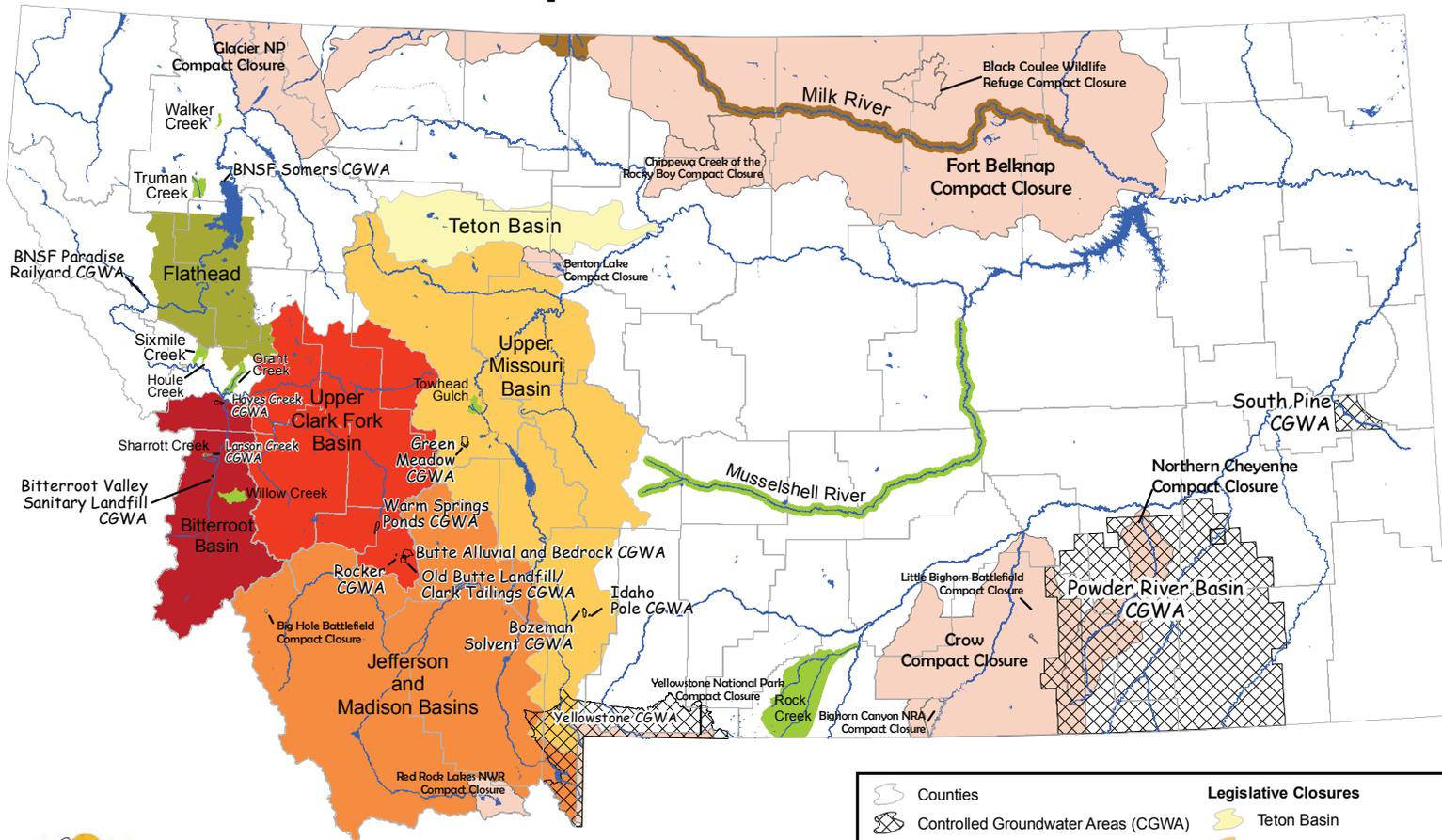
### 1991 to 2010 Exempt Well Certificates by Purpose



Compiled by DNRC for June 2011 WPIC

“Other Uses” include such purposes as: fishery, wildlife, wetlands, and recreation

# Montana Basin Closures and Controlled Groundwater Areas September 2010



Legislative Closures	
Counties	Teton Basin
Controlled Groundwater Areas (CGWA)	Upper Missouri Basin
Department Ordered Milk River Closures	Jefferson and Madison Basins
Compact Closures	Upper Clark Fork Basin
Montana Supreme Court Order Closure	Bitterroot Basin
Administrative Rule Closures	



Map created by MT DNRC WRD on 09/13/10.

**CONTROLLED GROUNDWATER AREAS** 

BNSF Paradise Railyard (76N) Effective 08/19/2002 (0.5 sq.mi.).

BNSF Somers Site (76LJ) Effective 05/23/2003 (approx. 0.11 sq.mi.).

Bozeman Solvent Site (41H) Effective 07/20/1998 (approx. 5.5 sq.mi.).

Bitterroot Valley Sanitary Landfill (76H) Effective 02/09/2004 (0.51 sq.mi.).

Butte Alluvial and Bedrock (76G) Effective 10/30/09 (approx. 9 sq mi.)

Green Meadow- Temporary (41I) Effective 4/11/2008, extended 4/05/2010 (approx. 9 sq mi)

Hayes Creek (76 HB) Permanent Closure 05/25/1995 (0.08 sq.mi.)  
Permanent Closure 12/01/1998 (3.9 sq.mi.).

Idaho Pole Site (41H) Effective 12/30/2001 (0.2 sq.mi.).

Larson Creek (76HF) Effective 11/14/1988 (approx. 0.5 sq.mi.).

Old Butte Landfill/Clark Tailings Site (76G) Effective 12/17/1999 (1.2 sq.mi.).

Powder River Basin (42A, 42B, 42C, 42I, 42J, 42KJ, 43O, and 43P) Effective 12/15/1999 (7105 sq.mi.)

Rocker (76G) Effective 05/30/1997 (0.25 sq.mi.)

South Pine (42L and 42M) Effective 11/01/1967 (178 sq.mi.).

Sypes Canyon (41H) Effective 04/26/2002 (4.75 sq.mi.).

Warm Springs Ponds (76G) Effective 05/25/1995 (5 sq.mi.).

Yellowstone Controlled Groundwater Area USNPS - Montana Compact (41F, 41H, and 43B) Effective 01/31/1994 (1334 sq.mi.)

**MONTANA SUPREME COURT ORDER** 

Flathead Indian Reservation Closure (2061 sq.mi.) Effective until the Confederated Salish and Kootenai tribes' water rights are quantified or otherwise resolved.

**COMPACT CLOSURES** 

Chippewa Cree Tribe of the Rocky Boy's Reservation - Montana Compact Effective 12/09/1999 (932 sq.mi.) - Big Sandy Creek (Excluding Sage Creek and Lonesome Lake Coulee) and Beaver Creek (40H).

Crow Reservation - Montana Compact Effective 06/16/1999 (3,586 sq.mi.) - Bighorn River (43P); Little Bighorn River (43O); Pryor Creek (43E); Rosebud Creek within the Reservation (42A), and these drainages within the Reservation: Youngs Creek, Squirrel Creek, Tanner Creek, Dry Creek, Spring Creek (42B); Sarpy Creek (42KJ); Cottonwood Creek, Five Mile Creek, Bluewater Creek (43D); Sage Creek (43N); Fly Creek, Blue Creek, Dry Creek, and Bitter Creek (43Q).

Fort Belknap Reservation - Montana Compact Effective 04/06/2001 (15071 sq.mi.) - Milk River Basin, both above the Western Crossing and below the Eastern Crossing of boundary between USA and Canada (40GF, 40G, 40H, 40I, 40J, 40K, 40L, 40M, 40N, and 40O). Supercedes pre-existing closures.

National Park Service - Montana Compact Effective 01/31/1994 - Big Hole Battlefield (41D) - Glacier N.P. (76LJ, 76I, 40T, 41L, and 41M), (1580 sp.mi.) - Yellowstone N.P. (43B, 41F, and 42H) (1820 sq.mi., 251 sq.mi. within Montana) - Littler Bighorn Battlefield National Monument (3O) - Bighorn Canyon (43P).

Northern Cheyenne-Montana Compact Effective 05/17/1991 (1308 sq.mi.) - Rosebud Creek Basin Moratorium (42A).

United States Fish and Wildlife Service - Montana Compact Effective (05/17/1991) - Benton Lake (249 sq.mi.) and Black Coulee (136 sq.mi.) National Wildlife Refuges (41Q) Effective 04/19/1999 (239 sq.mi.) - Red Rock Lakes National Wildlife Refuge (41A).

**DEPARTMENT ORDERED MILK RIVER CLOSURES** 

Milk River Basin Mainstem (40F, 40J, and 40O) Effective 01/01/1983 (283 sq.mi.).

Milk River Southern Tributaries (40F) Effective 09/01/1991 (152 sq.mi.).

**ADMINISTRATIVE RULE CLOSURES** 

Grant Creek (76M) Effective 01/26/1990 (55 sq.mi.).

Houle Creek (76M) Effective 09/20/1996 (3.43 sq.mi.).

Musselshell River (40A and 40C) Effective 06/26/1992 (292 sq.mi.).

Rock Creek (43D) Effective 02/09/1990 (618 sq.mi.).

Sharrott Creek (76HF) Effective 07/16/1993 (8 sq.mi.).

Sixmile Creek (76M) Effective 12/08/1995 (23.2 sq.mi.).

Towhead Gulch (41I) Effective 01/17/1992 (7 sq.mi.).

Truman Creek (76LJ) Effective 02/10/1995 (7 sq.mi.).

Walker Creek (76LJ) Effective 09/28/1990 (40 sq.mi.).

Willow Creek (76HD) Effective 09/23/1994 (61.4 sq.mi.).

**LEGISLATIVE CLOSURES**

-  Bitterroot Basin Temporary Closure (76H) Effective 03/29/1999 (2862 sq.mi.).
-  Jefferson and Madison Basins (41A, 41B, 41C, 41D, 41E 41F, and 41G) Effective 04/01/1993 (11660 sq.mi.).
-  Teton Basin (41O) Effective 04/21/1993 (1917 sq.mi.).
-  Upper Clark Fork Basin (76E, 76F, 76G, and 76GJ) Effective 04/14/1995 (6017 sq.mi.).
-  Upper Missouri Basin (41H, 41I, 41J, 41K, 41QJ, and 41U) Effective 04/16/1993 (10620 sq.mi.).

WATER POLICY INTERIM COMMITTEE  
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**GENERAL WATER USE REQUIREMENTS**

This Table does not include flow rate but these uses are based on using 35 GPM or less.

<b>PURPOSE</b>	<b>DIVERTED (acre-feet per yr)</b>	<b>CONSUMED (acre-feet per yr)</b>	<b>ASSUMPTIONS</b>
<b>DOMESTIC</b> (in-house use)	.3 AF	.03 AF	- 2.5 persons / household - 100 gpd / household - 10% consumed w/standard drain field <sup>1</sup>
<b>STOCK</b> ➤ Per animal unit ➤ 100 animal units	.017 AF 1.7 AF	.017 AF 1.7 AF	- 100% consumed
<b>LAWN &amp; GARDEN</b> ➤ ¼ acre ➤ ½ acre ➤ 1 acre	Billings / Bozeman 0.6 AF / 0.5 AF 1.2 AF / 1.0 AF 2.4 AF / 2.0AF	Billings / Bozeman 0.5 AF / 0.4 AF 1.0 AF / 0.8 AF 2.0 AF / 1.6 AF	- 80% efficiency - Billings – 24” net irrigation (IWR) - Bozeman – 19” net irrigation (IWR)
<b>IRRIGATION</b> ➤ 1 acre ➤ 4.34 acres ➤ 7 acres <sup>2</sup>	1.4 - 2.3 AF 10.0 AF 10.0 AF	.98 – 1.61 AF 7.0 AF 7.0 AF	- Pasture grass - Pertinent climatic area - 70% sprinkler efficiency
<b>COMMERCIAL</b>			- 10% consumed <sup>3</sup> - Does not include landscape water
➤ Restaurants (75 seats) ➤ Motels (100 rms) ➤ Retail / Mini-Mall	.67 AF 5.6 AF .08 AF	.067 AF .56 AF .008 AF	- 8 gpd / patron - 50 gpd / 2-person - 5 retail shops w/ 2 sales persons each - 8 gpd / salesperson

<sup>1</sup> Consumption could vary dramatically with use of community wastewater systems.

<sup>2</sup> The flow rate necessary for 7 acres of irrigation will vary and may exceed 35 GPM depending on the type of sprinkler system.

<sup>3</sup> Consumption could vary dramatically with use of community wastewater systems.

WATER POLICY INTERIM COMMITTEE  
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PURPOSE	DIVERTED (acre-feet per yr)	CONSUMED (acre-feet per yr)	ASSUMPTIONS
<b>INDUSTRIAL</b>			- 100% consumed
➤ Dust control	3.31 AF	3.31 AF	- 2 (3500 gal) trucks = 7000 gpd for 154 days = 1,780,000 gals.
➤ Gravel Operation (crushing/pug mill)	8.4 AF	8.4 AF	- Crusher 360,000 gals. (10 hrs/day for 60 days) - Dust Control 1,300,000 gals. (200 days) - Pug Mill 1,080,000 gals. (10 hrs./day for 60 days)

**DEVELOPMENT OPTIONS UNDER 10 AF USING EXEMPT WELLS**  
(Volumes of water are based on table above but do not include flow rates)

**Example 1:**

**10 lot subdivision with 2.5 persons and ¼ acre lawn and garden per household**

Billings

.3 AF/household x 10 homes = 3 AF (in-house use)

.6 AF/household x 10 homes = 6 AF lawn and garden

**Total diverted volume = 9 AF**

Bozeman

.3 AF/household x 10 = 3 AF (in-house use)

.5 AF/household x 10 = 5 AF lawn and garden

**Total diverted volume = 8 AF**

**Example 2:**

**6 lot subdivision with 2.5 persons and ½ acre lawn and garden per household**

Billings

.3 AF/household x 6 homes = 1.8 AF (in-house use)

1.2 AF/household x 6 homes = 7.2 AF lawn & garden

**Total Diverted Volume = 9 AF**

Bozeman

.3 AF/household x 6 homes = 1.8 AF (in-house use)

1 AF/household x 6 homes = 6 AF lawn and garden

**Total Diverted Volume = 7.8 AF**

WATER POLICY INTERIM COMMITTEE  
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**Example 3:**

**20 lot subdivision with 2.5 persons and 3,500ft<sup>2</sup> (0.08 acres) lawn & garden per household**

Billings

.3 AF/household x 20 homes = 6 AF (in-house use)

.19 AF/household x 20 homes = 3.8 AF

**Total Diverted Volume = 9.8 AF**

Bozeman

.3 AF/household x 20 homes = 6 AF (in-house use)

.16 AF/household x 20 homes = 3.2 AF lawn and garden

**Total Diverted Volume = 9.2 AF**

**Example 4:**

**Commercial development with a mini-mall, 1 restaurant (75 seats), and ¼ acre lawn & garden**

Billings

.08 AF = Mini-mall

.67 AF = Restaurant

.6 AF = lawn and garden

**Total Diverted Volume = 1.35 AF**

Bozeman

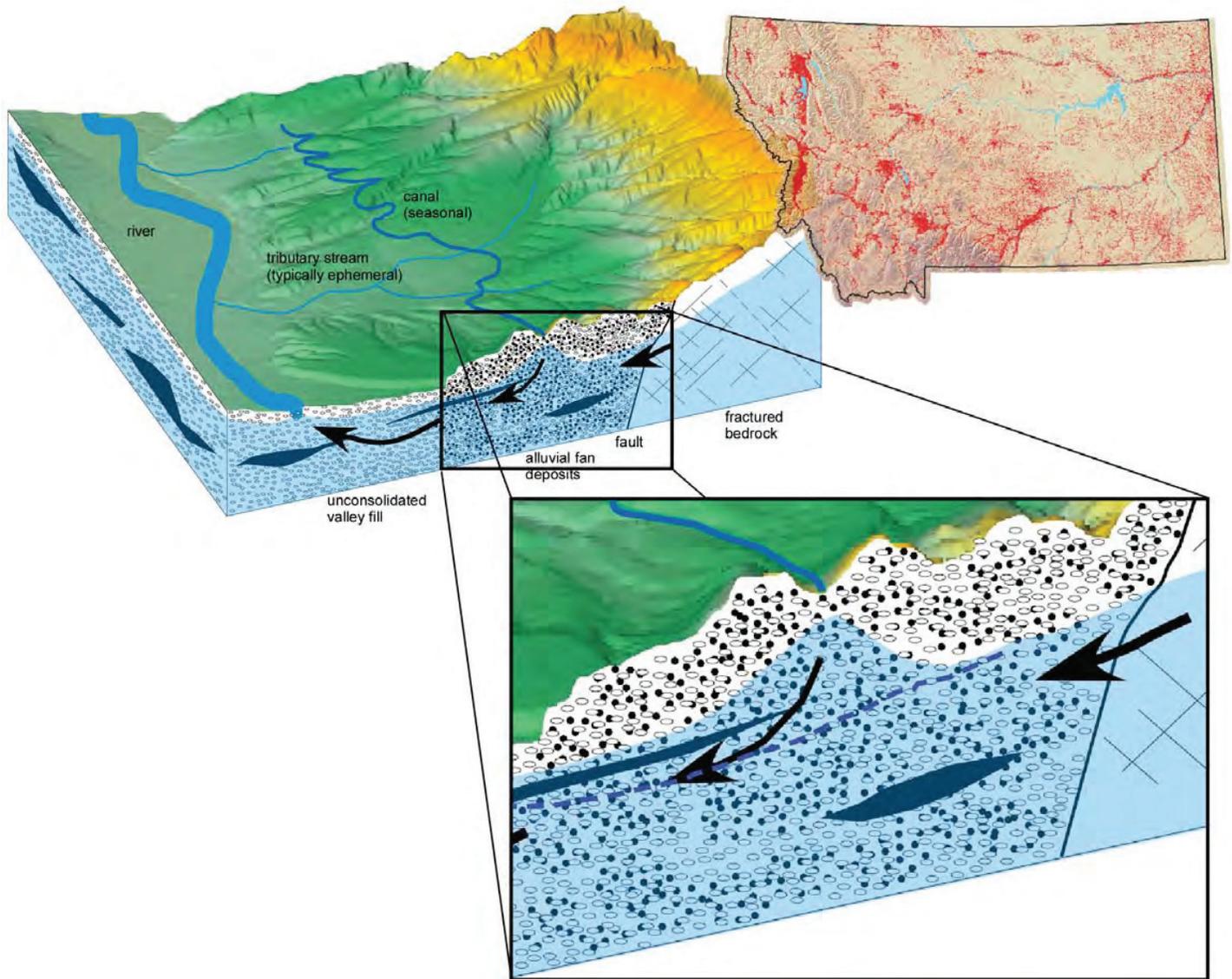
.08 AF = Mini-mall

.67 AF = Restaurant

.5 AF = lawn & garden

**Total Diverted Volume = 1.25**





## Hydrogeology Related to Exempt Wells in Montana

A Report to the 2010–2012 Water Policy Interim Committee of the Montana Legislature



John Metesh  
Montana Bureau of Mines and Geology  
Open-File Report 612



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**Introduction**

Montana has over 200,000 wells on record with the Montana Bureau of Mines and Geology (MBMG) Ground Water Information Center database (GWIC; mbmggwic.mtech.edu) whose use has been identified as domestic. Some estimates show as much as 30 percent of the population relies on wells for water supply.

