

Consumptive use of groundwater and surface water in six sub-basins

Step 1: acreage by water use

Project	Total Acreage*	Lawn acreage (average lawn/total)**	Agricultural acreage***
L. Beaverhead	78,000	0.5 / 450	29,000
Four Corners	12,000	0.8 / 635	3,500
Belgrade	31,000	0.61 / 1,100	4,000
Helena	19,000	0.23 / 475	3,000
Eightmile	7,000	0.91/ 600	500
Threemile	19,000	0.89 / 800	5,600

\* values are approximate and based on study area boundary

\*\* based on 2010 IR air photo data of irrigated lawn area

\*\*\* based on 2010 USDA land use GIS data through NRIS

Step 2: consumptive use (ET) for each type

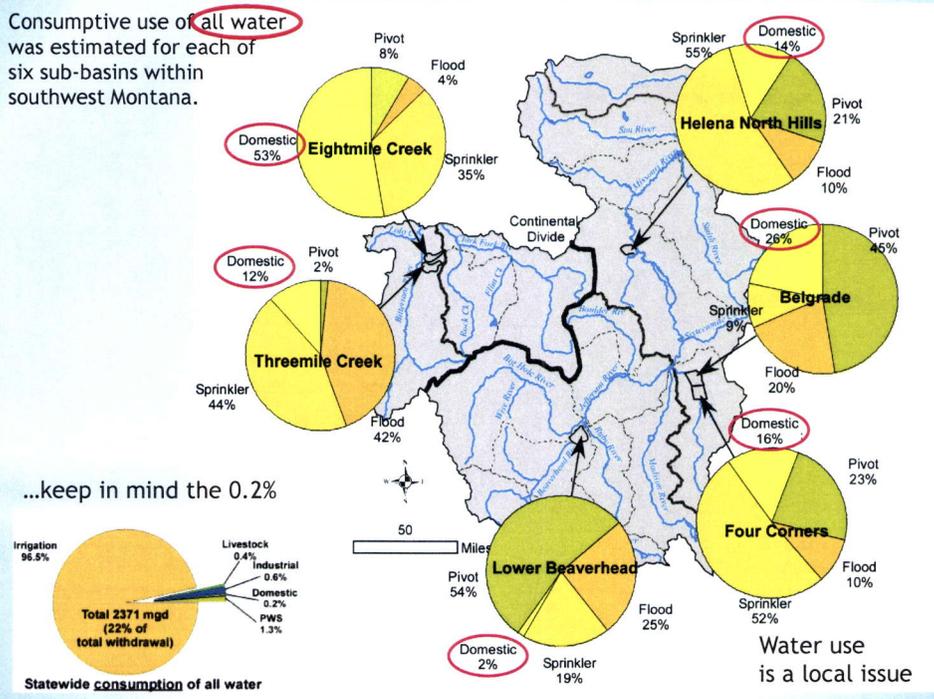
Method A (local AgriMet station):  
US Bureau of Reclamation

