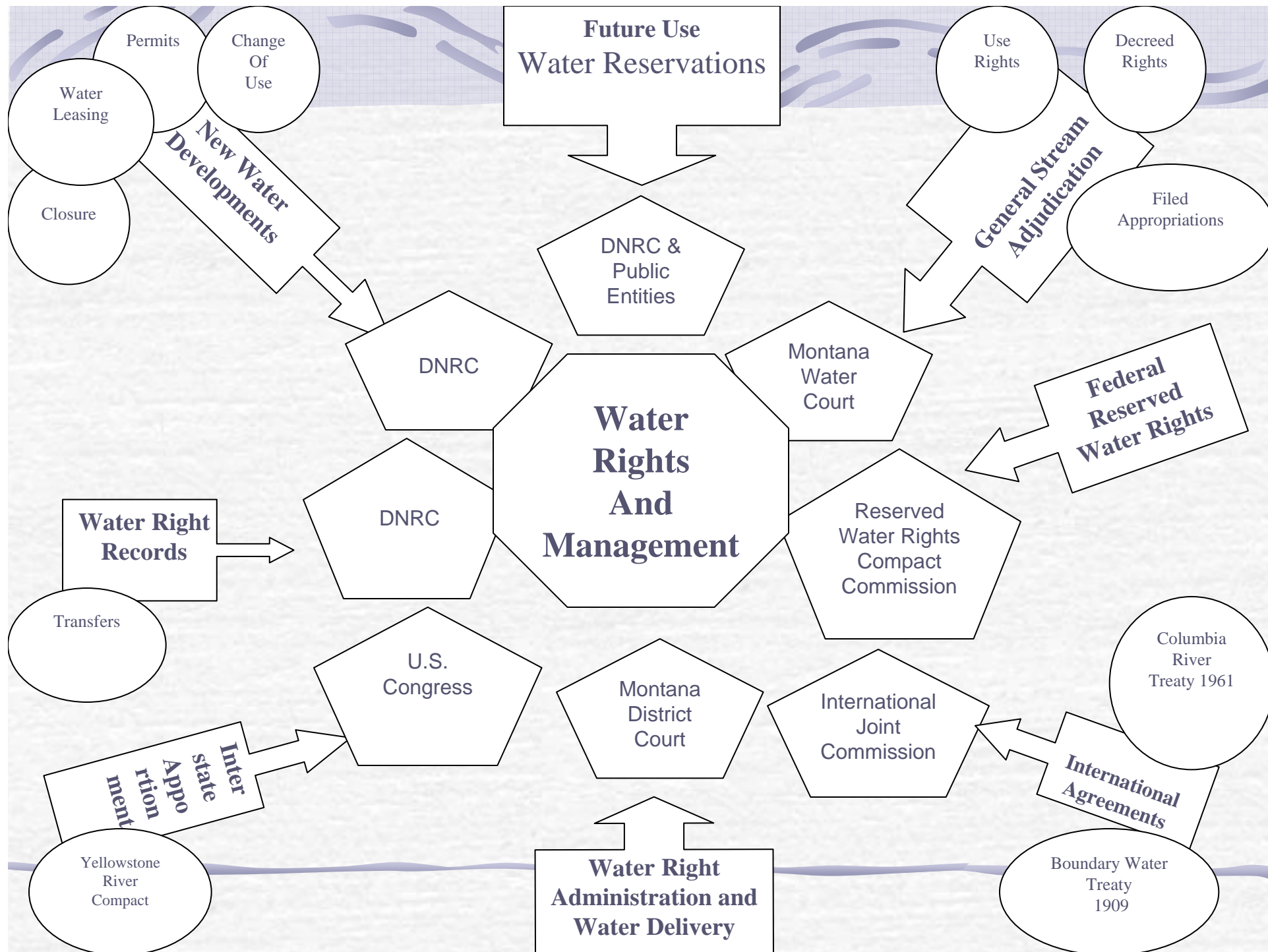


Montana's

SURFACE WATER – GROUND WATER MANAGEMENT





Montana Water Law: Overriding Principles

- ✓ Prior Appropriation State
 - First in Time -- First in Right
 - No other ranking priorities
- ✓ Historic Use defines the limits of a rights
- ✓ Beneficial Use also limits a right



What is a Water Right?



- Water is owned by the State of Montana.
- A water right is a type property right allocated by the State to individuals to use water.

Features of a Water Right:



- ☞ A license to use the public resource.
- ☞ Limited to “Beneficial Uses”.
- ☞ Allocated by priority (first-in-time, first-in-right).
- ☞ Limited to historic limits defined by the appropriation.
 - (amount diverted (cfs and acre feet), amount consumed, place of use, point of diversion, period of use, priority date, acres irrigated, ...)
- ☞ A right to “unchanged conditions”.
 - Balanced with a “reasonable diversion test”
- ☞ A right in perpetuity – unless Abandon.

Beneficial Use:

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

(85-2-102 (2) MCA 2001)





Montana Constitution

1. Confirmed existing rights.
2. Use & conveyance of water a “public use”.
3. All waters are property of the state.
4. Directed the creation of a system of administration.

Montana Constitution,
Article IX, Section 3



Montana Constitution

The legislature shall provide for the

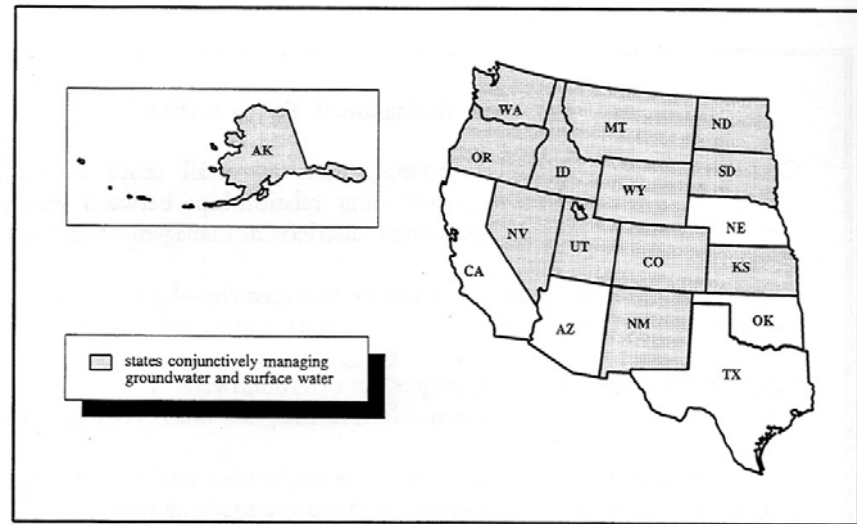
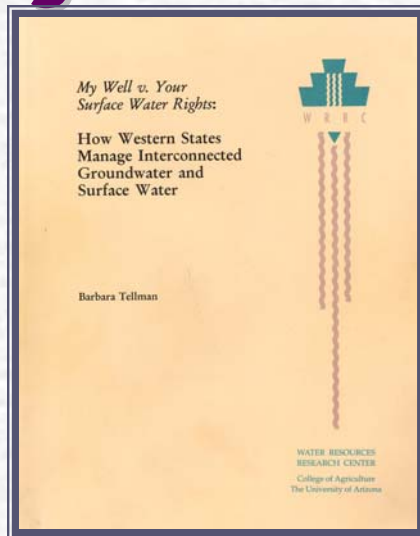
- administration,
- control, and
- regulation of water rights