For the purposes of this discussion, it is important to note the difference between the terms domestic and exempt. When a well log is filed, the driller or well owner indicates the intended use of the well. Domestic use is one option; other options include, but are not limited to, stock, irrigation, public water supply, or monitoring. The term exempt refers to a groundwater development that, based on the maximum proposed annual volume pumped (currently 10 acre-feet per year) and the maximum pumping rate (currently 35 gallons per minute), is exempt from permitting; the

exemption is established by a certificate issued by the Montana Department of Natural Resources and Conservation. The use of the exempt well, whether it be domestic, irrigation, or stock, does not affect the exemption. Due largely to changes in the regulatory requirements regarding well log and water-right filing, there are many wells that indicate domestic use on the well log for which a certificate does not exist. More than 90 percent of all the wells for which a use has been reported are used for domestic or stock.

Figure 1 shows the distribution of all the wells across Montana; each well is represented by a small red dot. Population centers and river valleys are easily distinguished by areas of high well density. Although a geologic source or aquifer is not reported for all wells in the GWIC database, shallow basin-fill aquifers along river and stream valleys are subject to the greatest development.

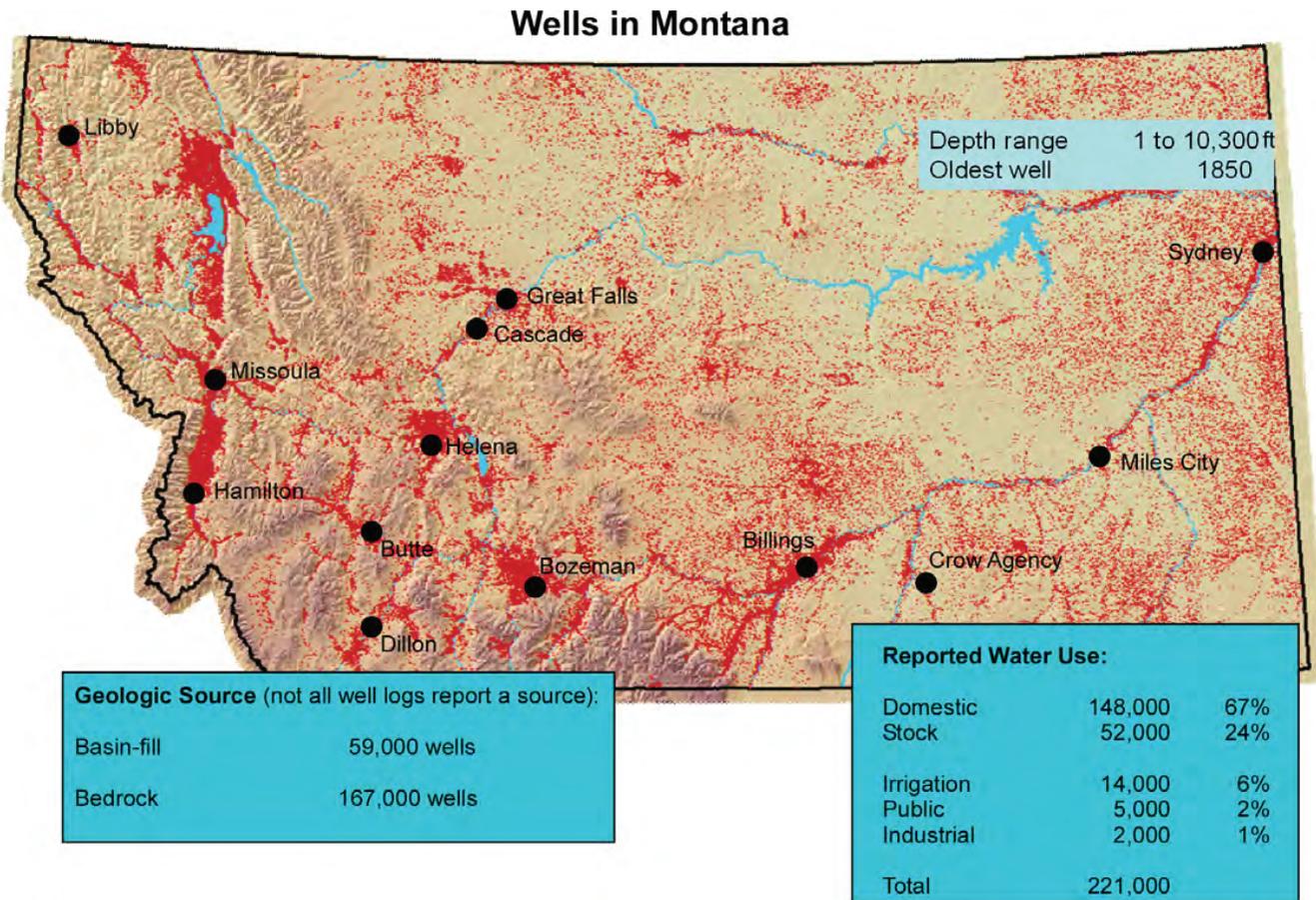


Figure 1. The Ground Water Information Center (GWIC) database contains more than 221,000 records for wells throughout Montana. Each well is represented by a small red dot on the map.

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### Groundwater Sources

Montana is often described in terms of its contrasting physiographic or geologic provinces—the mountainous western third and the plains of the eastern two-thirds. An aquifer is permeable geologic material capable of storing and transmitting groundwater. An unconfined or water-table aquifer (bottom of fig. 2) is recharged directly by infiltration of precipitation or surface water; the water table typically ranges from a few feet to tens of feet below the surface. Unconfined aquifers are sensitive to changes in precipitation and withdrawal and are particularly vulnerable to contamination by surface sources such as septic systems and applied chemicals.

Confined aquifers (top of fig. 2) are overlain by a low-permeability material that limits the vertical flow of water into or out of the aquifer. In central and

eastern Montana, confined aquifers are typically consolidated, permeable sandstone or limestone formations overlain by low permeable shale. These aquifers extend for hundreds of miles, from the recharge areas in the mountains to the northern and eastern areas of the State. In the western Montana valleys, the deeper portions of the basin-fill aquifers may be confined or partially confined by layers of clay or silt.

It is important to note that confined aquifers must somewhere be unconfined or exposed to receive surface recharge; likewise, for groundwater to flow, the aquifer must discharge to the surface. The recharge areas for several of the important confined aquifers in eastern Montana are in the central mountains; the discharge areas are unknown, but certainly are north and east of the State. Recharge areas for the deep confined aquifers of the western Montana valleys are in the mountains that define the valley or unconfined aquifers in the upland valley margins.

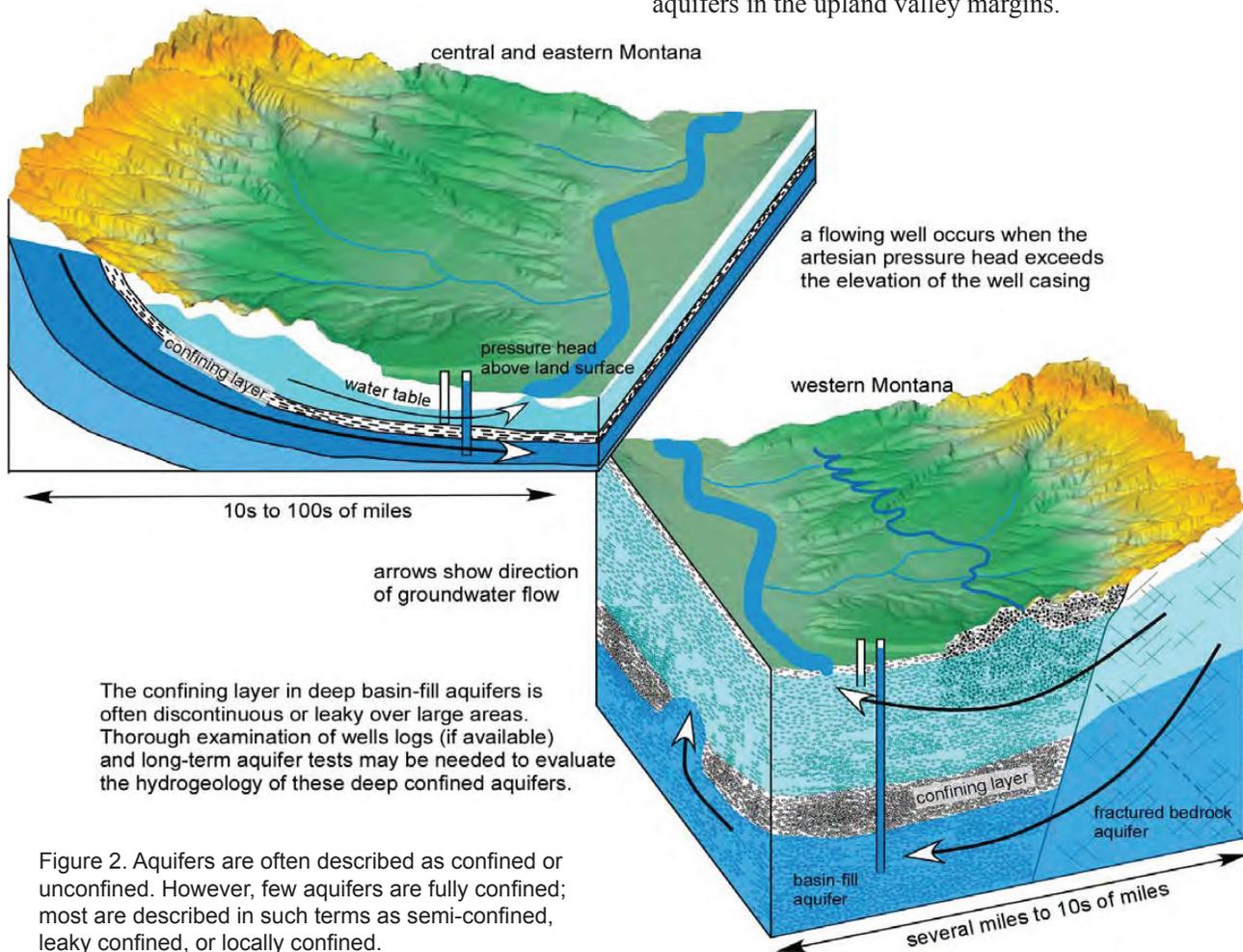


Figure 2. Aquifers are often described as confined or unconfined. However, few aquifers are fully confined; most are described in such terms as semi-confined, leaky confined, or locally confined.

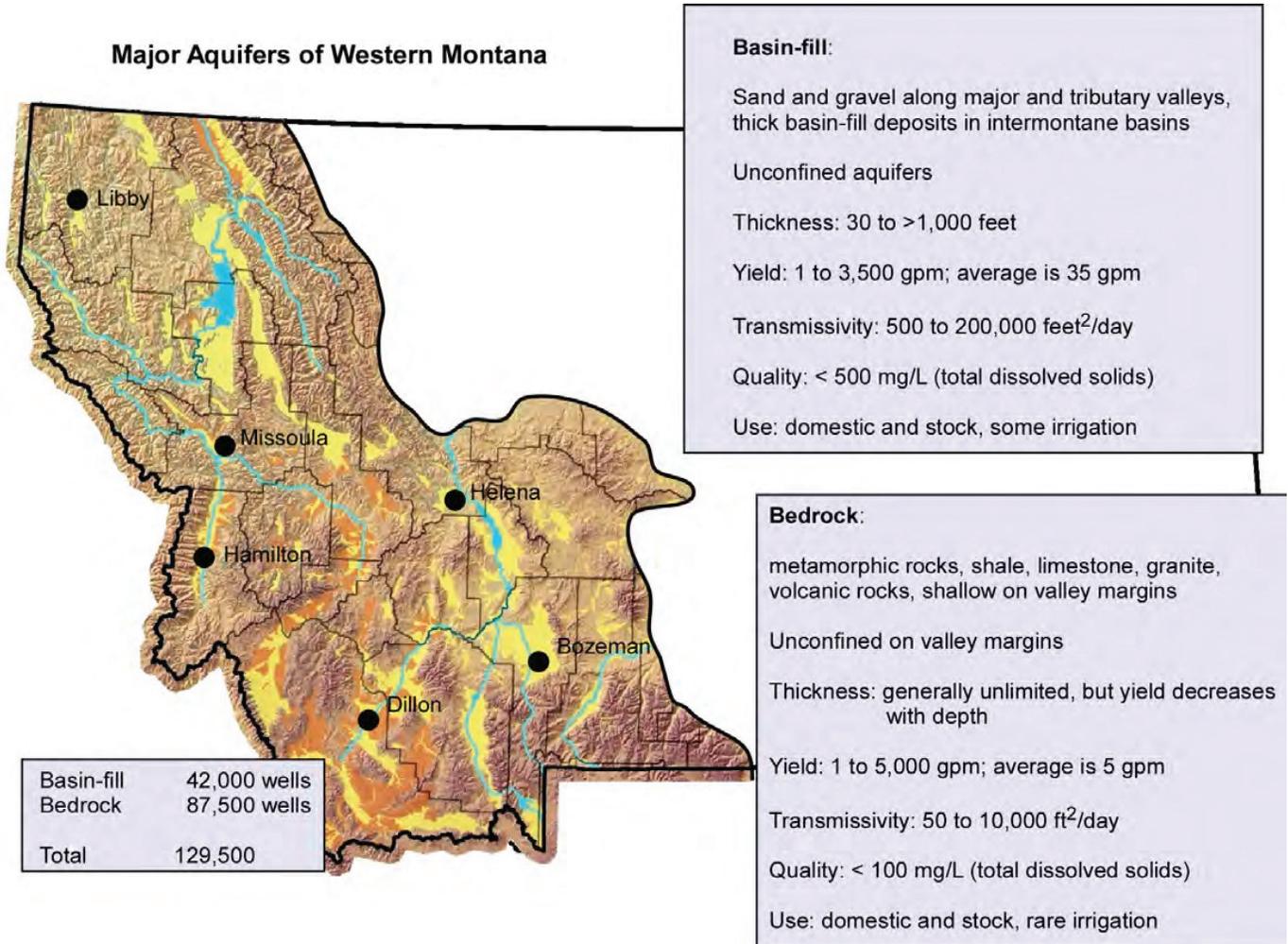


Figure 3. GWIC reports about 130,000 total wells in western Montana. The bedrock aquifers consist of igneous, metamorphic, and sedimentary rocks.

### Western Montana

Domestic wells in western Montana are most often completed in the shallow basin-fill aquifers composed of unconsolidated sand and gravel in the major valleys or along tributary valleys. Basin-fill aquifers, shown as yellow and tan in figure 3, are typically thick (>1,000 ft); well yields are usually far greater than the demand of a typical domestic user. Natural water quality is generally very good, but the shallow unconfined nature of these aquifers makes them vulnerable to contamination.

As population growth continues and development expands into the foothills and valley margins, wells in the fractured-bedrock aquifers will become an important source of water for domestic use. Wells in the fractured-bedrock aquifers tend to have low or marginal yield for domestic use, which will limit growth in some areas.

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**Major Aquifers of Eastern Montana**

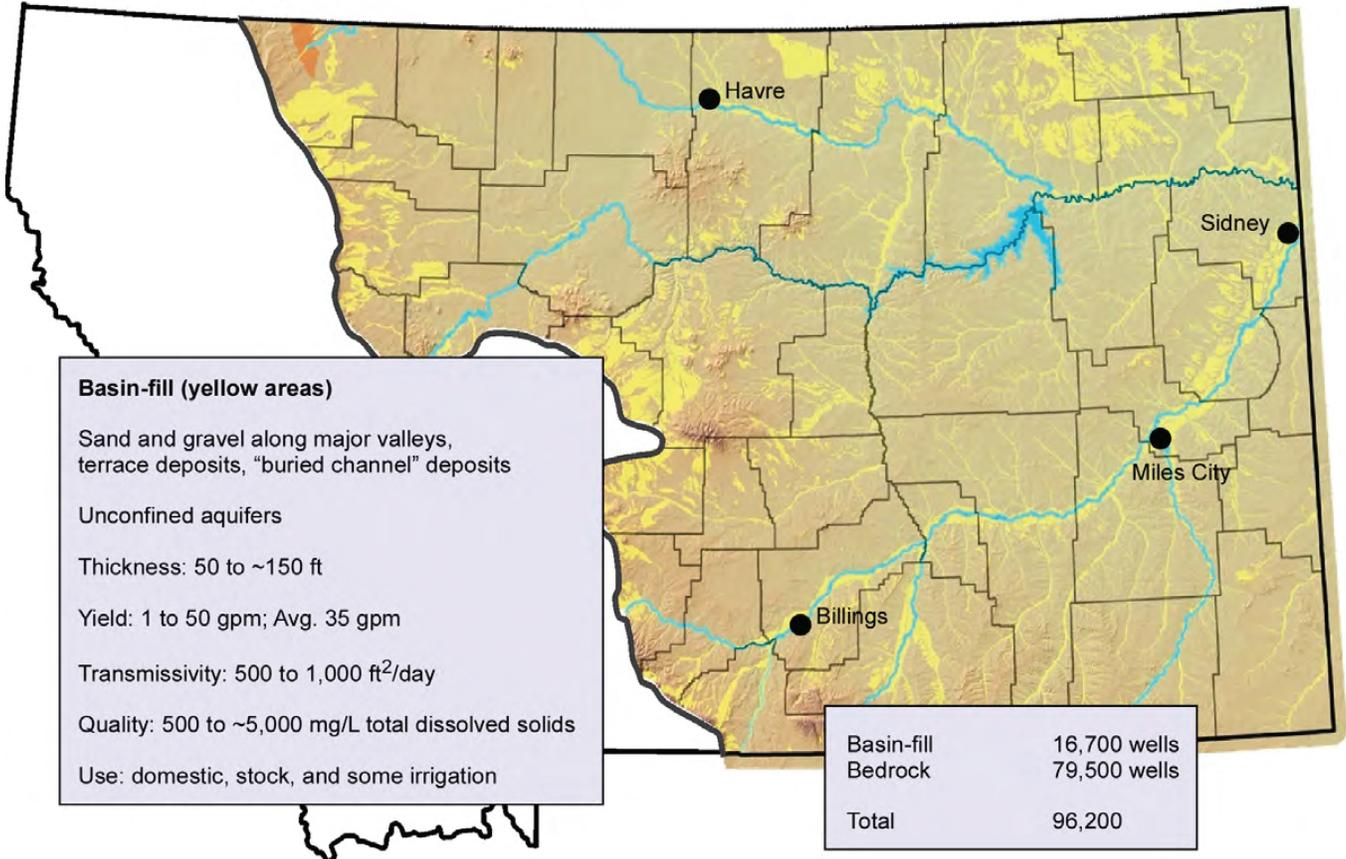


Figure 4. Productive basin-fill aquifers are generally restricted to river valleys. Most areas outside the major river valleys rely on bedrock aquifers for water supply.

**Eastern Montana**

Population centers in central and eastern Montana have developed along the major river valleys; surface water is the typical source for cities and towns. Outside the population centers, domestic wells are the principal source of water. The unconsolidated basin-fill aquifers of eastern Montana, shown in yellow in figure 4, are notably thin compared to those of the western valleys and are vulnerable to overpumping and contamination by surface sources.

There are several important bedrock aquifers in eastern Montana (not shown); these include the sandstone and coal beds of the Fort Union (14,000 wells), the sandstone beds of the Fox Hills–Hell Creek (5,500 wells), the Judith River (2,700 wells), and the Eagle–Virgelle Formations (2,200 wells). As discussed in the previous section, the bedrock aquifers in the central and eastern part of the state are generally extensive and confined; aquifers in the eastern part of the state

are confined and flowing wells are common. These aquifers are generally the sole source of water for domestic and stock use throughout eastern Montana.

**Growth Trends**

More than half of the 200,000 wells in Montana were drilled in the past 20 years, and more than 6,000 wells were drilled in 2004, a trend that appeared likely to continue, but was disrupted by the (temporary?) economic downturn of 2008 (fig. 5).

Although changes in reporting requirements over the past 70 years affect the accurate account of drilling activity, the trend of the number of domestic wells appears to mimic population growth. By far, the highest rate of growth has been for domestic wells, which accounts for 85 to 90 percent of all wells drilled in a given year; there has also been a notable increase in the number of wells for which irrigation is the reported use (top graph of fig. 5).