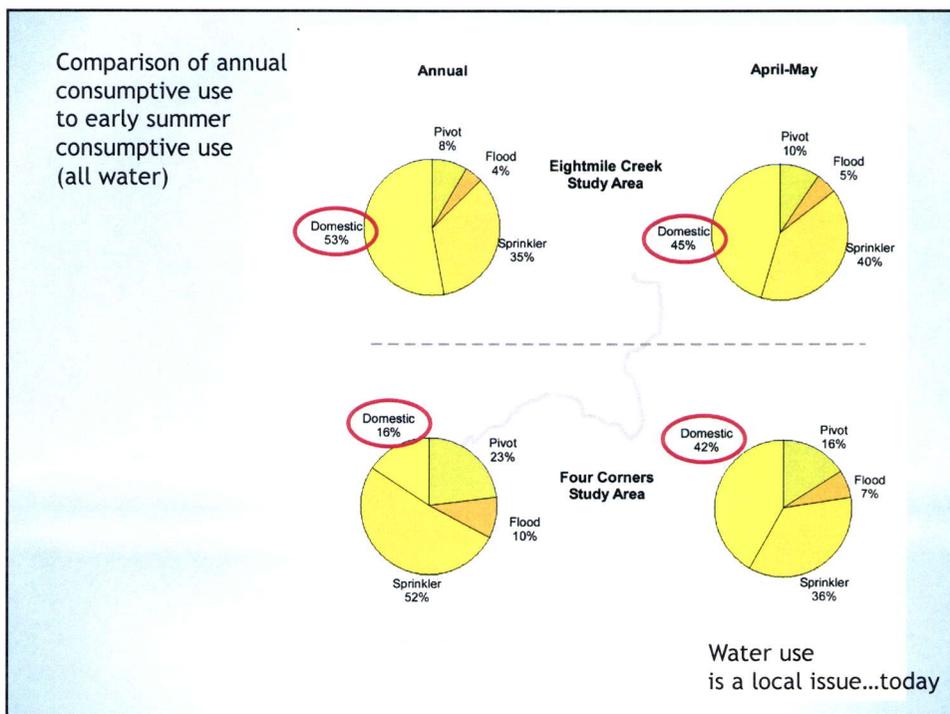
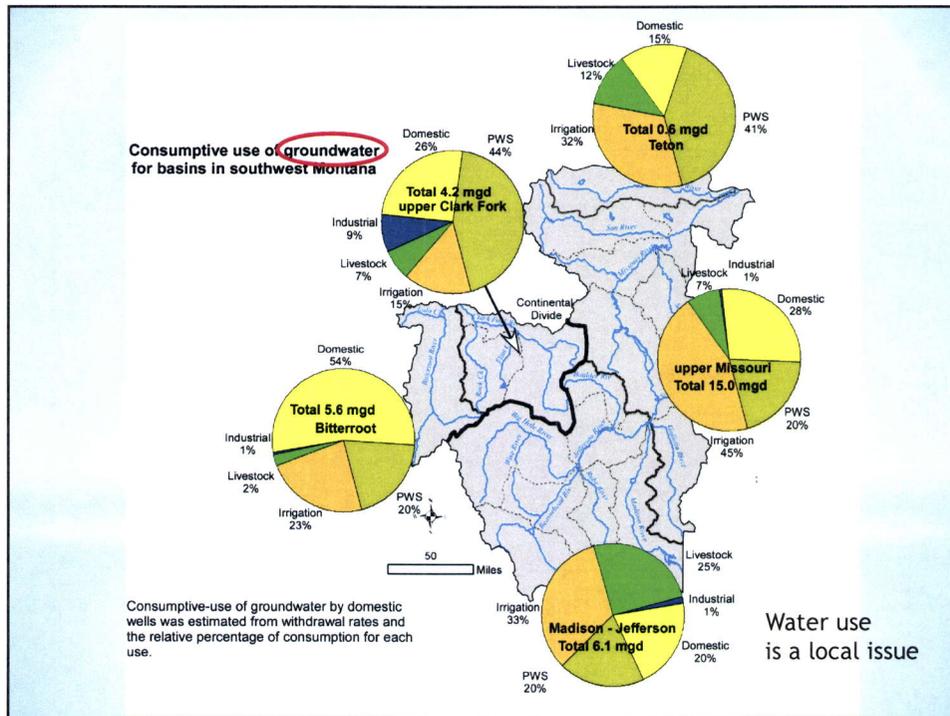
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* ESTIMATED CROP WATER USE - Jul 11, 2012 COVM
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* DAILY
* CROP WATER USE-(IN) * DAILY* * * * * 7 * 14
* CROP START* PENMAN ET - Jul * FORE *COVER* TERM* SUM * DAY* DAY
* DATE*-----*-----* CAST * DATE* DATE* ET * USE* USE
* * 7 * 8 * 9 * 10 * * * * * * * *
* ETx 04/05* 0.31 0.31 0.30 0.28 * 0.30 *04/05*09/30* 17.6 * 2.0* 3.9 *
* ALFP 04/10* 0.31 0.31 0.30 0.28 * 0.30 *06/10*09/30* 14.8 * 2.0* 3.9 *
* ALFM 04/10* 0.26 0.26 0.26 0.24 * 0.28 *06/10*09/30* 13.0 * 1.7* 3.3 *
* PAST 04/05* 0.21 0.21 0.20 0.19 * 0.20 *06/01*09/30* 10.9 * 1.4* 2.7 *
* LAWN 04/05* 0.25 0.25 0.24 0.22 * 0.24 *05/20*09/30* 13.3 * 1.6* 3.1 *
* SGRN 04/25* 0.31 0.31 0.30 0.28 * 0.30 *07/05*08/10* 12.3 * 2.0* 3.9 *
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Method B (Net Irrigation Water Requirement):  
calculates consumptive use based on ET, precipitation, and  
Blaney Criddle equation based on local weather station data.

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





Composite for 5 Ground Water Investigation Program Study Areas

Consumptive use 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
- Belgrade area