and

- shall establish a system of centralized records, in addition to the present system of local records.

Montana Constitution,
Article IX, Section 3
Subpart 4
Water Rights.

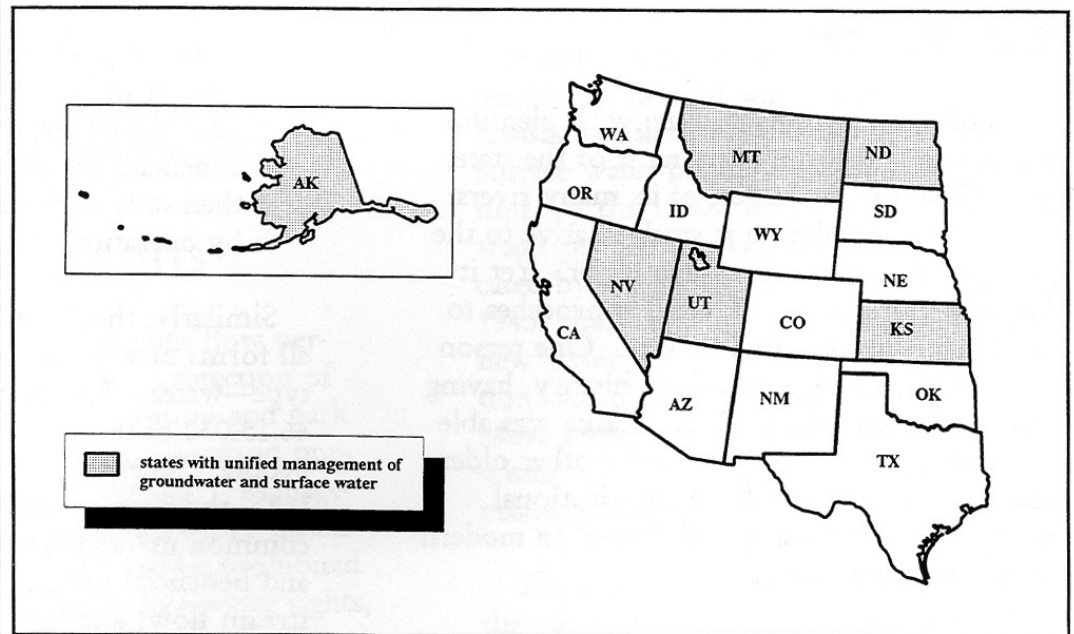
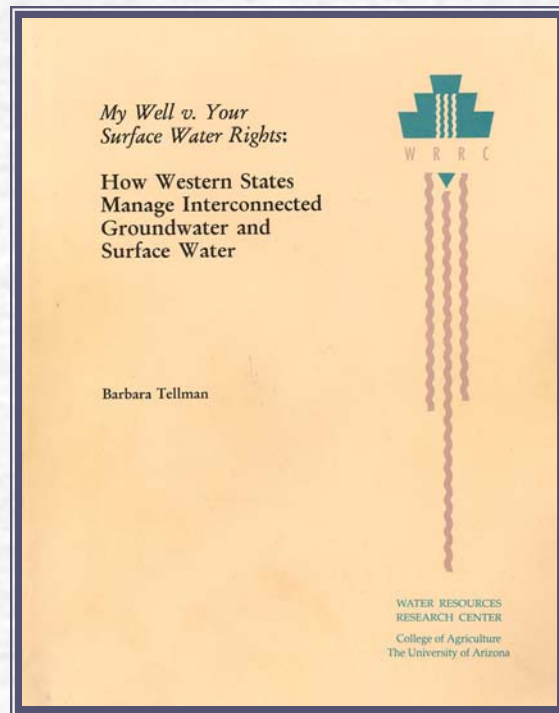
Conjunctive Management States



Coordinated or Conjunctive Management:
General terms referring to ANY type of management which takes into account relationships between groundwater and surface water.

(Includes Unified, District-wide and Integrated Management.)

Unified Management States



Management of ground water and surface water under **one** unified system, without legal distinctions between types of water.

New Appropriations Program:

- Permitting (new water rights)
- Changes (Modifying Existing Water rights)
- Temporary Changes,
Water leasing & Salvage
- Water Reservations



Getting a New Water Right

- Must apply for & receive a permit from DNRC.
- Must apply before development.



85-2-301 MCA 2001

Water Right Permits



- Exclusive method since 1973
- All Waters
- “to every rule there is an “exception”

Getting a New Water Right

Must apply for & receive a ***permit*** via DNRC.

- Must apply before development.
- Process is public and fact based.
- Statutory Criteria must be met
 - legal & physical availability
 - No adverse effect
 - Beneficial uses



85-2-301 MCA 2001

The New Water Right

- ✓ End product is a “Provisional Permit”
 - The MOST Junior Water Right in the system,
 - May have operational conditions, and
 - Subject to Water Commissioner’s administration.



85-2-301 MCA 2001

Exemptions:

Stock Water

- ☛ Non-perennial streams,
- ☛ Pits & reservoirs
- ☛ Size must be less than 15 acre feet,
- ☛ Total appropriation less than 30 acre feet,
- ☛ Located on a parcel of at least 40 acres.