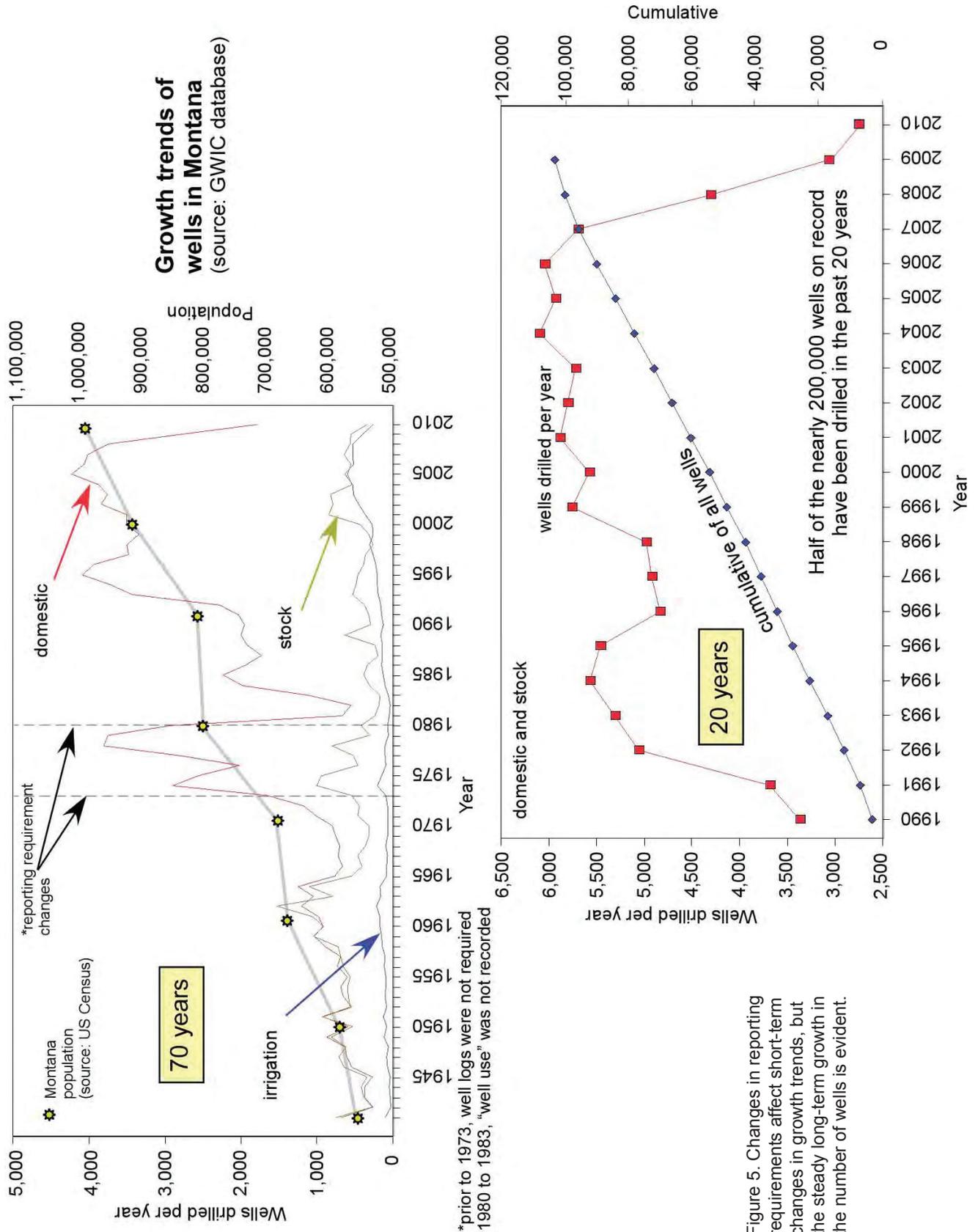


Figure 5. Changes in reporting requirements affect short-term changes in growth trends, but the steady long-term growth in the number of wells is evident.

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### Hydrologic Budgets— The Importance of Scale

A budget, whether it be for finances or water, relates the income/inflow to expenses/outflow at a specific scale of time or space; it provides a means to evaluate the availability and allocation of the supplies and demands. A change in the scale of the budget can drastically change the emphasis. For example, compare the financial budget of Montana (about \$4 billion) with that of the US (about \$1.4 trillion). Montana’s budget, at 3% of the national budget, is much smaller than that of many Federal agencies. However, a budget change of \$1 billion would have a much greater impact in Montana than at the Federal level. Similarly, farmers and businessmen appreciate that the amount of money in the bank, or in the field, or in stock, differs widely on a daily, monthly, or annual scale. Just like comparing a small business budget to that of a large corporation, the monthly financial budget for a retail business can tell a much different story than that of the annual budget. The same analysis can be applied to hydrologic budgets. It is critical for the discussion of budgets to examine the scale, both temporal and spatial, of the budget and to appreciate the importance of individual budget components.

### Large Area Budgets

The U.S. Geological Survey (USGS; Cannon and Johnson, 2004), estimated that 94 percent of all water withdrawn in Montana each was for irrigation and 1 percent was for domestic purposes (fig. 6). Consumption of that water followed a similar pattern; irrigation consumed almost 96 percent of the water withdrawn and domestic about 0.2 percent. Cannon and Johnson also point out that about 2.5 percent of all water withdrawn is groundwater; the rest is surface water. On the scale of the entire State, on an annual basis, groundwater withdrawal or consumptive use, for any purpose, is a minor component of the budget. However, if the scale of the budget is changed, the importance of groundwater can drastically change. Consider the global scale of water storage: only 2.5 percent of all the water on the planet is fresh; almost 69 percent of that fresh water is inaccessible as ice. Of the remaining, useable water, 99 percent is available as groundwater and only 1 percent is surface water (Gleick, 1996; inset box of fig. 6).

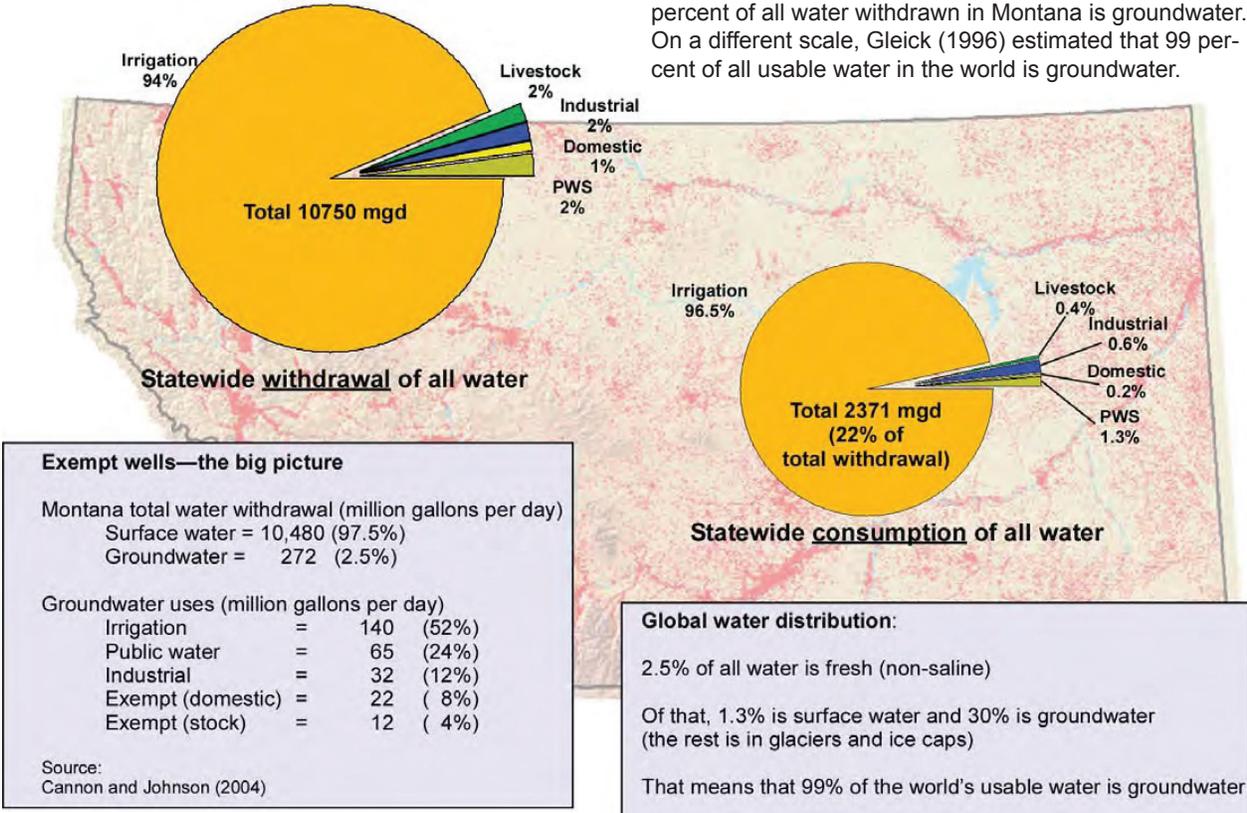


Figure 6. Cannon and Johnson (2004) estimate that 2.5 percent of all water withdrawn in Montana is groundwater. On a different scale, Gleick (1996) estimated that 99 percent of all usable water in the world is groundwater.

### Groundwater Consumptive Use at the Basin Scale

Consumptive use is water removed from the hydrologic system without replacement or return. Water consumed by plants, known as transpiration, and evaporation from the soil and surface water bodies are the largest consumptive uses. Plant transpiration and soil evaporation is termed evapotranspiration. Estimates of the evapotranspiration component of a water budget are typically taken as consumptive use.

As noted, Canon and Johnson (2004) estimated that 2.5 percent of all the water withdrawn in Montana annually is groundwater. Within that 2.5 percent, they estimate that about 21 percent of the water withdrawn for irrigation is consumed, about 21.5 percent of the water withdrawn for industrial use is consumed, and 37 percent of the water withdrawn for public water supply is consumed. Consumption of water for domestic and livestock use was assumed to be 100 percent of the water withdrawn. When these percentages are applied to reported withdrawals on the basin scale (fig. 7), the relative consumptive use rates change dramatically from those presented on a statewide scale.

Consumptive use by domestic wells in southwest Montana ranges from 15 to over 50 percent of the total groundwater consumed (fig. 7). Irrigation consumptive use has a similar range, but in different basins. Total consumptive use ranges from less than 1 million gallons per day (mgd) to about 15 mgd.

### Consumptive Use at the Sub-Basin Scale

Domestic consumptive use is attributed largely to lawn and garden watering; in-house consumptive use is small. In this analysis, the in-house consumptive use was considered zero; that is, domestic consumptive use was attributed entirely to evapotranspiration by lawns. Agriculture consumptive use is attributed to water consumption by crops irrigated by one of three methods: (1) center pivot, (2) flood irrigation by canals and turnouts, or (3) sprinkler.

Consumptive use of both surface water and groundwater was estimated for the six MBMG Ground Water Investigation Program areas for each of the three agriculture irrigation categories and for domestic use. The monthly crop-water demand was multiplied by the estimated area irrigated by each of the three methods for agricultural land and for each lot served by a domestic well. Crop-water demand data for each area was obtained from the local AgriMet station (U.S. Bureau of Reclamation, 2011) for the 2010 water year; alfalfa was used to represent agricultural use and lawn was used to represent domestic use. The area of each agricultural application was determined from GIS coverages (Montana State Library's Natural Resource Information System, 2011). The lawn area assigned to domestic wells was determined from air photos showing late summer or fall irrigation for a randomly selected 10 percent of the total number of lots in the sub-basin. The results are summarized in the table in figure 8. Where data were available, the average irrigated area for domestic use estimated from the air photos for the entire area was compared to data from local subdivisions. The Helena (North Hills) project area included several subdivisions with public water supplies. In their evaluation of the water budget, Waren and others (2010) determined a consumptive use equivalent to 0.25 acres irrigated. This compares well to the 0.23 acres determined by the method used for this analysis. Similar comparisons showed good agreement in the lower Beaverhead and Belgrade study areas. The pie charts in figure 8 present the total annual consumptive use by each land use type. At this scale, with project sub-basins ranging from 7,000 to 78,000 acres, the impact of domestic wells used for lawn irrigation is markedly different from that presented at a statewide scale.

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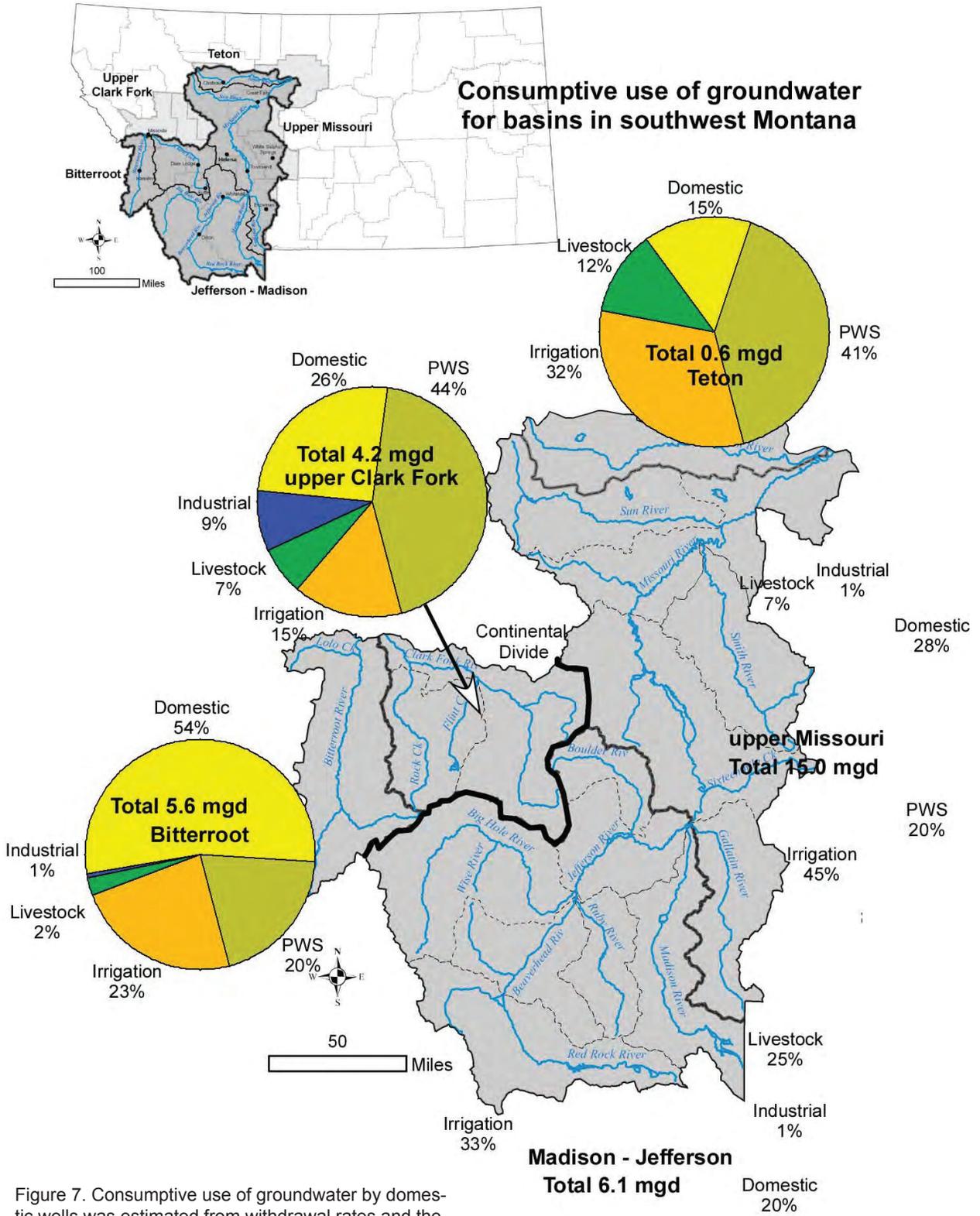


Figure 7. Consumptive use of groundwater by domestic wells was estimated from withdrawal rates and the relative percentage of consumption for each use.

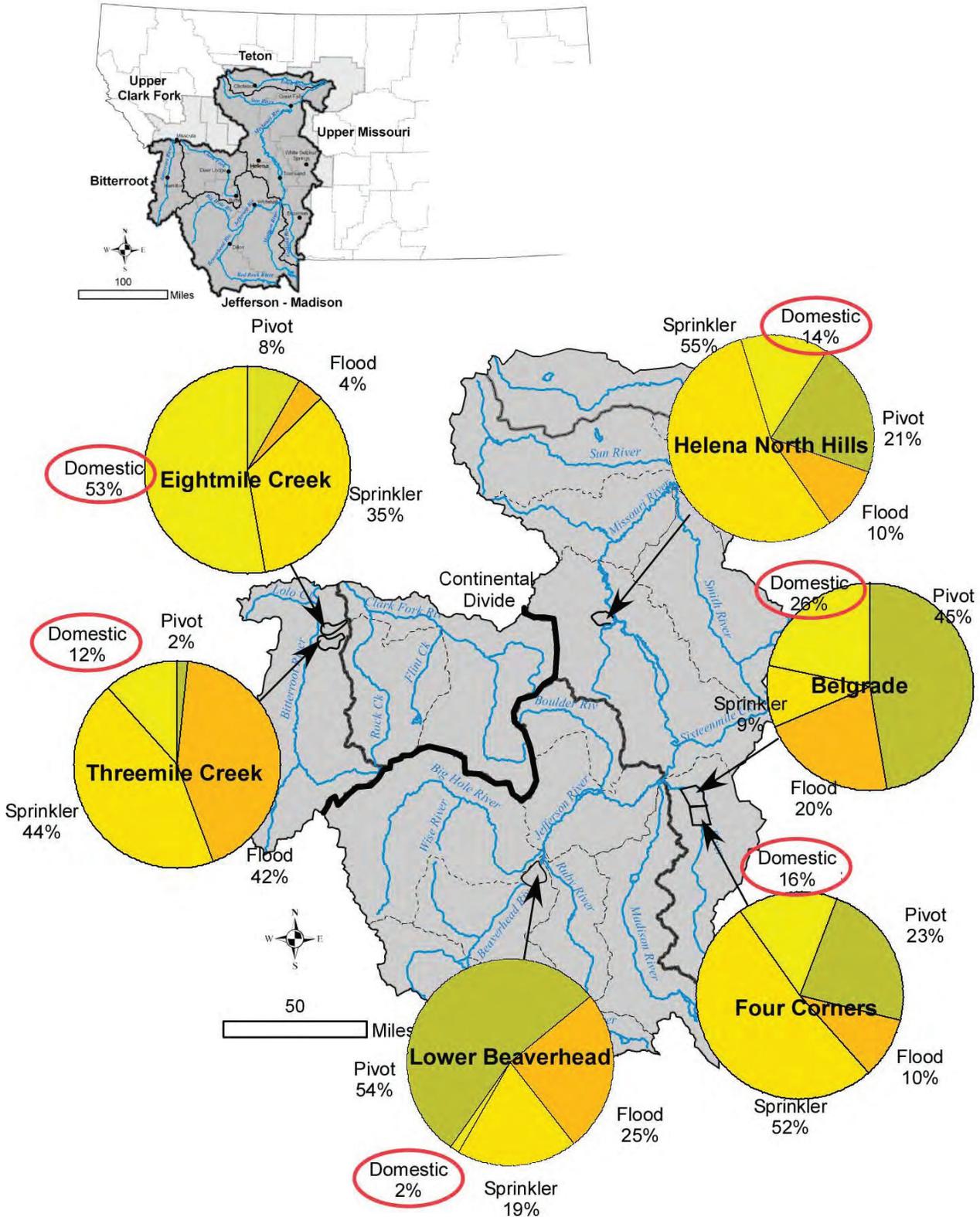


Figure 8. Consumptive use of all water was estimated for each of six sub-basins within southwest Montana.

### **The Importance of the Temporal Scale**

Water budgets are most often presented on an annual basis; generally the changes in the hydrologic system respond to annual climate cycles. Consumptive use, particularly by human activities, varies significantly daily, monthly, or seasonally depending on local conditions and activity. Overall, consumptive use by lawns in the six study areas showed the greatest variance at a monthly temporal scale. With the exception of the lower Beaverhead, all the study areas were focused in areas of high domestic well density.

The pie charts in figure 9 compare the annual consumptive use to an early summer, monthly consumptive use. In Eightmile Creek, the peak consumptive use month did not vary much from the annual, but in the Four Corners area, there is considerable difference. Identifying where and when these seasonal differences are important may help manage water use during the months of high demand and low supply.

Another aspect of the temporal scale is the time between the diversion of the water and the consumption of the water. Reduction of stream flow from a surface-water diversion is immediate; reduction of stream flow from a pumping well can take days or decades depending on the aquifer properties and the distance between the stream and the well. Thus, the timing of consumptive use may be very different than the impact of that consumptive use on stream flow or groundwater levels. A more detailed discussion of the factors affecting the timing of groundwater pumping is presented later.

### Comparison of annual consumptive use to early summer consumptive use

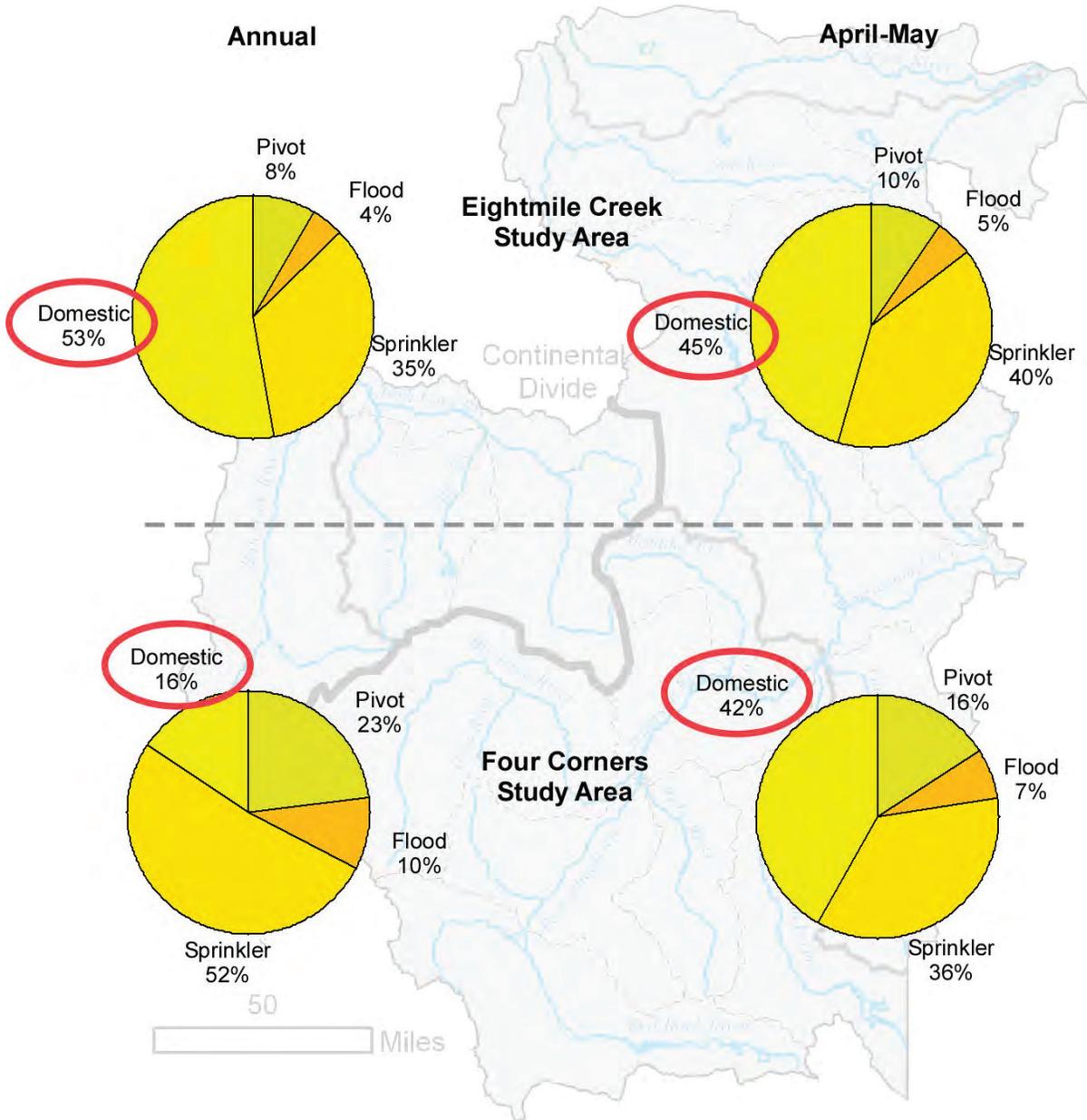


Figure 9. Consumptive use was compared for two different time scales at two of the study areas. In Eightmile Creek the high-use months did not differ from the annual total, whereas in the Four Corners area, the difference was markedly different.

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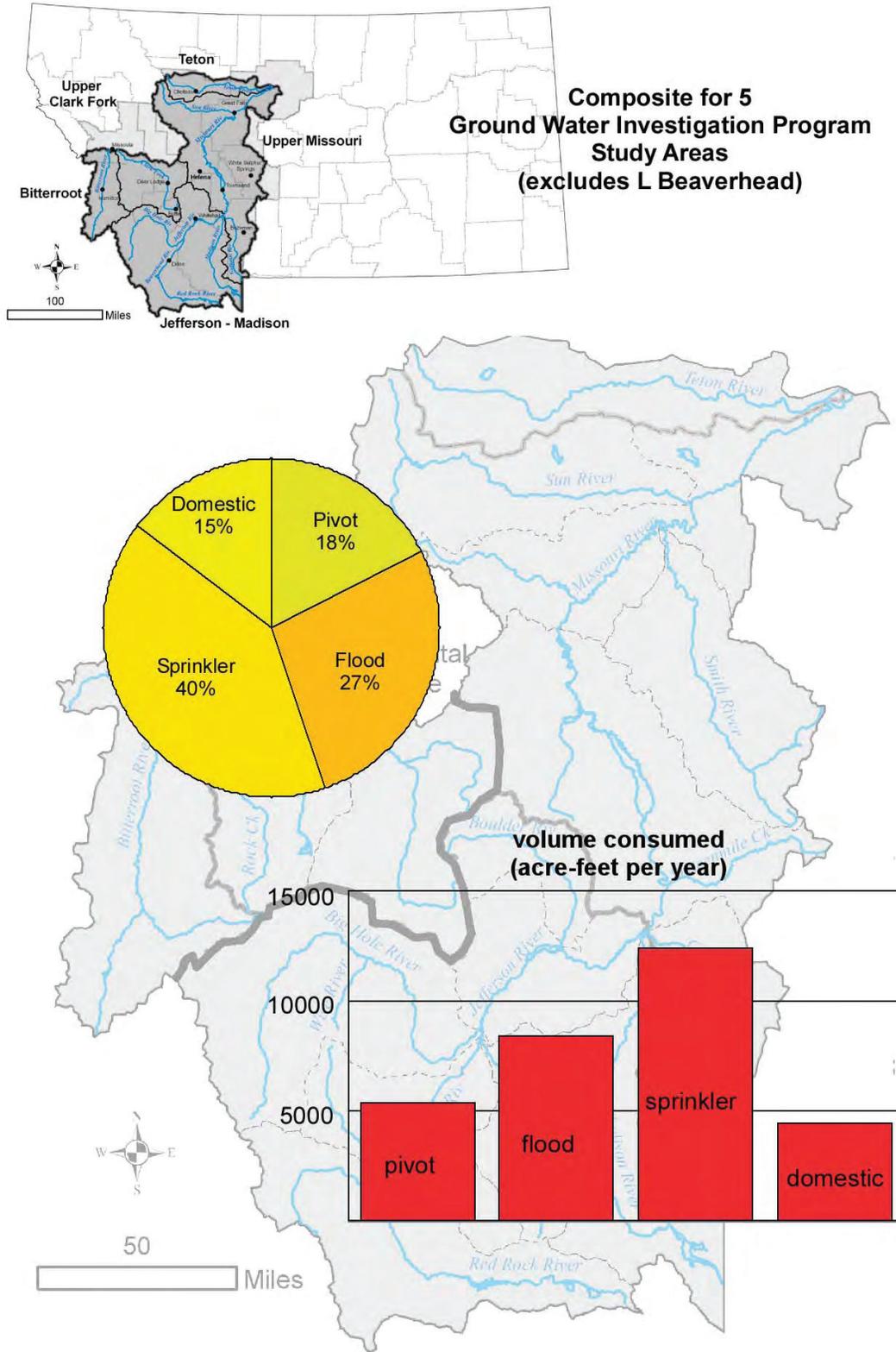


Figure 10. Consumptive use was compiled for the study areas in which the growth of domestic wells is of concern: Florence–Eightmile Creek, Florence–Threemile Creek, Helena–North Hills area, Bozeman–Four Corners area, and the Belgrade area.

### Summary of Study Area Budgets

A composite of data for the five sub-basins shows that domestic lawn use accounts for 15 percent of the annual consumptive use of groundwater (fig. 10). This is notably higher than the 0.2 percent consumptive use based on a statewide average reported by Canon and Johnson (2004). That is not to say the data or analyses of the data are in conflict, or that there is no impact at the basin or statewide scale; it demonstrates the importance of the scale of observation. Data collected and analyzed for local conditions in a sub-basin will likely reveal potential issues sooner than those of the basin scale.

### Altered Watersheds

Montana has more than 3,000 miles of irrigation canals that carry 11.6 million acre-feet to irrigate about 2.2 million acres of crop and pasture on an annual basis. Crop water demand ranges from 1 to 3 acre-feet per year (Bauder and others, 1983); the average consumptive use rate for all crops and pasture is about 1.2 acre-feet per year (Cannon and Johnson, 2004). Thus, almost 9 million acre-feet of the 11.6 million acre-feet, or 77 percent, of the water diverted for irrigation is available for return flow as run off or recharge to groundwater. Table 1 shows the ditch loss reported by MBMG investigations throughout the State.

The volume of groundwater recharge from irrigation ditch loss often overwhelms the natural recharge processes. For example, the East Bench Irrigation Canal in the lower Beaverhead River may lose as much as 398 acre-feet per season; with a length of about 17 miles between Dillon and Beaverhead Rock, the seasonal ditch loss would be about 6,800 acre-feet. Additional recharge occurs from direct flood irrigation.

The groundwater flow systems in nearly all of the watersheds of western Montana and the large watersheds of eastern Montana have been substantially altered by recharge from irrigation canals (fig. 11).

Table 1. Ditch loss reported by MBMG investigations throughout Montana.

<b>Figure 11 Inset Map Reference: Source</b>	<b>Ditch Loss (cubic feet per second per mile)</b>	<b>Ditch Loss (acre-feet per year per mile)*</b>
A: Osborn and others (1983)	0.45–4.7	81–850
B: Madison (2006)	0.6	114
C: Abdo and Metesh (2005) Abdo and Roberts (2008)	0.15–1.5	27–271
D: GWIP Beaverhead	2.2	398
E: GWIP Belgrade	0.40–4.3	72–778
F: Kuzara and others (2012)	1.1–1.8	199–326
G: Olson and Reiten (2002)	0.05–0.5	9–90

\*Assumes the ditch is active 3 months per year.

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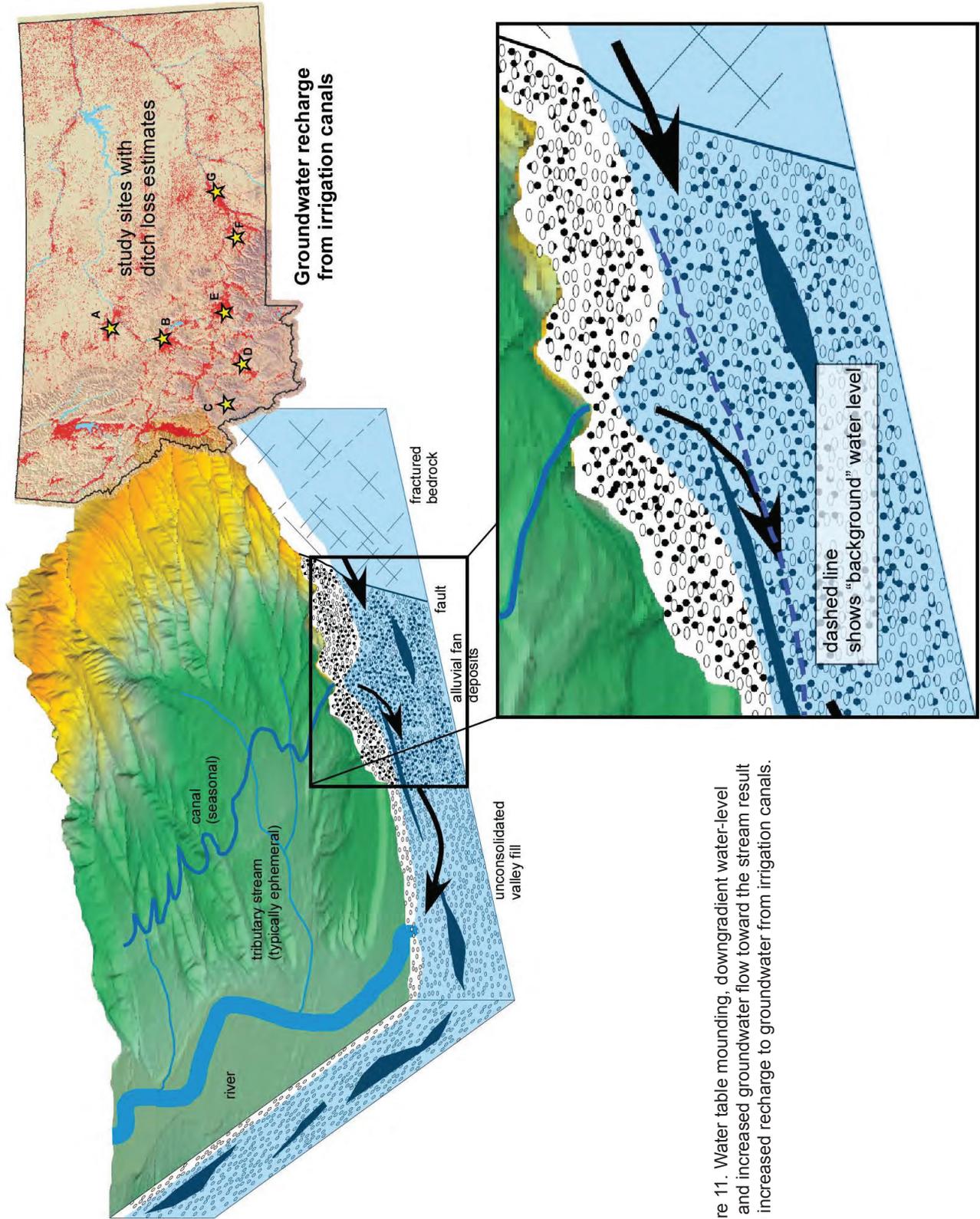


Figure 11. Water table mounding, downgradient water-level rise, and increased groundwater flow toward the stream result from increased recharge to groundwater from irrigation canals.

### Effects of Irrigation Canals on Groundwater Levels

Nearly all of the intermontane valleys of western Montana are irrigated and sub-irrigated (recharged) by surface-water diversions. Recharge to groundwater from irrigation ditch loss is substantial; in many areas, the irrigation system is more than 100 years old and has established an artificial recharge system. There are several examples of wetlands and groundwater-dependent ecosystems that rely on recharge from these irrigation systems.

The hydrograph in figure 12 shows water levels in a well influenced by the East Bench Irrigation Canal in the lower Beaverhead River drainage. The water levels

(red squares) show a 40 ft water-level rise in response to flow in the canal. The canal was shut off for about 2 years (2003 through mid-2005) for lack of water; water levels dropped nearly 30 ft due to the lack of precipitation in the area and the lack of recharge from the canal.

Similar water-level responses to irrigation canals have been observed in other areas of Montana. Wren and others (2012) observe a 15- to 20-ft response near the Helena Valley Irrigation District canal, and Kuzara and others (2012) observed an 18-ft response in the Stillwater River drainage. Smith (2006) discussed water-level response to irrigation in wells of the Bitterroot Valley.

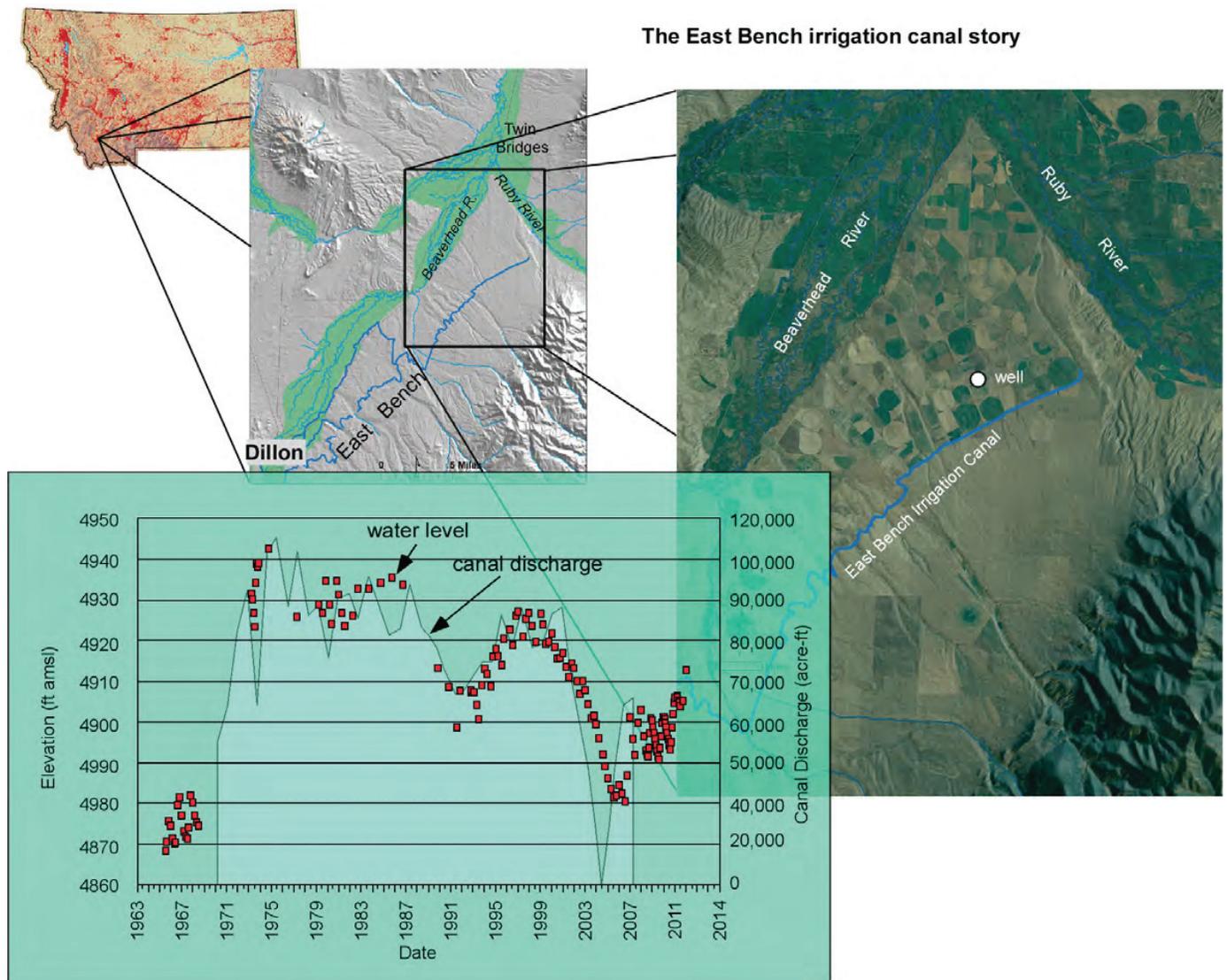


Figure 12. The East Bench irrigation canal provides one of many examples of groundwater recharge by irrigation. In addition to groundwater levels, the pattern of stream discharge has also been changed.