Small Wells

- ☛ Any use
- ☛ Withdraw less than 35 gpm,
- ☛ Withdraw less than 10 acre ft/yr



Permit Exemption:

Process / outcome

- Drill well
- Develop and Use
- File Notice of Completion
- Certificate of Water Right Issued
- Most **Junior** Water Right in the Basin



Water Reservations:

1. "stake claim" to water for future use

Or

2. Protect instream flow for fish or water quality.



Limited to Public entities

Certificates of Water Right

- Exemption to Water Right permit process
- Small Wells & Springs
- Currently 35 gpm – 10 Ac. Ft / year
- In past < 100 gpm

85-2-306 MCA

Data from DNRC 2006, McLaughlin

Table 4

CERTIFICATES ISSUED

YEARS	TOTALS
1973 - 1979	13,729
1980 - 1989	37,003
1990 - 1999	27,542
2000 - 2005	17,889
TOTAL	96,163



Uses of Water

96,163 Certificates issued covering,
141,092 uses.

CERTIFICATES ISSUED BY PURPOSE	
(numeric)	
DESCRIPTION	COUNT
DOMESTIC	71872
STOCK	31431
LAWN AND GARDEN	24148
IRRIGATION	6195
COMMERCIAL	2607
MULTIPLE DOMESTIC	1972
FISH AND WILDLIFE	619
WILDLIFE/WATERFOWL	397
INDUSTRIAL	341
RECREATION	328
FISHERY	205
OTHER PURPOSE	166
AGRICULTURAL SPRAYING	139
INSTITUTIONAL	137
MUNICIPAL	117
MINING	116
FIRE PROTECTION	85
UNKNOWN	42
GEOTHERMAL HEATING	39
OIL WELL FLOODING	30
WILDLIFE	26
GEOTHERMAL	23
OBSERVATION AND TEST	20
POLLUTION ABATEMENT	13
POWER GENERATION	12
EROSION CONTROL	4
OTHER PURPOSE	3
AUGMENTATION	1
FISH RACEWAYS	1
NAVIGATION	1
STORAGE	1
WATERFOWL	1
Total Uses	141092

**Table 2 Uses Of Water
Authorized By A
Certificate Of Water Right^{III}**

(Six Top Uses)

Description	Count
DOMESTIC	71,872
STOCK	31,431
LAWN AND GARDEN	24,148
IRRIGATION	6,195
COMMERCIAL	2,607
MULTIPLE DOMESTIC	1,972
Uses Subtotal	138,225

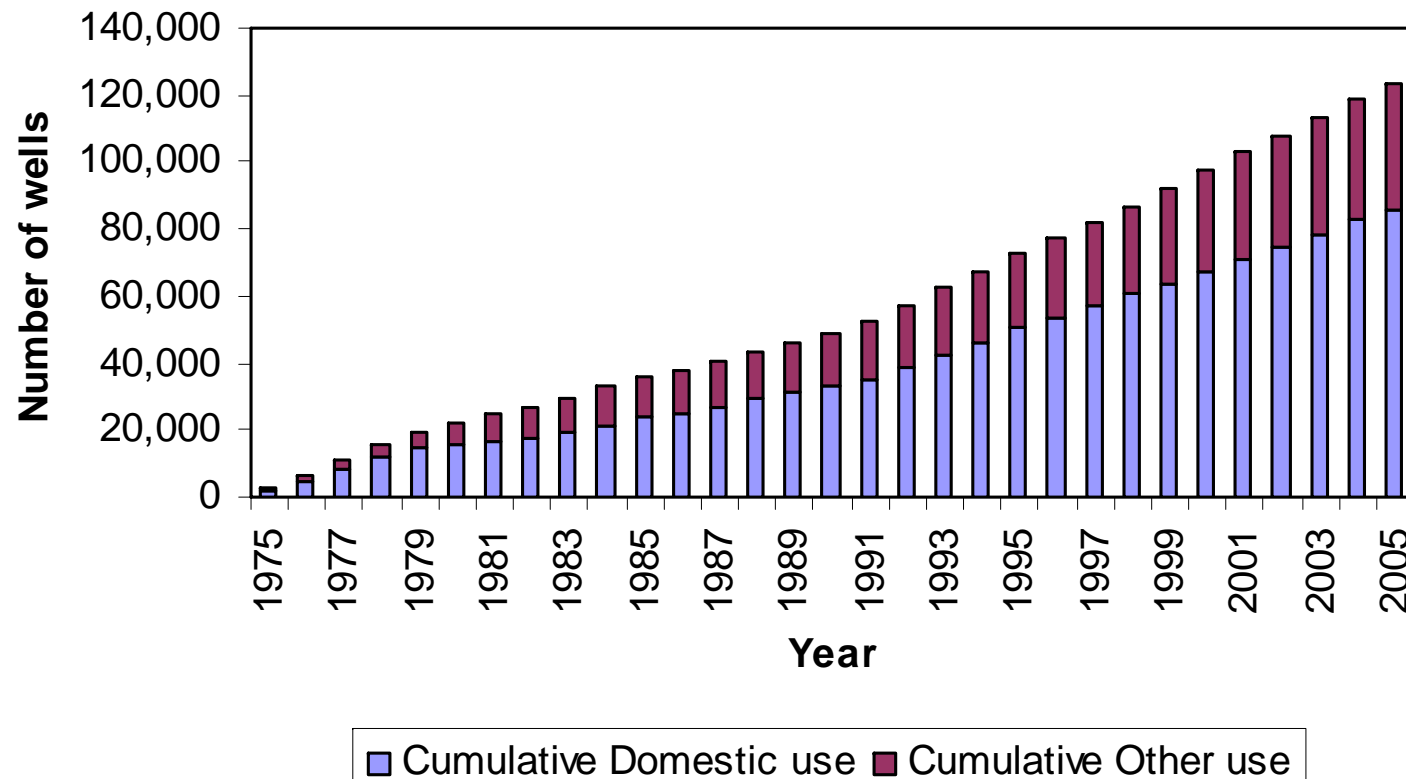
Top 6 uses of Water

Montana Ground-Water Information Center
Statewide: domestic wells drilled since 1975

Retrieval: February 15, 2006

MBMG Wells

	Domestic use	Other use	Total	Percent
Year	Wells	Wells	Wells	Domestic use
Totals	86,139	37,710	123, 849	69%