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As land use changes from one type of irrigated agriculture to another or from irrigated agriculture to domestic use, recharge to the local groundwater flow system is likely to be affected. When irrigation canals are abandoned, the reduction to groundwater recharge may be substantial. Water levels in wells may decline, even to the point of wells going dry, groundwater flow to tributary streams and wetlands may be reduced, and the effects of stream depletion by existing pumping projects may be exacerbated.

### Stream Depletion by One Well or Many

Stream depletion or stream-flow reduction from groundwater withdrawal presents a complex challenge to management of water. Stream depletion is ultimately equal to the discharge rate of the well as it relates to the periodicity of that discharge. For example, pumping 400 gpm for 3 of every 12 months will establish a depletion rate of 100 gpm. Stream depletion is independent of stream discharge; the 100 gpm depletion in the example will be the same whether the stream discharges 1000 cubic feet per second (cfs) or 10 cfs. The ultimate volume of depletion is independent of distance from the stream; however, the rate and timing of depletion is dependent on distance, aquifer properties (transmissivity and storage coefficient), as well as the pumping rate. There is no difference between pumping from one or many wells; one well pumping at 1,000 gallons per minute (gpm) is equivalent to 100 wells pumping at 10 gpm; however, the location of the well(s) can be very important.

Figure 13 presents the effect of well placement and other factors such as septic drain fields on stream depletion. The top figure shows the difference between two wells, pumping at the same rate of 600 gallons per day (gpd) for in-house use, at different distances from the stream. The second figure shows the same wells pumping 600 gpd for in-house use plus cyclical pumping for lawn irrigation for 90 days each year. Under the same hydrogeologic conditions, the difference between a well at 1,000 versus 2,620 feet from a stream changes the peak stream depletion by a full month. That is, instead of depleting the stream during critical low flows in August (red line), it could be delayed until September when stream flows are not as critical (blue line). The third figure shows stream depletion rates for a case where the well is 2,640 feet from the stream, but the septic drain field is 1,000 feet from the stream. In this example, installing the supply well away from the stream and using near-stream recharge from the drain field to offset consumption reduces stream depletion by 60 to 75% each year (green line). The latter example is not always practical for individual homes, but demonstrates a potentially useful strategy for managing a public water supply with properly installed individual septic systems in a multi-home subdivision.

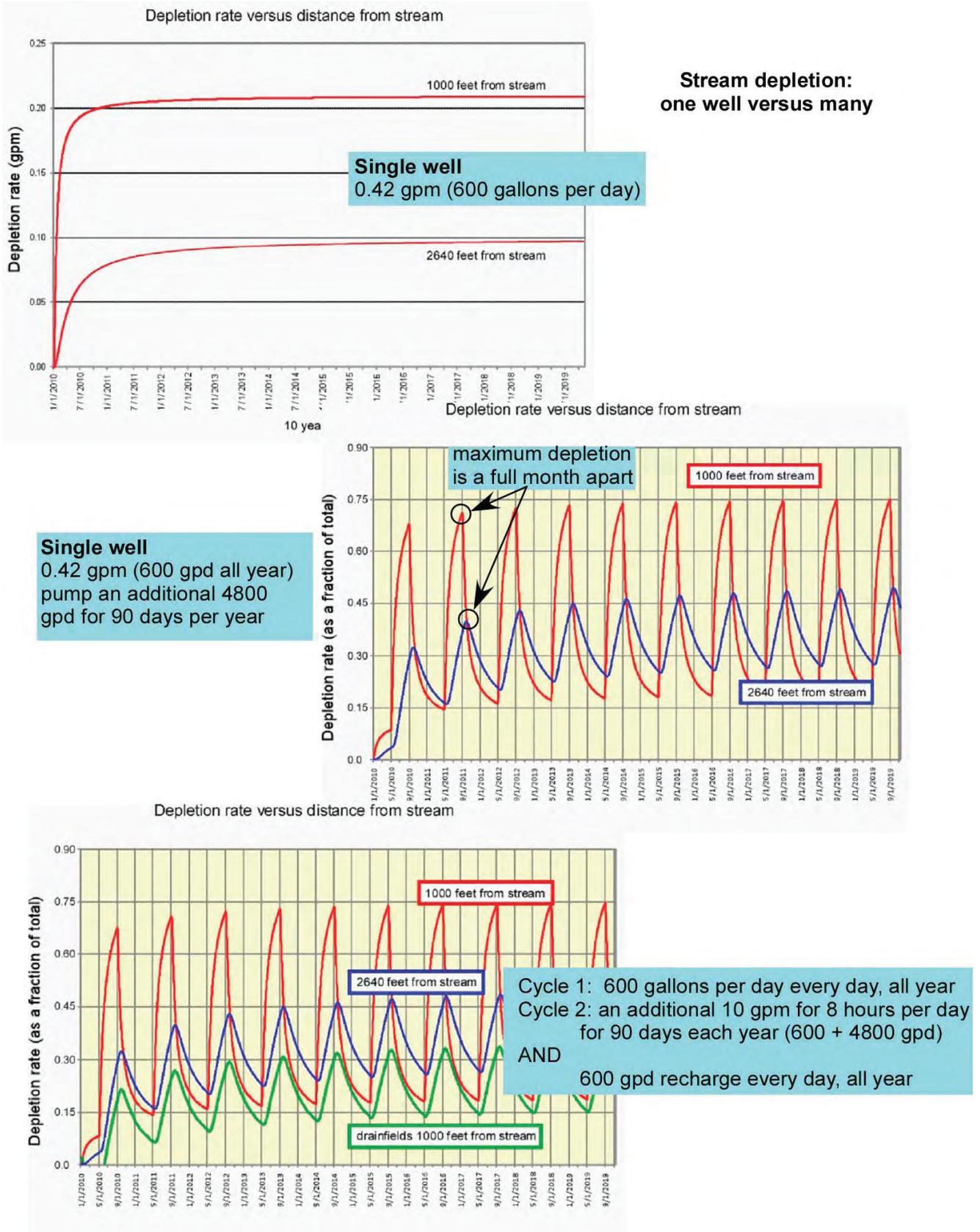


Figure 13. The rate of stream depletion by pumping groundwater is largely affected by the distance between the well and the stream.

### Stream Depletion Zones

As discussed, stream depletion is affected by aquifer properties, the discharge of the well, and the distance between the well and the stream. Using predictive modeling to estimate stream depletion for each and every proposed well can be onerous and expensive. Alternatively, modeling data from hydrogeologic studies with representative or anticipated values for well discharge can be used to map zones that represent stream depletion rates and volumes.

Figure 14 shows an example of a map where stream depletion zones were established for various areas in the aquifer near the stream. The hydraulic conductivity and storage coefficient of the aquifer were used to map areas where stream 80% of the total depletion would occur within 1 month, between 1 and 2 months, and within 3 months at a specific pumping rate. In addition to those presented, zones of peak-month depletion or zones of average annual stream depletion can also be constructed. Where data are sufficient for more detailed modeling, groundwater recharge as affected by climate variation can also be evaluated.

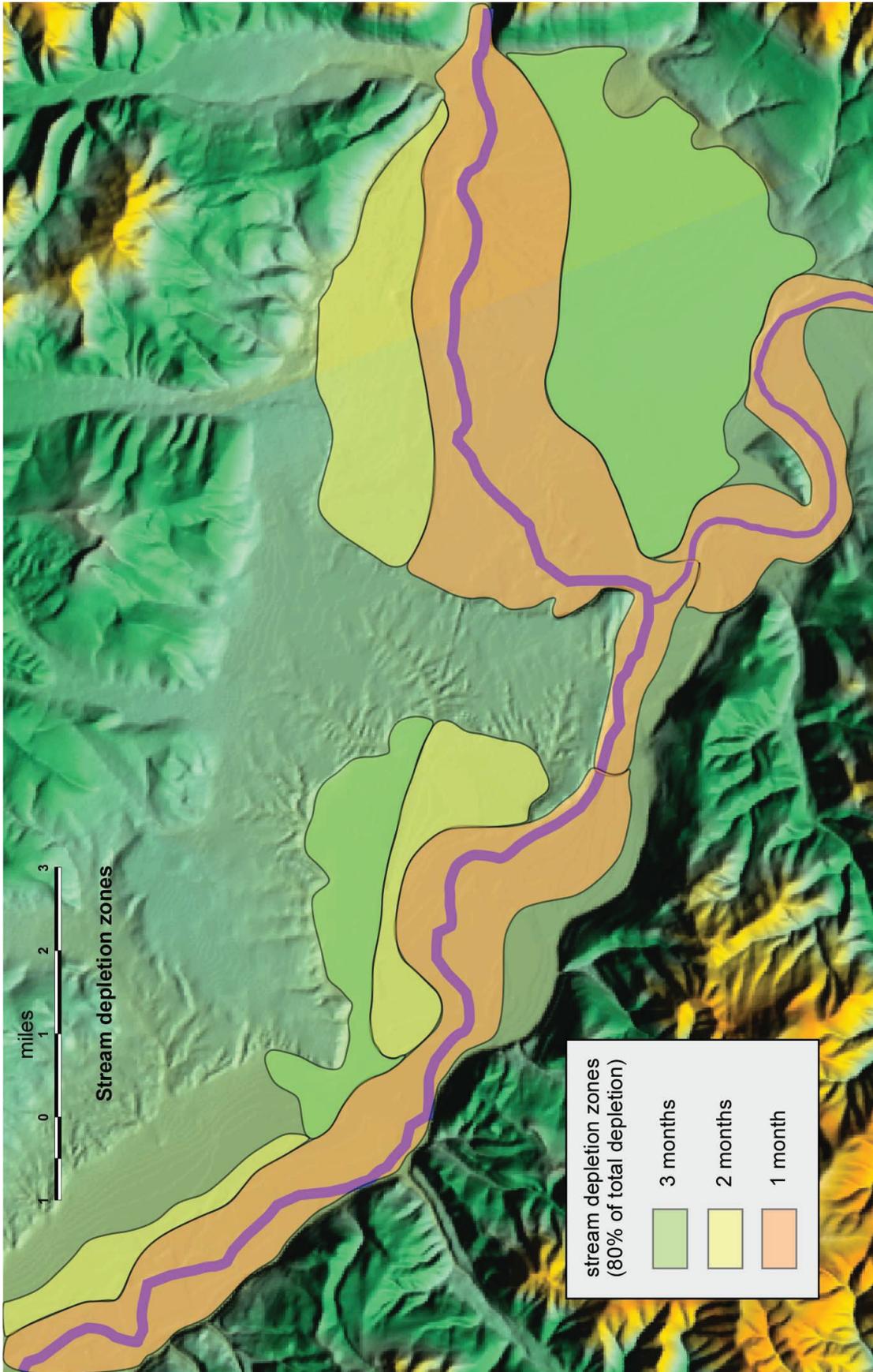


Figure 14. Stream depletion zones can be established based on aquifer properties and groundwater flow modeling.

John Metesh

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**From:** [Harold Blattie](#)  
**To:** [wranglergallery@hotmail.com](#); [walt@midrivers.com](#); [connell4hd87@yahoo.com](#); [betsyhands@gmail.com](#); [macwilly66@msn.com](#); [grt3177@smtel.com](#); [apsaaloowekewomen@yahoo.com](#); [cvincent@hotmail.com](#)  
**Cc:** [Kolman, Joe](#); [Thigpen, Helen](#); [kevinmccue2@mt.gov](#)  
**Subject:** WPIC Comment  
**Date:** Friday, June 22, 2012 6:33:09 AM

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Water Policy Interim Committee members,

During the 30 years we ranched near Molt Mt, we experienced about half of those years with less than average precipitation. In those years we would reduce the size of our herd to fit the available pasture. We simply managed our resource - given its availability in relation to precipitation.

As I listened to the testimony in Bozeman, and from the information presented at the earlier WPIC meetings, it appears to me that there really isn't too much concern about household use for washing, bathing and cooking and that the real "culprit" is lawn watering.

Are we collectively overlooking the obvious?

Municipalities, residential water districts and water users associations have been managing their water supply for years, by simply imposing lawn watering restrictions, i.e. odd and even day watering.

See the recent article from Butte Standard below:

### ***Sprinkling rules go into effect next week***

***Because of the recent hot weather and the possibilities of experiencing low pressure in the county's water transmission system, Butte-Silver Bow is requiring residents to observe odd-even sprinkling restrictions starting Wednesday, June 27.***

***Houses with odd-numbered addresses sprinkle on odd-number days, houses with even numbers sprinkle on even-number days.***

***People are asked not to sprinkle from 10 a.m. to 6 p.m., the hottest part of the day. Failure to observe the restrictions could result in fines and fees up to \$150 and the loss of sprinkling privileges.***

***For details, call the Butte Water Division at 497-6540 or 497-6500.***

Municipal water providers generally know how much water is available and their water plant capacity so to keep usage within that capacity, they manage their water usage, just like I used to manage my pastures.

Several different alternatives could be considered such as:

Statutorily requiring subdivides to place odd-even watering restrictions in homeowners association covenants

Statutorily restricting owners of exempt wells to only water lawns on odd-even days. Would probably need to provide for a civil penalty with citations being written by law enforcement.

In reality, few citations would ever be issued and they would probably be complaint driven. Deputies and JP's have much more important things to do than deal with watering violations so actual enforcement would be minimal. I believe that voluntarily compliance would fairly high because fundamentally most people want to do the right thing and want to be law-abiding. Even if there was

only 75% compliance, the reduction in usage would be significant.

A variant could be that DNRC or the Governor's Drought Advisory Task Force could look at individual drainages and determine if conditions warranted imposing restrictions or not.

So far, I really have not heard any discussion about addressing different times of water availability. When precipitation is high, there is a lot more water available than during periods of drought. It seems that all of the discussion assumes a constant water supply while in reality water availability during wet years and dry years and also different times of the year is probably the biggest variable in the whole equation.

Not a silver bullet by any means but perhaps worth considering as a piece of the puzzle.

This is not a suggestion from the Montana Association of Counties, just a comment from a resident.

Thank you,

L Harold Blattie, Executive Director  
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August 24, 2012

Joe Kolman  
 Water Policy Interim Committee  
 PO Box 201704  
 Helena, MT 59620-1704

RE: Comments on LC 8011 and LC 8012

Dear Mr. Kolman and Members of the Montana Water Policy Interim Committee:

The Clark Fork Coalition (CFC) appreciates the opportunity to submit comments on the Water Policy Interim Committee's (WPIC) report and bill drafts related to permit-exempt wells. We appreciate the Committee's hard work during this interim on crafting a workable solution to the permit exempt well loophole. As discussed in more detail below, CFC believes WPIC should recommend LC 8012 for passage by the 2013 Montana Legislature, as it will go a long way toward addressing many of our concerns regarding the impacts of permit-exempt wells on existing water rights and streamflows in over-appropriated basins.

CFC, founded in 1985, is a non-profit organization dedicated to protecting and restoring the 14 million-acre Clark Fork River watershed. We are comprised of 2,700 members who are united behind the belief that clean water is integral to the health of our communities.

CFC's members help support our work with private landowners, irrigation districts, and water user groups to develop instream flow restoration projects that benefit clean water, healthy fisheries, and working lands. Our members are concerned about the cumulative impact on streamflows and senior water rights that has and will continue to result from the unchecked use of permit exempt wells for large new groundwater appropriations – mainly for new residential development in over-appropriated basins.

Our members are also concerned about the use of exempt wells due to our organization's ownership interest in a 2,300-acre working cattle ranch located east of the Clark Fork River in the Deer Lodge Valley near Galen, Montana. The ranch holds a number of senior irrigation water rights. As a senior water rights holder in the upper Clark Fork watershed—a closed basin that is already fully appropriated—our members are concerned about how the use of permit exempt wells in the closed basin may impact our ranch's water rights.

While both bills attempt to address CFC's concerns over the use of permit-exempt wells by limiting the exemption for residential development and encouraging public water and sewer systems, CFC believes that LC 8012 provides a much more logical, fair and workable framework for both developers and for water right holders.

CFC believes that LC 8011 will create an uncertain process for both the subdividers and the local governing body who will be charged with assessing all manners of "alternatives" to public water and sewer systems that, for all intents and

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purposes, will likely be proposed to avoid the requirement for obtaining a new water use permit from the DNRC. CFC believes this will result in a preservation of the status quo and a continuation of the proliferation of multiple of exempt wells for new large-scale developments. We also believe that the 20-lot/ 3-acre trigger seems arbitrary and allowing the exemption for developments with less than 20 lots would not guarantee protection to existing water right holders. In short, CFC believes LC 8011 does not go far enough to addressing the concerns over cumulative effects of multiple exempt wells.

On the other hand, CFC believes LC 8012 gets at the heart of our most significant concern over the use of permit exempt wells – namely the cumulative effect of multiple unpermitted and unmonitored wells for large residential subdivisions in over-appropriated basins. LC 8012's straight-forward approach to limit the exemption for new subdivisions to 10 acre feet of water per year provides both predictability for subdividers and protection for existing water right holders. The bill's requirement that a subdivider obtain an expedited answer on the request for exemption from the Montana Department of Natural Resources and Conservation (DNRC) provides further certainty for the development community.

We agree with the approach in LC 8012 to limit its application to legislatively closed basins. However, we recommend including language in the bill that would enable local governments outside of closed basins to opt-in to the process through appropriate legislative action. Our primary concern is that a portion of Missoula County, one of the fastest growing counties in the state, is not located within a legislatively closed basin. There may be other counties in similar positions that may wish to apply the exemption requirements in LC 8012. We believe WPIC should recommend passage of the LC 8012 in the 2013 Legislative Session.

Thank you for considering these comments.

Sincerely,

-s-

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Legal Director  
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barbara@clarkfork.org



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August 21, 2012

Joe Kolman  
 Montana Legislative Services Division  
 P.O. Box 201704  
 Helena, MT 59620-1704

RE: Comments on Water Policy Interim Committee Report/LC8011 and LC8012

Dear Mr. Kolman:

The following are comments of the Montana Association of REALTORS® (“MAR”) to LC8011 and LC8012 as those bill drafts are included in the Water Policy Interim Committee’s (“WPIC”) report entitled “*The Exemption, To Change or Not to Change?*.” On behalf of MAR’s members, we appreciate the opportunity to comment on these proposed bill drafts.

The following also comments on certain aspects of WPIC’s report and, generally, on the subject of permitting exemptions for certain groundwater wells and appropriations in Montana. MAR’s comments are designed to provide WPIC with MAR’s view on the proposed legislative drafts, as well as to give WPIC MAR’s views on the subject of the existing permit exemption for certain groundwater wells under the Montana Water Use Act (“MWUA”).

#### I. General Comments

As a threshold matter, MAR has consistently advocated that any discussions concerning the existing permit exemption on groundwater developments be grounded in science and based upon the best available information. Because the available information on exempt well development has historically been minimal, MAR has supported efforts by the Montana legislature to obtain science-based information on groundwater developments and the effect of such developments on Montana’s surface and groundwater supplies. These efforts have led to additional information being available to policy makers and the public on the subject of exempt wells and the effect of such wells on Montana’s water supplies. MAR believes these efforts should continue to guide policy makers in considering the issue of exempt wells.

MAR's continued support for an information-based approach to the subject of exempt wells or, for that matter, groundwater development in general, is because MAR firmly believes that the subject of groundwater development is largely misunderstood by the public and many times is clouded by simplistic assumptions or, at times, by goals not directly related to water development. It is only with a sound understanding of the issue that wise policy decisions may be made. MAR believes real progress has been made in this regard through the efforts of the Montana legislature, and through studies such as those commissioned by MAR that add to the information base. MAR believes these efforts have enlightened four basic principles that should largely be undisputed:

1. Montana is blessed with abundant groundwater and surface water supplies on a statewide basis;
2. Use of groundwater by household use from exempt wells or otherwise is relatively non-consumptive compared to other uses of water as approximately 95% of the water returns to the system;
3. Available groundwater aquifers in Montana are highly divergent in terms of water supplies available, level of development or non-development of this resource, and in terms of the relationships of those aquifers to area surface water systems; and
4. Policy decisions and Montana's water policy regulations should recognize the divergent nature of groundwater resources and groundwater availability in the state.

It is with these basic principles in mind that MAR provides the following comments.

## II. Specific Comments

### A. The MWUA allowance for groundwater permit exemptions is based on a sound premise; that is, certain groundwater developments likely do not affect other water uses, whether surface or groundwater.

As WPIC's report recognizes, less than 3% of water withdrawals across the state are related to groundwater. Of those, only 8% are withdrawn by exempt domestic wells and, because of the nature of such withdrawals, even less water is actually consumed.<sup>1</sup> On such a scale, the effect of exempt wells on groundwater or surface water supplies would appear to be negligible.

Given this information, it would appear that MWUA's allowance that certain groundwater developments be exempt from permitting requirements rests on a sound premise. *See*, Mont. Code Ann. § 85-2-306. In other words, by providing an exemption from the permitting requirements, the MWUA properly recognizes that certain groundwater withdrawals likely have no impact on other users of the water resource.

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<sup>1</sup> WPIC Report at page 9.

Joe Kolman  
August 22, 2012  
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MAR would suggest that on a statewide level, and on a basin-wide level, technical data or information presently available does not support a conclusion that the exemption provision is flawed. In fact, given the de minimus quantities of water associated with the present exemption (35 gallons per minute (“gpm”) up to 10 acre-feet per year), when compared to available water supplies on a statewide or even basin-wide scale, MAR believes there is little scientific support to modify the present statutory exemption threshold for groundwater developments in Montana. As such, MAR believes the legislature should avoid proposals for legislation that modify the existing permit exemption on large scale regions of the state.

**B. The MWUA provides an existing statutory and regulatory remedy for addressing groundwater developments that may threaten groundwater aquifers or surface water availability to existing users.**

As the WPIC report correctly recognizes, on a statewide scale, there is little agreement or evidence to suggest the existing statutory exemption is detrimental to senior water right holders.<sup>2</sup> As the report also correctly finds, consumption by domestic household wells is minimal.<sup>3</sup> Finally, as the WPIC report also correctly finds, current law allows for local water users and others concerned with groundwater development to establish controlled groundwater areas wherein all groundwater developments, or targeted groundwater developments, would be subject to permitting review.<sup>4</sup>

MAR believes the controlled groundwater area (“CGA”) provisions of MWUA, and the existing process for establishing any such areas, provides the proper mechanism to alter the existing groundwater permit exemption. *See*, Mont. Code Ann. §§ 85-2-506, 508. Under the terms of the existing CGA statutes, and the process associated with implementing the provision, areas where groundwater or surface water availability may be impacted by well development may be specifically targeted and assessed. Under these existing statutory provisions, should exempt (or even permitted) well development cause concern, the Montana Department of Natural Resources and Conservation (“DNRC”) may designate or modify temporary or permanent controlled groundwater areas. If designated by DNRC, well development in any such areas may be required to obtain permits, thereby altering or eliminating the use of exempt wells in designated areas or designated aquifers.

MAR believes the soundness of CGA provisions and processes in addressing concerns with groundwater development should not be overlooked. As the existing CGA process requires, scientific-based information will be reviewed by DNRC associated with any petition to designate any such area. Under the process, areas or aquifers that anyone believes may be at risk from development could be properly assessed. Also under the process, all interested persons could submit information and data to DNRC for consideration. Under the CGA process, DNRC may also properly tailor a remedy, including permitting of all groundwater developments, as appropriate to the situation presented.

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<sup>2</sup> WPIC Report at page 21.

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

MAR believes such an approach to modifying the groundwater well exemption is far superior to broad scale statutory modifications or elimination of the exempt well provisions. Because water supplies (whether groundwater or surface water) vary greatly within basins or even sub-basins, and because groundwater/surface water interactions may also vary greatly in small-scale regions, using the existing CGA provisions provides a more comprehensive approach to tailoring site specific modifications to the permitting requirements for groundwater developments than does large scale or broad scale statutory changes. In other words, the existing CGA process recognizes the reality that groundwater resources in Montana vary greatly, as does the relationship between groundwater development and existing groundwater or surface water supplies. MAR would encourage WPIC to highlight Montana's existing CGA provisions as the proper solution to address any concerns with the groundwater permitting exemption. As WPIC's report notes, such an approach is recognized as a "scalpel" rather than a "hammer" for addressing the issue of exempt wells.<sup>5</sup> Given the wide array of hydrologic and hydrogeologic conditions in Montana's basins and sub-basins, the issue of exempt wells requires a "scalpel" approach.

C. **MAR disagrees with the WPIC report's recommendations that it is reasonable to restrict the use of exempt wells in new subdivisions in Montana's so-called "closed basins."**

At page 22 of WPIC's report, Recommendation B notes that in basins where surface water uses are "mostly limited," it is "reasonable to restrict the use of exempt wells for new subdivisions." Under this recommendation, LC8011 and LC8012 are highlighted as proposals to implement the recommendation.

Prior to addressing LC8011 and LC8012, MAR believes the proposed draft recommendation is inconsistent with the body of the information provided by the balance of WPIC's report and flawed in the focus on new subdivisions as the target for restricting the use of the existing exemption.

First, as WPIC's report notes, there is no sound scientific basis to suggest that on a broad scale basis the groundwater exemption is having any effect on existing groundwater or surface water uses. By making a recommendation that Montana's so-called "closed basins" are the appropriate locale for restricting the use of exempt wells, the recommendation applies a broad scale approach to vast areas of western Montana. Such a recommendation appears to be at odds with the balance of WPIC's report that recognizes the divergent nature of aquifer and surface water interactions, and the fact that broad scale conditions on the effect of exempt well development is not proper based on the existing science and data.

Second, the recommendation also is inconsistent with WPIC's report by targeting new subdivisions. As WPIC's report correctly recognizes, domestic household use is largely non-consumptive with the vast majority of diverted groundwater returning directly to the source.

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<sup>5</sup> WPIC Report at page 18.

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Because the existing exemption includes other uses (*i.e.*, stockwater, irrigation, mining, or any other use up to 10 acre-feet per year) specifying new subdivisions, which encompasses household domestic use, places the target on restricting the exemption on the least likely activity of concern. MAR believes WPIC should reexamine Recommendation B prior to final approval of the report.

**D. Comments to LC8011.**

The following are MAR's comments to LC8011. In addition to the following specific comments to the draft proposal, MAR incorporates the foregoing comments as applicable to LC8011.

LC8011 proposes to amend various statutes concerning subdivision regulations (Mont. Code Ann. § 76-3-504); the statute directing that local regulations not be more stringent than state regulations (Mont. Code Ann. § 76-3-511); the statute dealing with preliminary plat applications (Mont. Code Ann. § 76-3-601); the statute regarding review of subdivision applications (Mont. Code Ann. § 76-3-604); the statute concerning water and sanitation information accompanying a preliminary plat application (Mont. Code Ann. § 76-3-622); and the permit exemption statute (Mont. Code Ann. § 85-2-306).

In amending Mont. Code Ann. § 76-3-504, it is proposed that for residential subdivisions in so-called "closed basins," and for which the subdivision will create 20 or more lots with an average lot size of less than 3 acres, the standards must require the subdivision to:

1. install a public water supply system and public sewer system; or
2. seek approval from the local governing body to install an "alternative" to a public water and sewer system.

Importantly, the proposal states that the provisions of Mont. Code Ann. § 76-3-511 do not apply to the requirement set forth above in amending Mont. Code Ann. § 76-3-504. As such, it would appear that local governing bodies would be authorized to adopt regulations more stringent than those provided by the proposed statutory amendment.

MAR's concerns with the proposed amendment to Mont. Code Ann. § 76-3-504 are three-fold. First, the threshold numbers (20 lots on more with an acreage lot size of less than 3 acres) appear wholly arbitrary. Second, by exempting the provisions of subsection (2)(c) from Mont. Code Ann. § 76-3-511, local governing bodies would be authorized to modify the thresholds to more stringent levels than set forth in the draft (*i.e.*, the number of lots or the size of lots). Such an approach creates confusion and regulatory uncertainty. Third, establishing the requirements proposed creates different water system requirements in so-called "closed basins" from those that would exist outside these areas. Again, such a broad scale approach fails to acknowledge the fact that groundwater availability is highly divergent and that groundwater/surface water interactions cannot be characterized on such a broad scale.

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MAR also has concerns with Section 5 of LC8011 amending Mont. Code Ann. § 76-3-622. Under proposed subsection (4), a subdivider who would propose an alternative to the public water and sewer system requirements of Mont. Code Ann. § 76-3-504(2)(c) would be required to provide “peer reviewed scientific studies” that the alternative system would meet the requirements of new subsections (a) and (b). Such studies would require a multiplicity of technical studies on the proposed alternative systems that, depending on site conditions, could be cost prohibitive to the project.

The proposed amendments to Mont. Code Ann. § 85-2-306 are also of concern. Under the proposed amendments, subdivisions not subject to Mont. Code Ann. § 76-3-504(2)(c) (public water supply requirements) in closed basins would be limited to 10 gpm or less not to exceed 1 acre-foot consumption per year to comply with the permit exemption. The proposed amendment is of concern for three reasons.

First, allowing exemptions for certain non-subdivision appropriations at 35 gpm up to 10 acre-feet, while restricting new subdivision use to 10 gpm and less than 1 acre-foot of consumption is arbitrary. If the concern is water supply related, there is no difference between the type of use to which the water is placed. Targeting subdivision use to a 10 gpm/less than 1 acre-foot threshold is unsupportable on a basin-wide level.

Second, the less than 1 acre-foot consumed threshold would not allow for anything else but household use of water. Lawn or garden watering would likely be precluded in most instances without a sound scientific-based justification for such a limitation. WPIC should avoid forwarding such a proposal.

Third, basin-wide application of the restriction again fails to recognize the divergent nature of groundwater supplies and groundwater/surface water interactions that exist on such a broad scale level. Depending on the aquifer and depending on surface water interactions, 35 gpm/10 acre-foot wells may have no effect on surface water or groundwater availability. Applying restrictions on the exemption at a basin-wide level seems contrary to the hydrologic and hydrogeologic information and data WPIC has reviewed, or been provided. MAR would again strongly suggest WPIC avoid broad scale approaches to the groundwater exemption issue. MAR would urge WPIC to not endorse LC8011.

#### **E. Comments to LC8012.**

The following are MAR’s comments to LC8012. Like LC8011, this proposal targets subdivision use from exempt wells and proposes limits be imposed on a broad scale, basin-wide level. Similar to MAR’s comments to LC8011, MAR opposes targeting one use of groundwater (*i.e.*, domestic use in subdivisions) under the permit exemption from other exempt uses, and further opposes limiting the use of exempt wells on a broad scale, basin-wide level. Those concerns will not be repeated below, but are also of concern with LC8012.

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Specifically, LC8012 proposes that subdivisions located in the so-called “closed basins” that are using one or more wells under Mont. Code Ann. § 85-2-306(3)(a)(i)(A) (*i.e.*, 35 gpm up to 10 acre-feet) be limited to no more than 10 acre-feet per year. *See*, Section 1, amending Mont. Code Ann. § 76-3-504. LC8012 also proposes that if the proposed subdivision will use one or more exempt wells that “pre-approval” from DNRC be required allowing a total appropriation in the subdivision of up to 10 acre-feet, and that this pre-approval accompany the preliminary plat. *See*, Section 5, amending Mont. Code Ann. § 76-3-622. This latter provision would appear to apply statewide.

MAR is concerned with either provision that would appear to limit use of exempt wells in any subdivision to no more than 10 acre-feet per year. MAR is aware of no information available to WPIC that would support a conclusion that limiting use within an entire subdivision to 10 acre-feet from an exempt well(s) is necessary given the availability of groundwater in many areas of Montana, whether closed basins or otherwise. Again, such a broad scale limitation is unnecessary and unsupported from the information presented to WPIC on groundwater availability in Montana.

MAR is also concerned with the pre-approval requirement being linked to the preliminary plat process. *See*, Section 5 amending Mont. Code Ann. § 76-3-622; Section 6 amending Mont. Code Ann. § 85-2-306. Under the proposed pre-approval process, a subdivider would need to apply for pre-approval from DNRC to use the exemption under Mont. Code Ann. § 85-2-306(3)(a)(i)(A). Under the proposal, DNRC would determine if the total water appropriated for the subdivision would exceed 10 acre-feet per year. In addition, DNRC could include conditions on the pre-approval.

The provision to apply for pre-approval exemption in effect eliminates the exemption for subdivision use. Under the proposal, the subdivision applicant for an exemption would need to fill out a form provided by DNRC, who would then make a determination on the application. In addition, since DNRC could condition the use of water from a 35 gpm up to 10 acre-feet per year well, the entire process proposed (*i.e.*, “pre-approval”) is in effect an application and approval process for the use of presently exempt wells in a subdivision. The process proposed effectively means the subdivision must apply to DNRC for a 35 gpm/10 acre-feet well and receive approval from DNRC. Such a proposal effectively eliminates the exemption for subdivision use, not only basin-wide, but apparently statewide. MAR opposes such a proposal as envisioned in LC8012. As with LC8011, MAR would urge WPIC to not endorse LC8012.

### III. Conclusion

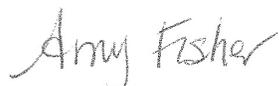
On behalf of MAR’s membership statewide, we appreciate the opportunity to provide WPIC with comments. MAR would continue to urge WPIC to approach the issue of exempt wells from a science/information based standpoint. When approached from such a perspective, neither LC8011 nor LC8012 present sound legislative approaches to the issue of the groundwater well permit exemption.

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MAR further believes the existing provisions of the MWUA concerning establishment or modification of controlled groundwater areas provides the appropriate process and remedy for those concerned with exempt well development. Under the CGA provisions, site specific concerns may be properly reviewed with appropriate remedies and requirements being tailored to specific areas. Such an approach seems better suited to address the issue of exempt well development than do large scale, basin-wide proposals.

Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in cursive script that reads "Amy Fisher".

Amy Jo Fisher  
Government Affairs Director  
Montana Association of REALTORS®

**Kolman, Joe**

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**From:** Lovelace, Bonnie  
**Sent:** Wednesday, August 15, 2012 10:42 AM  
**To:** Kolman, Joe  
**Cc:** Madden, Jim; Kingery, Barbara  
**Subject:** DEQ Comments on draft bill: LC8011

Joe: I am submitting the following comments on behalf of the DEQ. We have looked over the draft bills and discussed them with the help of staff attorney, Jim Madden.

LC 8011 has two minor technical problems that could be addressed as this draft is finalized. This bill amends the Subdivision and Platting Act to require subdivisions with 20 or more lots to have public water and sewer systems.

1. The draft bill states that the public water and sewer systems in these subdivisions must meet regulations adopted by DEQ "under 76-4-104". This is a reference to the Sanitation in Subdivisions Act. See amendment 76-3-504(2)(c)(i). However, DEQ rules adopted under the Sanitation Act (ARM Title 17, chapter 36) don't contain the requirements that DEQ applies to public water or sewer systems. When DEQ reviews a subdivision, we review any public water and sewer systems under the public water and sewer rules (ARM Title 17 chapter 38 subchapter 1). These rules are adopted under the authority of the public water/sewer laws at Title 75 chapter 6, MCA. The reference to "under 76-4-104" probably should be to "under 75-6-103".

DEQ is planning to amend the Sanitation Act rules to make it clear that the applicable rules for public systems are those set out in ARM Title 17 chapter 38.

2. Further, there is a minor problem with one of the existing provisions in 76-3-504. This bill would move that provision but would not substantially change it. The provision requires local subdivision rules to contain standards for water, sewer, and solid waste that meet DEQ standards, or if DEQ standards do not apply, that meet standards set out in sections 604 and 622 of the Platting Act. See amendment 76-3-504(2)(b). The provision refers to subdivisions that create "one or more parcels". The problem is that some subdivisions don't create new parcels: e.g., condominiums and mobile home or RV parks. For these subdivisions, the statute does not tell us which regulations are the minimum requirements. Probably it should be DEQ regulations, since they apply to those subdivisions.

A possible fix would be to amend (2)(b)(i) to say "for subdivisions that will create one or more parcels containing less than 20 acres or that create a condominium or area, regardless of size, that provides permanent multiple space for recreational camping vehicles or mobile homes". This tracks the Sanitation Act definition of "subdivision" in 76-4-102(16), MCA.

3. Clarification is needed for 85-2-306 (3)(a) (iii) (B) - PAGE 22. Does this section refer to the subdivision as a whole or to individual lots within the subdivision? This language is confusing.

Bonnie Lovelace  
 Regulatory Affairs Manager  
 Director's Office  
 Montana Department of Environmental Quality  
 406-444-1760



**Laura Ziemer**

*Director, Montana Water Project*

August 14, 2012

Joe Kolman  
Water Policy Interim Committee  
P.O. Box 201704  
Helena, MT 59620-1704  
*Sent electronically to [jkolman@mt.gov](mailto:jkolman@mt.gov)*

**Re: TU Comments on LC 8011 and LC8012, and TU's Support for LC8012.**

Dear Members of the Water Policy Interim Committee:

Trout Unlimited,(TU), appreciates the breadth of information and analysis contained in the Water Policy Interim Committee's (WPIC's) report on the issue of permit-exempt wells, "*The Exemption: To change or not to change?*" (WPIC, 2012). As its Executive Summary notes, this is the fourth consecutive interim during which the WPIC has considered permit-exempt wells, and the expertise developed and the care the WPIC has taken to consider carefully the issue of permit-exempt wells is evident.

Montana Trout Unlimited (Montana TU) is a membership organization, comprised of anglers dedicated to conservation, protection, and restoration of coldwater fish, including Montana's wild and native trout. Montana TU's approximately 3,400 members enjoy angling on rivers and streams across the state, and volunteer hundreds of hours each year to restore streams, educate youth and the broader community about the benefits of healthy rivers and streams, and to protect river and stream flows.

Montana TU's members care about permit-exempt wells because of their impact on stream and river flows in over-appropriated river basins, and because of the ground water pollution problems associated with a concentration of septic fields. These issues come to the forefront when blue-ribbon trout water flows through high-growth areas. The Bitterroot and Gallatin Rivers continued to gain in popularity during the two decades (from 1990 to 2010) that Ravalli and Gallatin counties grew by 61% and 70%, respectively. *The Exemption: To change or not to change?* at p. 7. Over the last 7 years, (2004-2011), two-thirds of the lots the Montana Department of Environmental Quality approved for subdivisions were slated to be served by exempt wells. *Id.* at p. 7. For these reasons, Montana TU supports the WPIC's efforts to restrict the proliferation of permit-exempt wells and concentrated septic fields in over-appropriated

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river basins. In particular, TU urges members of the WPIC to recommend LC8012 for passage in the 2013 Montana Legislative Session.