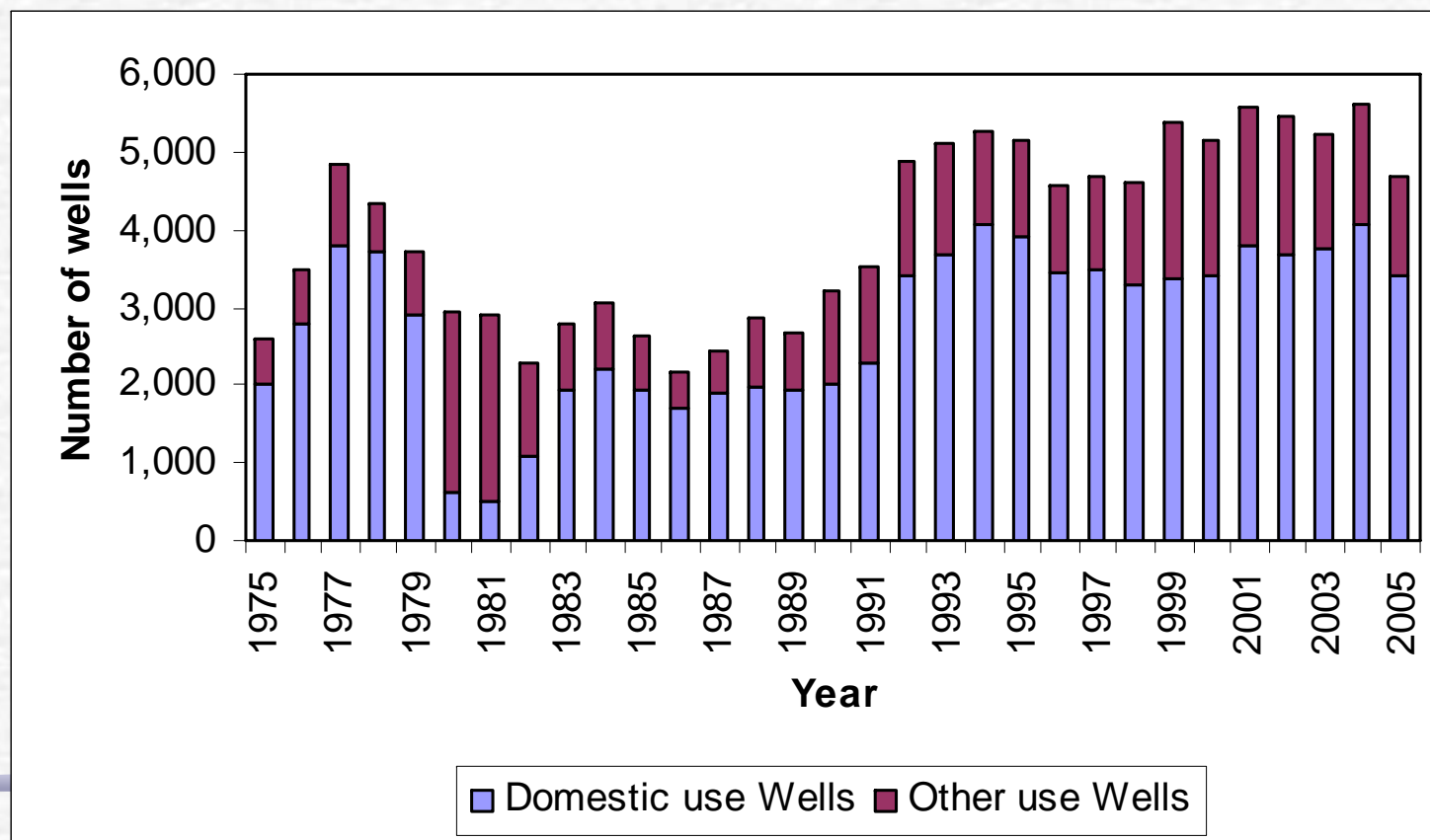


MBMG Wells

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Comparison

Montana Ground-Water Information Center
 Statewide: domestic wells drilled since 1975
 Retrieval: February 15, 2006

DNRC Data

1973 - 2005

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MBMG Data

1975 - 2005

Differences:

Domestic vs. Domestic = 14,300

Montana's Domestic / Lawn and Garden Water Supply

*An acre foot covers 1 acre of land 1 foot deep
and = 325,851 gallons*

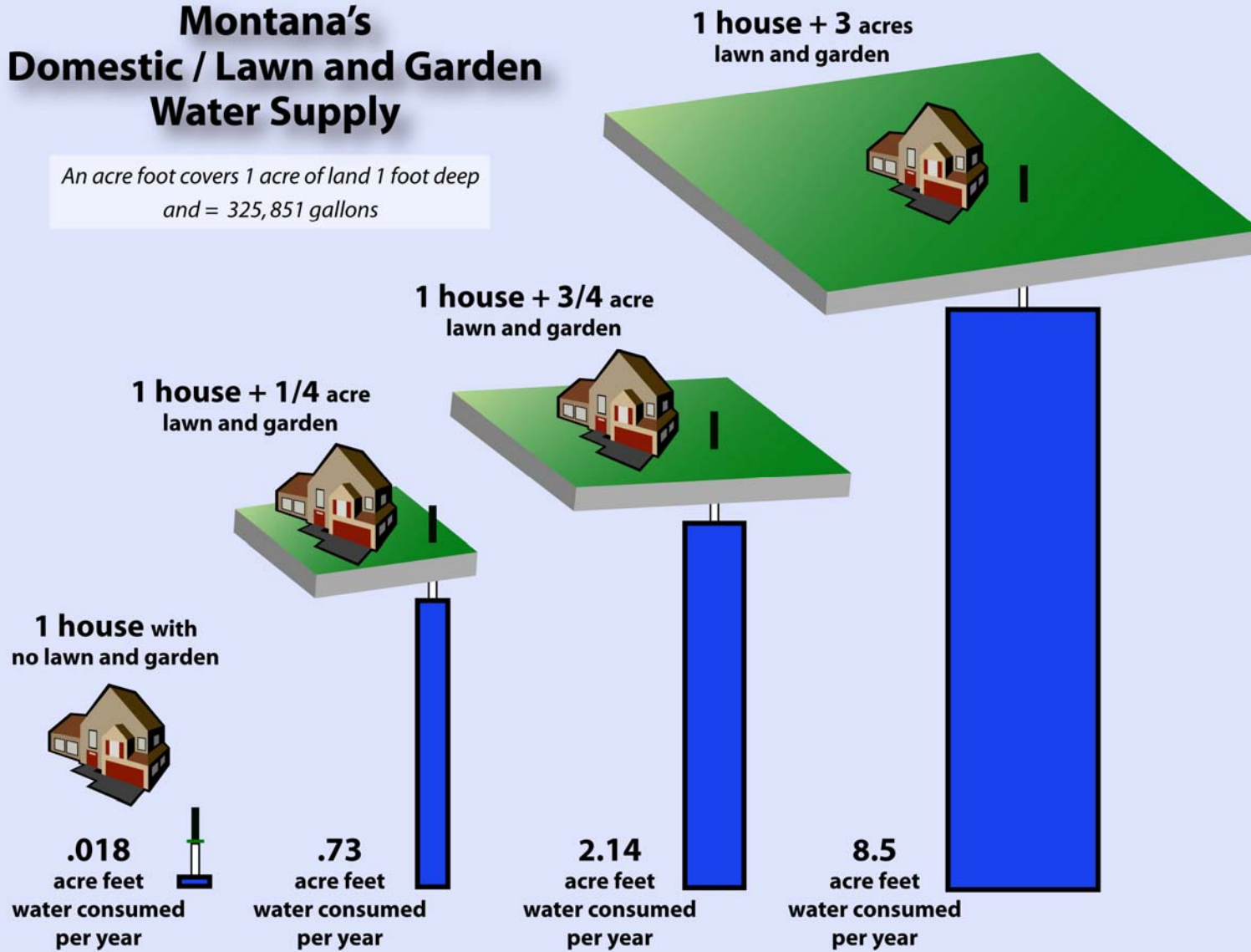
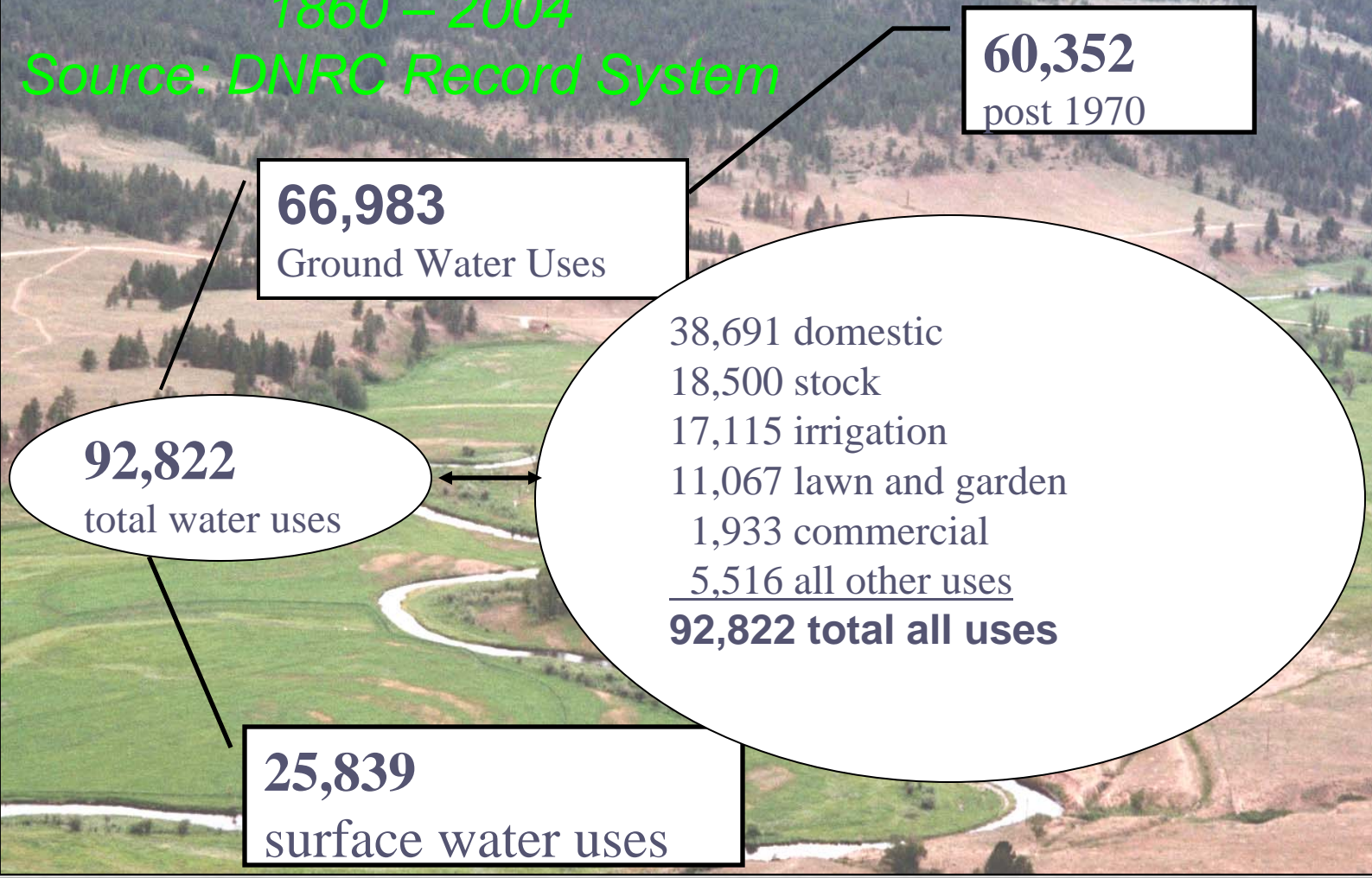


Table 3 Calculation of Consumptive Water Demandⁱ

<i>Use Or Acres Watered</i>	<i>Number Of Units</i>	<i>Water Demand</i>	<i>Consumption / unit or Acre (Acre-Feet)</i>	<i>Consumptive Demand (Acre-Feet)</i>
Domestic	71,872	1 home & .25ac	0.73.	52,466.56
<i>Parcel Sizes (Range of Acres)</i>	<i>Number Of Parcels In Range</i>	<i>Acreage (Total acres / range)</i>	<i>Consumption Per Acre</i>	
.25-.5	1,727	2,764.72	2.83	7,824.16
.51-1	6,953	6,512.64	2.83	18,430.77
1.01-2	4,090	7,096.54	2.83	20,083.21
2.1-3	1,737	4,828.05	2.83	13,663.38
3.01-4	868	3,262.80	2.83	9,233.72
4.01-5	825	4,039.42	2.83	11,431.56
5.1-7	360	2,223.48	2.83	6,292.45
7.1-10	575	5,276.49	2.83	14,932.47
>10	611	16,906.90	2.83	47,846.53
<i>Subtotal..</i>	17,171	47,634.55	<i>Irrigation Subtotal</i>	149,738.24
			<i>Total...</i>	202,204.80

*Water Rights and Water Use
Clark Fork of Columbia River
1860 – 2004
Source: DNRC Record System*



*Water Rights and Water Use
Clark Fork of Columbia River
1860 – 2004
Source: DNRC Record System*

53,052
GW Certificates

60,352
post 1970

66,983
Ground Water Uses

92,822
total water uses

25,839
surface water uses

38,691 domestic
18,500 stock
17,115 irrigation
11,067 lawn and garden
1,933 commercial
5,516 all other uses
92,822 total all uses

> 211,953 acre feet
> 60,859 acres of
new irrigation
29,574 domestic uses
1,166 commercial use
7,826 stock water uses

Clark Fork of Columbia Basin,

Surface & Ground Water Use From Water Rights Developed

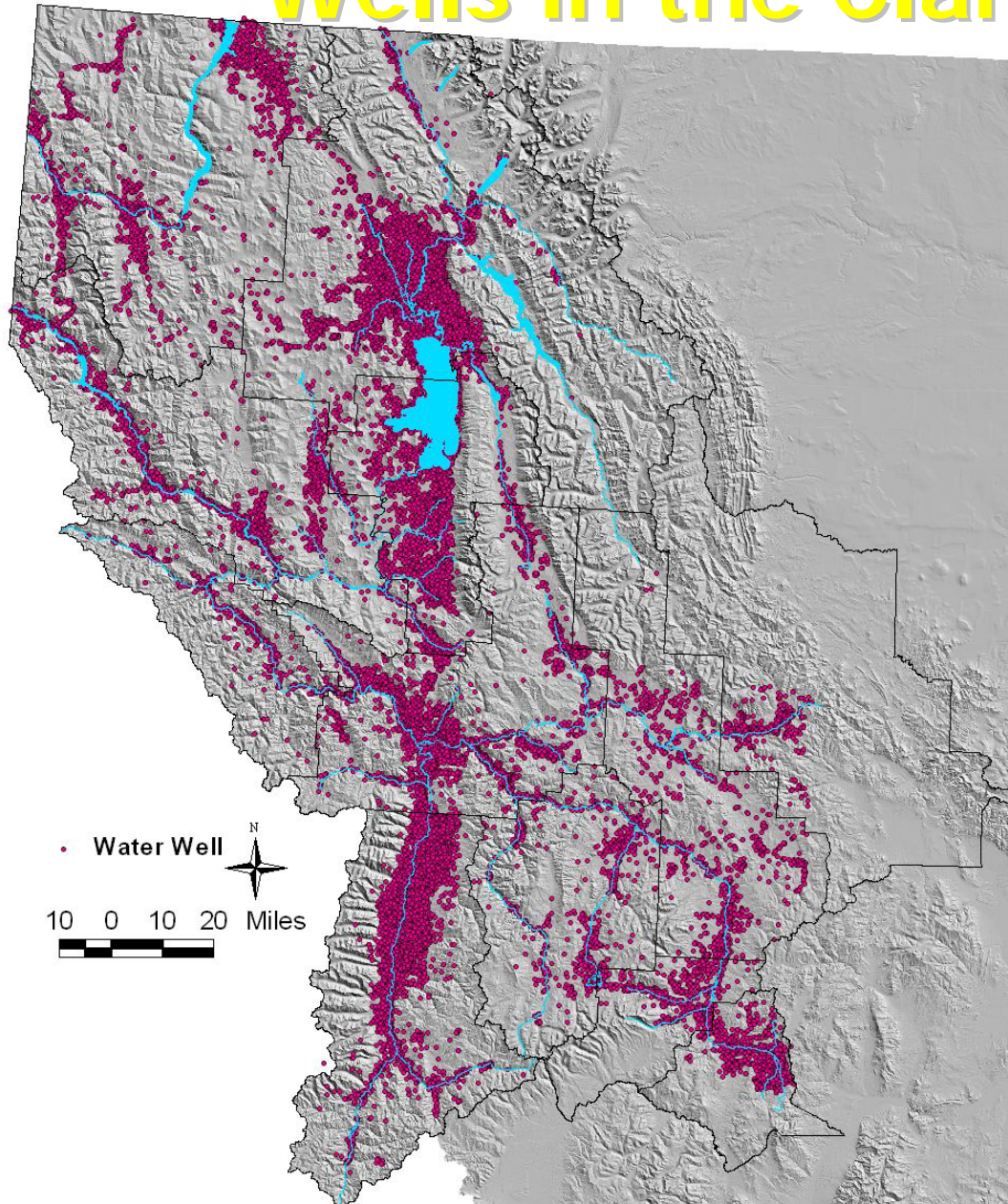
Purposes	Purpose code	Total	Pre 1910	Pre 1950	Post 1910	Post 1950	Post 1970	Unknown
Grand Total		92,822	13,488	23,451	78,430	68,467	60,352	403
Summary Similar Uses								
Domestic	(DM &MD)	39,997	760	3,406	39,141	36,495	33,025	
Gen. Municipal	(MC, In, IS,CM)	2,868	189	492	2,170	1,867	1,431	
Irrigation	(IR & LG)	28,182	7,164	10,169	20,834	17,829	15,496	
Agricultural all	AS,IR,ST	28,200	7,165	10,171	20,839	17,833	15,497	
Wildlife	FF,FR,FS,FW,WI,WW)	1,647	202	579	1,440	1,063	903	
Power Gen.	PG,PN	151	34	75	115	74	50	

Clark Fork of Columbia River Basin

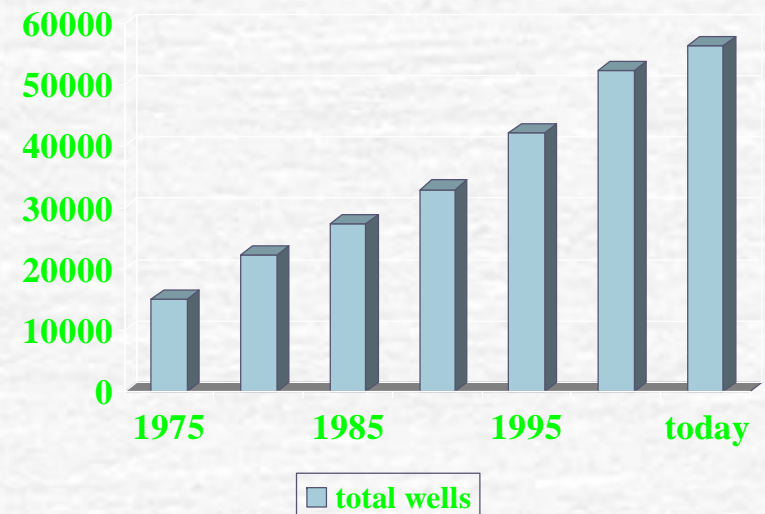
Ground Water Uses

Purposes	Purpose code	Total	Pre 1910	Pre 1950s	Post 1910	Post 1950	Post 1970	Unknown
Total		66983	1880	6112	64982	60750	56262	121
Summary of Similiar Uses								
Domestic	(DM &MD)	36083	396	2048	35637	33985	31779	
Gen. Municipal	(MC, In, IS,CM)	2435	60	278	2364	2146	1732	
Irrigation	(IR & LG)	15650	297	1040	15330	14587	13630	
Agricultural all	AS,IR,ST	16696	1323	3242	15319	13400	12091	
Wildlife	FF,FR,FS,FW, WI,WW)	636	24	154	611	481	436	
Power Generation	PG,PN	24	0	3	24	21	11	