**LC8011, Burdensome to Local Governments.** Bill draft LC8011 recognizes the problem of proliferation of permit-exempt wells in over-appropriated basins. Without replacing the water that multiple, exempt wells capture, these wells deplete streamflows and senior irrigation supplies. LC8011 takes a positive step forward by favoring public water and sewer systems for subdivisions of 20 or more lots, where the lots are less than 3 acres in size. TU, however, does not support LC8011 for passage in the 2013 Montana Legislative Session because TU believes that LC8011 places too high a burden on local governing bodies to review alternatives to public water and sewer systems for subdivisions.

The bill's proposed amendment to MCA 76-3-504(c)(ii), (at page 8 of LC8011 bill draft), allows an applicant to propose an alternative to providing a public water and sewer system for subdivisions of 20 or more lots with lots of less than 3 acres in size. TU believes local government's review of such proposals would require substantial staff time, development of expertise, and process to hold a hearing on the proposal as required. In addition, LC8011 does not contain clear guidelines for local governing bodies to make a determination of what an acceptable alternative to a public water and sewer system might be, to guide the expenditure of local government staff time and resources. For these reasons, TU believes that LC8011 would be expensive and frustrating for both local governments and applicants--without providing a workable solution for permit-exempt wells.

**LC8012, Clear and Concise.** One of the strengths of bill draft LC8012--in contrast to the ambiguity of LC8011--is its clear direction and ease of implementation. LC8012 amends MCA 76-3-504(m), (at page 5 of LC8012 bill draft), stating that a subdivision cannot appropriate more than 10 acre-feet a year, if it is located in an over-appropriated basin closed to new surface water rights. LC8012 also provides an expedited process for the DNRC to determine within 30 days whether the proposed subdivision will appropriate 10 acre-feet or less. The definition of "appropriate" in the Water Use Act, MCA 85-2-102(1)(a), also informs LC8012's implementation, clarifying that "'appropriate' means: to divert, impound or withdraw, including by stock for stockwater, a quantity of water for a beneficial use."

TU urges the WPIC to recommend LC8012 for passage in the 2013 Session of the Montana Legislature. While LC8012 does not prevent multiple, subsequent subdivisions in the same area, each using 10 acre-feet or less, it does require each development phase to go through subdivision review. This will help level the playing field in terms of cost and planning between exempt-well subdivisions and subdivisions on public water and sewer systems. While LC8012 may be only a first step, providing an incremental improvement over exempt-well management, it is a good first step that is worthy of broad-based support.

**Conclusion.** There is no easy solution to balancing permit-exempt wells against harm to senior water rights. If there were, it would not have taken the WPIC four consecutive

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interims to arrive at a set of recommendations. TU supports the WPIC's recommendation "to restrict the use of exempt wells for new subdivisions" in over-appropriated river basins where "senior water rights may be most susceptible to adverse effect." *The Exemption: To change or not to change?* Recommendation B, at p. 22. As a frequent applicant to the DNRC for a change-in-use of a water right claims, TU has first-hand experience with the frustrations many applicants feel in trying to navigate the increasingly complex permit and change process with the agency. TU supports the WPIC's recommendation that the DNRC "should continue to work with water use applicants to identify specific issues that may unnecessarily impede the permit and change process." *Id.*, Recommendation A. LC8012 is a good step toward implementation of these two recommendations

Please don't hesitate to contact me at [lziemer@tu.org](mailto:lziemer@tu.org) or (406) 522-7291 ext 103 if I can be of assistance to you or otherwise clarify any points made in these comments. Thank you for your consideration.

Yours truly,



Laura Ziemer

Cc: Krista Lee Evans, Senior Water Right Holders Coalition  
Bill Schenk, FWP Legal Counsel  
Holly Franz, PPL Legal Counsel  
Barbara Hall, Clark Fork Coalition Legal Counsel  
Mark Aagenes, Montana TU Conservation Director

**From:** [Ted Williams](#)  
**To:** [Kolman, Joe](#)  
**Subject:** Exempt well comments  
**Date:** Sunday, June 24, 2012 11:17:13 AM

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The following comments are based on professional experience with the State of Michigan and experience sitting on the Governor's Clark Fork River Task Force.

- 1) There appears to be some implication that the rate of pumping allowed for exempt wells is related to the volume of water allowed under the exemption. In the Michigan program, the water right is based on use, while maximum pumping rate is based on needs for emergency response (usually fire protection). In many cases, the maximum rate needed was required by regulation for a well to be certified for a particular use.
- 2) As I'm sure you know, there is massive confusion in all water policy over the meaning and logical conflicts between the following terms: legally available water, physically available water, legally mitigated water, water right use (beneficial?), and consumptive use. Added to that, legally available water is divided into non-adjudicated, adjudicated, and that under endless Compact Negotiations. One example of this confusion is the several locations where non-consumptive use of legally exempt wells is actually adding to the water physically available to senior right water users. Hopefully, the WPIC can work on this general confusion that is deeply imbedded in existing law and begin to simplify the issue. I have noticed that where there is sufficient physically available water most of existing regulatory water policy is not needed.
- 3) Exempt wells used for non-residential purposes (e.g. industry or agricultural) do need to be controlled as conflicts arise between needs for physically available water. I hope such issues can be treated with legislative authority to resolve these individual problems rather than a blanket, one-size-fits-all regulatory approach.
- 4) Finally, it appears (to me at least) that all the state's citizens have a right to an adequate residential water supply under the state constitution. This assumes that the constitution supports the welfare of all citizens and also names the state as the owner of all waters within our boundaries. To my knowledge, the exempt well provision is the only recognition of such a constitutional right. I hope the WPIC will keep this central concept in mind and not get lost in existing or proposed regulatory wording.

Thanks for the opportunity to comment. Hope these ideas assist in developing legislation and related language.

Ted Williams Ph.D. (aka. Ted)

**From:** [Tara DePuy](#)  
**To:** [wranglergallery@hotmail.com](#); [walt@midrivers.com](#); [connell4hd87@yahoo.com](#); [betsyhands@gmail.com](#); [macwilly66@msn.com](#); [grt3177@smtel.com](#); [apsaaloowomen@yahoo.com](#); [cvincent@hotmail.com](#)  
**Cc:** [Kolman, Joe](#); [Thigpen, Helen](#); [kevinmccue2@mt.gov](#); "Harold Blattie"; "Susan Swimley"  
**Subject:** WPIC Comment  
**Date:** Friday, June 22, 2012 9:54:11 AM  
**Attachments:** [85-2-506 Controlled ground water areas -- designation or modification.htm](#)  
[85-2-508 Controlled ground water areas -- permits to appropriate.htm](#)  
[36\\_12\\_905 HORSE CREEK CONTROLLED GROUNDWATER AREA - Administrative Rules of the State of Montana.mht.msg](#)

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Water Policy Interim Committee Members,

On behalf of MACo, we would like for the committee to considering using the existing Controlled Groundwater Area (CGWA) statutes, 85-2-506 and 85-2-508, MCA, as a starting point to draft legislation regarding exempt wells. While these statutes may require modification to shorten timeframes or the application review process to establish a CGWA, the statute in its existing format allows a CGWA boundary to be designated by the local community, water right holders or DNRC based on whether there are impacts to a specific aquifer that can be mitigated. The petition for a CGWA must contain an analysis by a hydrogeologist, qualified scientist or qualified licensed professional engineer documenting the scientific need for a CGWA. Exempt wells can be addressed through a CGWA such as they were addressed in the Horse Creek CGWA south of Absarokee.

A CGWA process to address exempt wells would not be a "one-size" fits all solution as the need would be determined by the local communities and a CGWA would be based on scientific evidence for a particular aquifer. This would seem to be a better solution than altering the Montana Subdivision and Platting Act to address a water issue.

For your convenience, I have attached a copy of the statutes and the Horse Creek CGWA designation. If you have any questions or would like further information, please let me know.

Thank you.

Tara

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**Tara DePuy, Attorney at Law, PLLC**

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September 7, 2012

Joe Kolman  
Montana Legislative Services Division  
P.O. Box 201704  
Helena, MT 59620-1704  
*Sent electronically to [jkolman@mt.gov](mailto:jkolman@mt.gov)*

RE: Comments on the Use of Controlled Groundwater Area Statutes to Deal with Exempt Wells

Dear Mr. Kolman and Members of the Water Policy Interim Committee:

As ranch owners in south central Montana, we are familiar with the exempt well issue and share in the concern over the proliferation of exempt well use in our state. Earlier this year we actually received a permanent controlled groundwater area (CGWA) designation on approximately 7,000 acres of ranch land, all because a 65 lot rural subdivision adjacent to our ranches was approved using exempt wells, without an adequate hydrogeological evaluation beforehand.

In response to recent written comments made to your committee on LC 8011 and LC 8012 and the use of CGWA statutes as the mechanism to deal with exempt wells, we felt it was incumbent upon us to share our experience with the Horse Creek CGWA.

To our knowledge, the majority of subdivision residents living in our CGWA have never believed in the need for a groundwater study. The developer, whose subdivision led to the petition for a CGWA, has always done an excellent job of minimizing the study. This minimization has been aided by the DNRC, which has maintained a low profile at best. From the beginning it has been our job to gather and compile flow data on springs and Horse Creek, check well depths, get water samples for chemical analysis and perform a myriad of other tasks. It has also been our job to pay a professional hydrogeologist to oversee our work and report to the state. We did this for five years, paid out approximately \$100,000.00 and spent thousands of hours in the field. Was it worth it? Well, when one considers the importance of water to a ranching operation, the answer is a resounding "yes." That response becomes tempered somewhat, because even though DNRC ultimately initiated the Horse Creek CGWA, we continue to have an uphill climb for direction from the agency.

Bottom line, we certainly wouldn't characterize our CGWA as a good example of how to deal with

exempt wells. A CGWA was the only option we had to better understand and manage the water resources in our area. We urge you to not be swayed by the Montana Realtors Association and MACo's contention that the CGWA statutes are somehow the key to managing exempt wells. The time for scientific evaluation is in the very beginning of the planning process, not after a subdivision is approved and people are buying lots, building houses and moving in.

Thank you for all your work on this very important subject and we look forward to a sensible decision with respect to exempt wells.

Sincerely,

Polly Rex  
Katrin Chandler  
Betty Lannen  
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[polly@horsecreekwater.org](mailto:polly@horsecreekwater.org)  
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Montana Association of Planners  
954 Caledonia Street  
Butte, MT 59701-9002  
[www.montanaplanners.org](http://www.montanaplanners.org)

September 6, 2012

Water Policy Interim Committee  
Attn: Joe Kolman  
PO Box 201704  
Helena, MT 59620

Dear Mr. Joe Kolman and Members of the Water Policy Interim Committee:

The Montana Association of Planners (MAP) appreciates the opportunity to comment on the draft report and draft legislation related to water wells exempt from water right permitting requirements. MAP is an association of professional planners from public and private entities, planning board members, and interested citizens that is very interested in issues that affect land use planning and development in Montana.

House Bill No. 602 directed the Water Policy Interim Committee (WPIC) to conduct a study of wells that are exempt from permitting under the Water Use Act. Key findings of this law include the following:

- Article IX, section 3 of the Montana Constitution recognizes and confirms all existing water rights.
- The development of ground water wells that are exempt from permitting may have an adverse effect on other water rights;
- The Water Use Act does not provide the Department of Natural Resources and Conservation (DNRC) with clear direction on the administration of ground water wells exempt from permitting.

In considering the issue that the WPIC has been charged with resolving, and after reviewing the draft report and the information presented to the committee, the following principles seem clear:

- Any adverse effect on water right holders must be addressed through the Water Use Act.
- Regulating exempt wells only in subdivisions will not prevent adverse effects to water right holders.

It is well known that agricultural use accounts for the vast majority of consumptive water use statewide in Montana. The draft study report presents data from targeted areas that clearly show that consumptive use of water by agriculture is significant and that it accounts for the majority of consumptive use in most areas.



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If water right holders are adversely affected by wells exempt from permitting under the Water Use Act, it seems clear that the solution lies in modifying the Water Use Act or its implementation. Regulating wells in subdivisions will not prevent adverse effects to water right holders if other water uses continue to be exempt from permitting. We are aware that many solutions to the defined problem are available under the umbrella of the Water Use Act. These solutions include establishing controlled groundwater areas, limiting the volume of water diverted under the exemption for any type of use, or modifying the provisions of statutory or administrative basin closures. Furthermore, the DNRC could modify its approach to the water use permitting and change process, making it easier for communities and developers to pursue new appropriations for public water supply systems.

We respectfully conclude that neither of the draft bills (LC 8011 or LC 8012) would prevent adverse effects to water right holders. We are also concerned that there may be unintended consequences from amendments to the Subdivision and Platting Act that adversely affect development patterns in our communities.

We encourage the WPIC to target any solution to the identified problem by proposing changes to the provisions or implementation of the Water Use Act, rather than through amendments to the Subdivision and Platting Act.

Thank you for your consideration of comments from MAP.

Sincerely,

A handwritten signature in blue ink, appearing to read "Wyeth Friday", is written over the typed name.

Wyeth Friday  
MAP President  
Billings

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\*\*\*\* Bill No. \*\*\*\*

Introduced By \*\*\*\*\*

By Request of the \*\*\*\*\*

A Bill for an Act entitled: "An Act defining the term "combined appropriation" for water wells and developed springs that are exempt from permitting; clarifying the definition of the term "developed spring"; amending sections 85-2-102, and 85-2-306, MCA."

Be it enacted by the Legislature of the State of Montana:

Section 1. Section 85-2-102, MCA, is amended to read:

"85-2-102. Definitions. Unless the context requires otherwise, in this chapter, the following definitions apply:

(1) "Appropriate" means:

(a) to divert, impound, or withdraw, including by stock for stock water, a quantity of water for a beneficial use;

(b) in the case of a public agency, to reserve water in accordance with 85-2-316;

(c) in the case of the department of fish, wildlife, and parks, to change an appropriation right to instream flow to protect, maintain, or enhance streamflows to benefit the fishery resource in accordance with 85-2-436;

(d) in the case of the United States department of agriculture, forest service:

(i) instream flows and in situ use of water created in

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85-20-1401, Article V; or

(ii) to change an appropriation right to divert or withdraw water under subsection (1) (a) to instream flow to protect, maintain, or enhance streamflows in accordance with 85-2-320;

(e) temporary changes or leases for instream flow to maintain or enhance instream flow to benefit the fishery resource in accordance with 85-2-408;

(f) a use of water for aquifer recharge or mitigation; or

(g) a use of water for an aquifer storage and recovery project as provided in 85-2-368.

(2) "Aquifer recharge" means either the controlled subsurface addition of water directly to the aquifer or controlled application of water to the ground surface for the purpose of replenishing the aquifer to offset adverse effects resulting from net depletion of surface water.

(3) "Aquifer storage and recovery project" means a project involving the use of an aquifer to temporarily store water through various means, including but not limited to injection, surface spreading and infiltration, drain fields, or another department-approved method. The stored water may be either pumped from the injection well or other wells for beneficial use or allowed to naturally drain away for a beneficial use.

(4) "Beneficial use", unless otherwise provided, means:

(a) a use of water for the benefit of the appropriator, other persons, or the public, including but not limited to agricultural, stock water, domestic, fish and wildlife, industrial, irrigation, mining, municipal, power, and

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recreational uses;

(b) a use of water appropriated by the department for the state water leasing program under 85-2-141 and of water leased under a valid lease issued by the department under 85-2-141;

(c) a use of water by the department of fish, wildlife, and parks through a change in an appropriation right for instream flow to protect, maintain, or enhance streamflows to benefit the fishery resource authorized under 85-2-436;

(d) a use of water through a temporary change in appropriation right or lease to enhance instream flow to benefit the fishery resource in accordance with 85-2-408;

(e) a use of water for aquifer recharge or mitigation; or

(f) a use of water for an aquifer storage and recovery project as provided in 85-2-368.

(5) "Certificate" means a certificate of water right issued by the department.

(6) "Change in appropriation right" means a change in the place of diversion, the place of use, the purpose of use, or the place of storage.

(7) "Combined appropriation" means an appropriation of water from the same source aquifer by two or more wells or developed springs that are physically connected into the same system.

~~(7)~~(8) "Commission" means the fish, wildlife, and parks commission provided for in 2-15-3402.

~~(8)~~(9) "Correct and complete" means that the information required to be submitted conforms to the standard of substantial credible information and that all of the necessary parts of the

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form requiring the information have been filled in with the required information for the department to begin evaluating the information.

~~(9)~~(10) "Declaration" means the declaration of an existing right filed with the department under section 8, Chapter 452, Laws of 1973.

~~(10)~~(11) "Department" means the department of natural resources and conservation provided for in Title 2, chapter 15, part 33.

~~(11)~~(12) "Developed spring" means any artificial opening or excavation in the ground, ~~however made,~~ at a point where water emerges naturally including any physical alteration at the point of discharge regardless of whether it results in any increase in the yield of ground water, from which ground water is sought or can be obtained or through which it flows under natural pressures or is artificially withdrawn.

~~(12)~~(13) "Existing right" or "existing water right" means a right to the use of water that would be protected under the law as it existed prior to July 1, 1973. The term includes federal non-Indian and Indian reserved water rights created under federal law and water rights created under state law.

~~(13)~~(14) "Ground water" means any water that is beneath the ground surface.

~~(14)~~(15) "Late claim" means a claim to an existing right forfeited pursuant to the conclusive presumption of abandonment under 85-2-226.

~~(15)~~(16) "Mitigation" means the reallocation of surface

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water or ground water through a change in appropriation right or other means that does not result in surface water being introduced into an aquifer through aquifer recharge to offset adverse effects resulting from net depletion of surface water.

~~(16)~~(17) "Municipality" means an incorporated city or town organized and incorporated under Title 7, chapter 2.

~~(17)~~(18) "Permit" means the permit to appropriate issued by the department under 85-2-301 through 85-2-303 and 85-2-306 through 85-2-314.

~~(18)~~(19) "Person" means an individual, association, partnership, corporation, state agency, political subdivision, the United States or any agency of the United States, or any other entity.

~~(19)~~(20) (a) "Political subdivision" means any county, incorporated city or town, public corporation, or district created pursuant to state law or other public body of the state empowered to appropriate water.

(b) The term does not mean a private corporation, association, or group.

~~(20)~~(21) "Salvage" means to make water available for beneficial use from an existing valid appropriation through application of water-saving methods.

~~(21)~~(22) "State water reservation" means a water right created under state law after July 1, 1973, that reserves water for existing or future beneficial uses or that maintains a minimum flow, level, or quality of water throughout the year or at periods or for defined lengths of time.

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~~(22)~~(23) "Substantial credible information" means probable, believable facts sufficient to support a reasonable legal theory upon which the department should proceed with the action requested by the person providing the information.

~~(23)~~(24) "Waste" means the unreasonable loss of water through the design or negligent operation of an appropriation or water distribution facility or the application of water to anything but a beneficial use.

~~(24)~~(25) "Water" means all water of the state, surface and subsurface, regardless of its character or manner of occurrence, including but not limited to geothermal water, diffuse surface water, and sewage effluent.

~~(25)~~(26) "Water division" means a drainage basin as defined in 3-7-102.

~~(26)~~(27) "Water judge" means a judge as provided for in Title 3, chapter 7.

~~(27)~~(28) "Water master" means a master as provided for in Title 3, chapter 7.

~~(28)~~(29) "Watercourse" means any naturally occurring stream or river from which water is diverted for beneficial uses. It does not include ditches, culverts, or other constructed waterways.

~~(29)~~(30) "Well" means any artificial opening or excavation in the ground, however made, by which ground water is sought or can be obtained or through which it flows under natural pressures or is artificially withdrawn."

{ *Internal References to 85-2-102:*

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75-5-410x      82-4-355x      85-2-141x      85-2-340x}

**Section 2.** Section 85-2-306, MCA, is amended to read:

**"85-2-306. Exceptions to permit requirements.** (1) (a)

Except as provided in subsection (1)(b), ground water may be appropriated only by a person who has a possessory interest in the property where the water is to be put to beneficial use and exclusive property rights in the ground water development works.