Wells in the Clark Fork Basin



There are records of
More than 58,000 wells

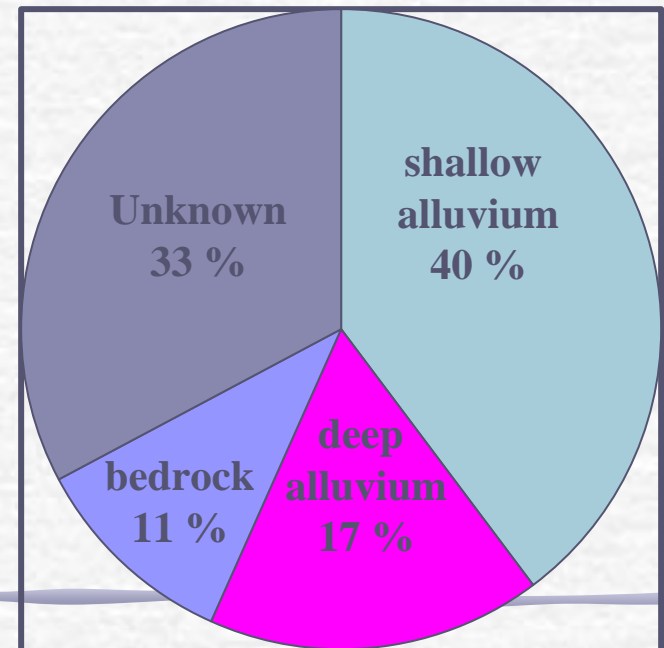
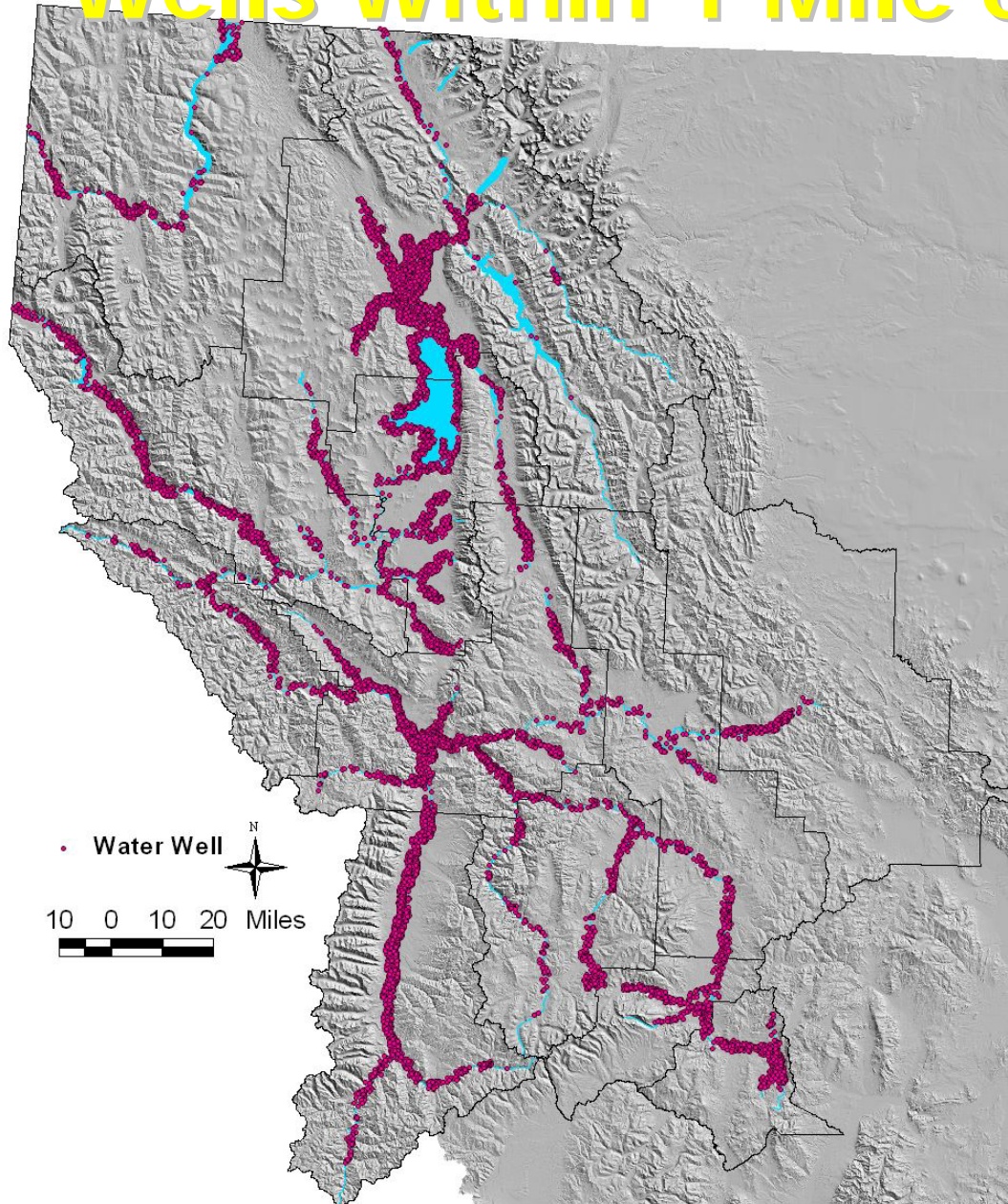