(b) If another person has rights in the ground water development works, water may be appropriated with the written consent of the person with those property rights or, if the ground water development works are on national forest system lands, with any prior written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the certificate.

(c) If the person does not have a possessory interest in the real property from which the ground water may be appropriated, the person shall provide to the owner of the real property written notification of the works and the person's intent to appropriate ground water from the works. The written notification must be provided to the landowner at least 30 days prior to constructing any associated works or, if no new or expanded works are proposed, 30 days prior to appropriating the water. The written notification under this subsection is a notice requirement only and does not create an easement in or over the

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real property where the ground water development works are located.

(2) Inside the boundaries of a controlled ground water area, ground water may be appropriated only:

- (a) according to a permit received pursuant to 85-2-508; or
- (b) according to the requirements of a rule promulgated pursuant to 85-2-506.

(3) (a) (i) Except as provided in subsection (3) (a) (ii), outside the boundaries of a controlled ground water area, a permit is not required before appropriating ground water by means of a well or developed spring:

(A) with a maximum appropriation of 35 gallons a minute or less, not to exceed 10 acre-feet a year, except that a combined appropriation ~~from the same source from two or more wells or developed springs~~ exceeding this limitation requires a permit; or

(B) when the appropriation is made by a local governmental fire agency organized under Title 7, chapter 33, and the appropriation is used only for emergency fire protection, which may include enclosed storage.

(ii) Outside the boundaries of a controlled ground water area, a permit is not required before appropriating ground water by means of a well or developed spring with a maximum appropriation of 350 gallons a minute or less for use in nonconsumptive geothermal heating or cooling exchange applications if all of the water extracted is returned without delay to the same source aquifer and if the distance between the extraction well and both the nearest existing well and the

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hydraulically connected surface waters is more than twice the distance between the extraction well and the injection well.

(b) (i) Within 60 days of completion of the well or developed spring and appropriation of the ground water for beneficial use, the appropriator shall file a notice of completion with the department on a form provided by the department through its offices.

(ii) Upon receipt of the notice, the department shall review the notice and may, before issuing a certificate of water right, return a defective notice for correction or completion, together with the reasons for returning it. A notice does not lose priority of filing because of defects if the notice is corrected, completed, and refiled with the department within 30 days of notification of defects or within a further time as the department may allow, not to exceed 6 months.

(iii) If a notice is not corrected and completed within the time allowed, the priority date of appropriation is the date of refiling a correct and complete notice with the department.

(c) A certificate of water right may not be issued until a correct and complete notice has been filed with the department, including proof of landowner notification or a written federal special use authorization as necessary under subsection (1). The original of the certificate must be sent to the appropriator. The department shall keep a copy of the certificate in its office in Helena. The date of filing of the notice of completion is the date of priority of the right.

(4) An appropriator of ground water by means of a well or

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developed spring first put to beneficial use between January 1, 1962, and July 1, 1973, who did not file a notice of completion, as required by laws in force prior to April 14, 1981, with the county clerk and recorder shall file a notice of completion, as provided in subsection (3), with the department to perfect the water right. The filing of a claim pursuant to 85-2-221 is sufficient notice of completion under this subsection. The priority date of the appropriation is the date of the filing of a notice, as provided in subsection (3), or the date of the filing of the claim of existing water right.

(5) An appropriation under subsection (4) is an existing right, and a permit is not required. However, the department shall acknowledge the receipt of a correct and complete filing of a notice of completion, except that for an appropriation of 35 gallons a minute or less, not to exceed 10 acre-feet a year, the department shall issue a certificate of water right. If a certificate is issued under this section, a certificate need not be issued under the adjudication proceedings provided for in 85-2-236.

(6) A permit is not required before constructing an impoundment or pit and appropriating water for use by livestock if:

(a) the maximum capacity of the impoundment or pit is less than 15 acre-feet;

(b) the appropriation is less than 30 acre-feet a year;

(c) the appropriation is from a source other than a perennial flowing stream; and

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(d) the impoundment or pit is to be constructed on and will be accessible to a parcel of land that is owned or under the control of the applicant and that is 40 acres or larger.

(7) (a) Within 60 days after constructing an impoundment or pit, the appropriator shall apply for a permit as prescribed by this part. Subject to subsection (7)(b), upon receipt of a correct and complete application for a stock water provisional permit, the department shall automatically issue a provisional permit. If the department determines after a hearing that the rights of other appropriators have been or will be adversely affected, it may revoke the permit or require the permittee to modify the impoundment or pit and may then make the permit subject to terms, conditions, restrictions, or limitations that it considers necessary to protect the rights of other appropriators.

(b) If the impoundment or pit is on national forest system lands, an application is not correct and complete under this section until the applicant has submitted proof of any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit.

(8) A person may also appropriate water without applying for or prior to receiving a permit under rules adopted by the department under 85-2-113."

{ *Internal References to 85-2-306:*

85-2-102x \*    85-2-113x            85-2-236x            85-2-302x  
85-2-322x        85-2-330x            85-2-341 x        85-2-343 x

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85-2-401 x	85-20-601x	85-20-901x	85-20-901 x
85-20-901x	85-20-901 x	85-20-901x	85-20-901 x
85-20-901 x	85-20-901x	85-20-901x	85-20-901 x
85-20-901 x	85-20-901x	85-20-901x	85-20-901 x
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85-20-901 x	85-20-901 x	85-20-901x	85-20-1501x }

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\*\*\*\* Bill No. \*\*\*\*

Introduced By \*\*\*\*\*

By Request of the \*\*\*\*\*

A Bill for an Act entitled: "An Act defining stream depletion zones; reducing the exemption for water wells within stream depletion zones; limiting areas where stream depletion zones may be established; providing rulemaking authority; and amending sections 85-2-102, and 85-2-306, MCA; and providing an applicability date."

Be it enacted by the Legislature of the State of Montana:

**Section 1.** Section 85-2-102, MCA, is amended to read:

**"85-2-102. Definitions.** Unless the context requires otherwise, in this chapter, the following definitions apply:

(1) "Appropriate" means:

(a) to divert, impound, or withdraw, including by stock for stock water, a quantity of water for a beneficial use;

(b) in the case of a public agency, to reserve water in accordance with 85-2-316;

(c) in the case of the department of fish, wildlife, and parks, to change an appropriation right to instream flow to protect, maintain, or enhance streamflows to benefit the fishery resource in accordance with 85-2-436;

(d) in the case of the United States department of agriculture, forest service:

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(i) instream flows and in situ use of water created in 85-20-1401, Article V; or

(ii) to change an appropriation right to divert or withdraw water under subsection (1)(a) to instream flow to protect, maintain, or enhance streamflows in accordance with 85-2-320;

(e) temporary changes or leases for instream flow to maintain or enhance instream flow to benefit the fishery resource in accordance with 85-2-408;

(f) a use of water for aquifer recharge or mitigation; or

(g) a use of water for an aquifer storage and recovery project as provided in 85-2-368.

(2) "Aquifer recharge" means either the controlled subsurface addition of water directly to the aquifer or controlled application of water to the ground surface for the purpose of replenishing the aquifer to offset adverse effects resulting from net depletion of surface water.

(3) "Aquifer storage and recovery project" means a project involving the use of an aquifer to temporarily store water through various means, including but not limited to injection, surface spreading and infiltration, drain fields, or another department-approved method. The stored water may be either pumped from the injection well or other wells for beneficial use or allowed to naturally drain away for a beneficial use.

(4) "Beneficial use", unless otherwise provided, means:

(a) a use of water for the benefit of the appropriator, other persons, or the public, including but not limited to agricultural, stock water, domestic, fish and wildlife,

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industrial, irrigation, mining, municipal, power, and recreational uses;

(b) a use of water appropriated by the department for the state water leasing program under 85-2-141 and of water leased under a valid lease issued by the department under 85-2-141;

(c) a use of water by the department of fish, wildlife, and parks through a change in an appropriation right for instream flow to protect, maintain, or enhance streamflows to benefit the fishery resource authorized under 85-2-436;

(d) a use of water through a temporary change in appropriation right or lease to enhance instream flow to benefit the fishery resource in accordance with 85-2-408;

(e) a use of water for aquifer recharge or mitigation; or

(f) a use of water for an aquifer storage and recovery project as provided in 85-2-368.

(5) "Certificate" means a certificate of water right issued by the department.

(6) "Change in appropriation right" means a change in the place of diversion, the place of use, the purpose of use, or the place of storage.

(7) "Commission" means the fish, wildlife, and parks commission provided for in 2-15-3402.

(8) "Correct and complete" means that the information required to be submitted conforms to the standard of substantial credible information and that all of the necessary parts of the form requiring the information have been filled in with the required information for the department to begin evaluating the

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information.

(9) "Declaration" means the declaration of an existing right filed with the department under section 8, Chapter 452, Laws of 1973.

(10) "Department" means the department of natural resources and conservation provided for in Title 2, chapter 15, part 33.

(11) "Developed spring" means any artificial opening or excavation in the ground, however made, including any physical alteration at the point of discharge regardless of whether it results in any increase in the yield of ground water, from which ground water is sought or can be obtained or through which it flows under natural pressures or is artificially withdrawn.

(12) "Existing right" or "existing water right" means a right to the use of water that would be protected under the law as it existed prior to July 1, 1973. The term includes federal non-Indian and Indian reserved water rights created under federal law and water rights created under state law.

(13) "Ground water" means any water that is beneath the ground surface.

(14) "Late claim" means a claim to an existing right forfeited pursuant to the conclusive presumption of abandonment under 85-2-226.

(15) "Mitigation" means the reallocation of surface water or ground water through a change in appropriation right or other means that does not result in surface water being introduced into an aquifer through aquifer recharge to offset adverse effects resulting from net depletion of surface water.

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(16) "Municipality" means an incorporated city or town organized and incorporated under Title 7, chapter 2.

(17) "Permit" means the permit to appropriate issued by the department under 85-2-301 through 85-2-303 and 85-2-306 through 85-2-314.

(18) "Person" means an individual, association, partnership, corporation, state agency, political subdivision, the United States or any agency of the United States, or any other entity.

(19) (a) "Political subdivision" means any county, incorporated city or town, public corporation, or district created pursuant to state law or other public body of the state empowered to appropriate water.

(b) The term does not mean a private corporation, association, or group.

(20) "Salvage" means to make water available for beneficial use from an existing valid appropriation through application of water-saving methods.

(21) "State water reservation" means a water right created under state law after July 1, 1973, that reserves water for existing or future beneficial uses or that maintains a minimum flow, level, or quality of water throughout the year or at periods or for defined lengths of time.

(22) "Stream depletion zone" means an area where hydrogeologic modeling concludes that as a result of a ground water withdrawal the surface water would be depleted by a rate equal to at least 50% of the ground water withdrawn within 30 days after the first day a well or developed spring is pumped at

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a rate of 35 gallons a minute with an annual volume of 10 acre-feet.

~~(22)~~(23) "Substantial credible information" means probable, believable facts sufficient to support a reasonable legal theory upon which the department should proceed with the action requested by the person providing the information.

~~(23)~~(24) "Waste" means the unreasonable loss of water through the design or negligent operation of an appropriation or water distribution facility or the application of water to anything but a beneficial use.

~~(24)~~(25) "Water" means all water of the state, surface and subsurface, regardless of its character or manner of occurrence, including but not limited to geothermal water, diffuse surface water, and sewage effluent.

~~(25)~~(26) "Water division" means a drainage basin as defined in 3-7-102.

~~(26)~~(27) "Water judge" means a judge as provided for in Title 3, chapter 7.

~~(27)~~(28) "Water master" means a master as provided for in Title 3, chapter 7.

~~(28)~~(29) "Watercourse" means any naturally occurring stream or river from which water is diverted for beneficial uses. It does not include ditches, culverts, or other constructed waterways.

~~(29)~~(30) "Well" means any artificial opening or excavation in the ground, however made, by which ground water is sought or can be obtained or through which it flows under natural pressures

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or is artificially withdrawn."

{ Internal References to 85-2-102:

75-5-410 x    82-4-355 x    85-2-141 x    85-2-340x }

**Section 2.** Section 85-2-306, MCA, is amended to read:

**"85-2-306. Exceptions to permit requirements.** (1) (a)

Except as provided in subsection (1)(b), ground water may be appropriated only by a person who has a possessory interest in the property where the water is to be put to beneficial use and exclusive property rights in the ground water development works.

(b) If another person has rights in the ground water development works, water may be appropriated with the written consent of the person with those property rights or, if the ground water development works are on national forest system lands, with any prior written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the certificate.

(c) If the person does not have a possessory interest in the real property from which the ground water may be appropriated, the person shall provide to the owner of the real property written notification of the works and the person's intent to appropriate ground water from the works. The written notification must be provided to the landowner at least 30 days prior to constructing any associated works or, if no new or expanded works are proposed, 30 days prior to appropriating the

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water. The written notification under this subsection is a notice requirement only and does not create an easement in or over the real property where the ground water development works are located.

(2) Inside the boundaries of a controlled ground water area, ground water may be appropriated only:

(a) according to a permit received pursuant to 85-2-508; or

(b) according to the requirements of a rule promulgated pursuant to 85-2-506.

(3) (a) ~~(i) Except as provided in subsection (3)(a)(ii),~~  
~~outside~~ Outside the boundaries of a controlled ground water area, a permit is not required before appropriating ground water by means of a well or developed spring:

~~(A) with a maximum appropriation of 35 gallons a minute or less, not to exceed 10 acre-feet a year, except that a combined appropriation from the same source from two or more wells or developed springs exceeding this limitation requires a permit; or~~

~~(B) (i)~~ when the appropriation is made by a local governmental fire agency organized under Title 7, chapter 33, and the appropriation is used only for emergency fire protection, which may include enclosed storage;

(ii) when a maximum appropriation of 350 gallons a minute or less is used in nonconsumptive geothermal heating or cooling exchange applications, all of the water extracted is returned without delay to the same source aquifer, and the distance between the extraction well and both the nearest existing well and the hydraulically connected surface waters is more than twice

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the distance between the extraction well and the injection well;

(iii) when the appropriation is outside a stream depletion zone, is 35 gallons a minute or less, and does not exceed 10 acre-feet a year, except that a combined appropriation from the same source by two or more wells or developed springs exceeding this limitation requires a permit; or

(iv) when the appropriation is within a stream depletion zone, is 20 gallons a minute or less, and does not exceed 1 acre-foot a year, except that a combined appropriation from the same source by two or more wells or developed springs exceeding this limitation requires a permit.

~~(ii) Outside the boundaries of a controlled ground water area, a permit is not required before appropriating ground water by means of a well or developed spring with a maximum appropriation of 350 gallons a minute or less for use in nonconsumptive geothermal heating or cooling exchange applications if all of the water extracted is returned without delay to the same source aquifer and if the distance between the extraction well and both the nearest existing well and the hydraulically connected surface waters is more than twice the distance between the extraction well and the injection well.~~

(b) (i) Within 60 days of completion of the well or developed spring and appropriation of the ground water for beneficial use, the appropriator shall file a notice of completion with the department on a form provided by the department through its offices.

(ii) Upon receipt of the notice, the department shall review

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the notice and may, before issuing a certificate of water right, return a defective notice for correction or completion, together with the reasons for returning it. A notice does not lose priority of filing because of defects if the notice is corrected, completed, and refiled with the department within 30 days of notification of defects or within a further time as the department may allow, not to exceed 6 months.

(iii) If a notice is not corrected and completed within the time allowed, the priority date of appropriation is the date of refiled a correct and complete notice with the department.

(c) A certificate of water right may not be issued until a correct and complete notice has been filed with the department, including proof of landowner notification or a written federal special use authorization as necessary under subsection (1). The original of the certificate must be sent to the appropriator. The department shall keep a copy of the certificate in its office in Helena. The date of filing of the notice of completion is the date of priority of the right.

(4) An appropriator of ground water by means of a well or developed spring first put to beneficial use between January 1, 1962, and July 1, 1973, who did not file a notice of completion, as required by laws in force prior to April 14, 1981, with the county clerk and recorder shall file a notice of completion, as provided in subsection (3), with the department to perfect the water right. The filing of a claim pursuant to 85-2-221 is sufficient notice of completion under this subsection. The priority date of the appropriation is the date of the filing of a

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notice, as provided in subsection (3), or the date of the filing of the claim of existing water right.

(5) An appropriation under subsection (4) is an existing right, and a permit is not required. However, the department shall acknowledge the receipt of a correct and complete filing of a notice of completion, except that for an appropriation of 35 gallons a minute or less, not to exceed 10 acre-feet a year, the department shall issue a certificate of water right. If a certificate is issued under this section, a certificate need not be issued under the adjudication proceedings provided for in 85-2-236.

(6) A permit is not required before constructing an impoundment or pit and appropriating water for use by livestock if:

(a) the maximum capacity of the impoundment or pit is less than 15 acre-feet;

(b) the appropriation is less than 30 acre-feet a year;

(c) the appropriation is from a source other than a perennial flowing stream; and

(d) the impoundment or pit is to be constructed on and will be accessible to a parcel of land that is owned or under the control of the applicant and that is 40 acres or larger.

(7) (a) Within 60 days after constructing an impoundment or pit, the appropriator shall apply for a permit as prescribed by this part. Subject to subsection (7)(b), upon receipt of a correct and complete application for a stock water provisional permit, the department shall automatically issue a provisional

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permit. If the department determines after a hearing that the rights of other appropriators have been or will be adversely affected, it may revoke the permit or require the permittee to modify the impoundment or pit and may then make the permit subject to terms, conditions, restrictions, or limitations that it considers necessary to protect the rights of other appropriators.

(b) If the impoundment or pit is on national forest system lands, an application is not correct and complete under this section until the applicant has submitted proof of any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit.

(8) A person may also appropriate water without applying for or prior to receiving a permit under rules adopted by the department under 85-2-113."

{ *Internal References to 85-2-306:*

85-2-102x *	85-2-113 x	85-2-236 x	85-2-302x
85-2-322 x	85-2-330 x	85-2-341 x	85-2-343 x
85-2-401 x	85-20-601 x	85-20-901x	85-20-901x
85-20-901x	85-20-901 x	85-20-901 x	85-20-901x
85-20-901x	85-20-901 x	85-20-901 x	85-20-901 x
85-20-901 x	85-20-901 x	85-20-901x	85-20-901 x
85-20-901 x	85-20-901 x	85-20-901x	85-20-901 x
85-20-901 x	85-20-901x	85-20-901x	85-20-1501x }

**NEW SECTION. Section 3. Stream depletion zones -- establishment -- rulemaking.** (1) The department may establish stream depletion zones by rule, provided that:

(a) stream depletion zones lie within basins closed pursuant

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to 85-2-319, 85-2-321, 85-2-330, 85-2-336, 85-2-341, 85-2-343, or 85-2-344; and

(b) there exists a hydrogeologic assessment for the area where the stream depletion zone is proposed that was conducted by either the ground water investigation program established by 85-2-525 or by a hydrogeologist, a qualified scientist, or a qualified licensed professional engineer.

(2) The department shall initiate rulemaking to establish a stream depletion zone upon receipt of a petition signed by at least one-third of the water right holders in a proposed stream depletion zone provided that the provisions of subsections (1) (a) and (1) (b) are met.

(3) In establishing rules related to stream depletion zones, the department shall consult with the ground water investigation program and the ground water assessment steering committee established by 2-15-1523.

**NEW SECTION. Section 4. {standard} Codification**

**instruction.** [Section 3] is intended to be codified as an integral part of Title 85, chapter 2, part 3, and the provisions of Title 85, chapter 2, part 3, apply to [section 3].

**NEW SECTION. Section 5. {standard} Applicability.** [This act] applies to wells exempt from permitting pursuant to 85-2-306 that are completed after the date stream depletion zones are adopted by rule.

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