40 % of all wells have been
installed since 1990

Wells Within 1 Mile of Major Streams

52 % of the wells (30,400) are located within 1 mile of streams

...most, but not all, are in shallow alluvium



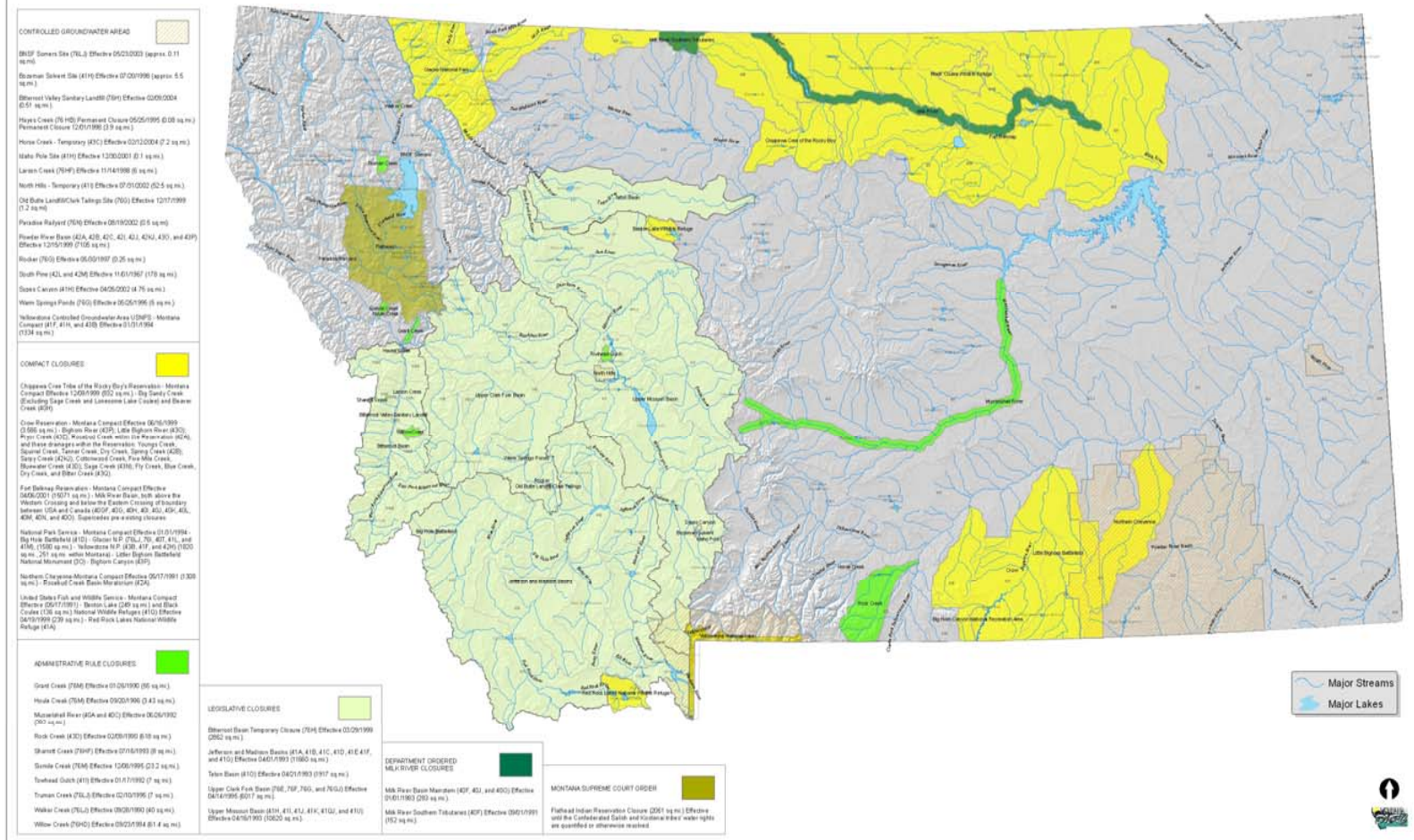


Smith River @
Eden Bridge



- ✓ Clark Fork River at 4 cfs (Summer 06)
- ✓ Minimum flow for aquatic life support = 40 cfs

Montana Surface Water Closures, Compacts, and Controlled Groundwater Areas March 2004

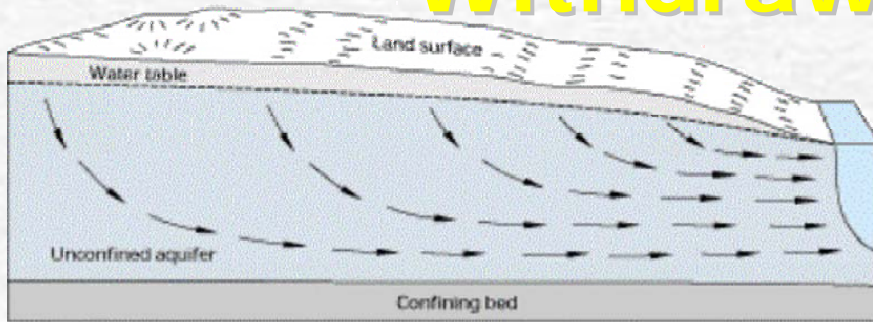


Closed Basins

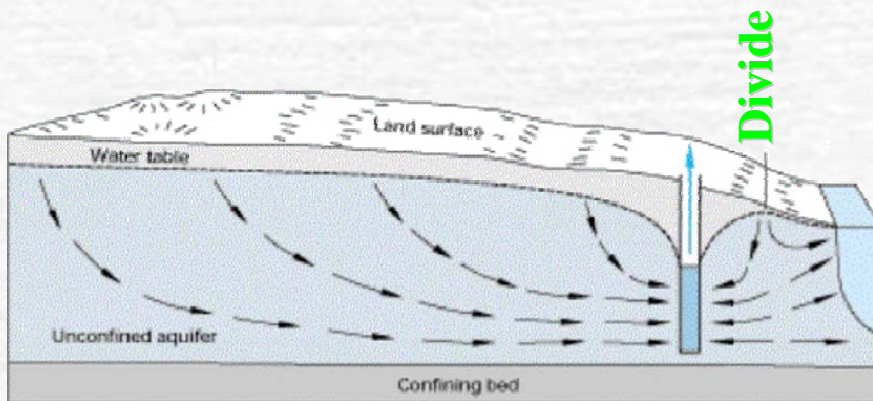
CLOSED BASINS

- Multiple methods
 - (rule, statute, compact & court)
- Legislatively closed basins:
 - Upper Missouri, Teton & Madison/Jefferson
 - Upper Clark Fork
 - Bitterroot
- Limits NEW permits & reservations
- Most exempt;
 - storage,
 - stock,
 - non-consumptive power,
 - some municipal & domestic, &
 - often “ground water”

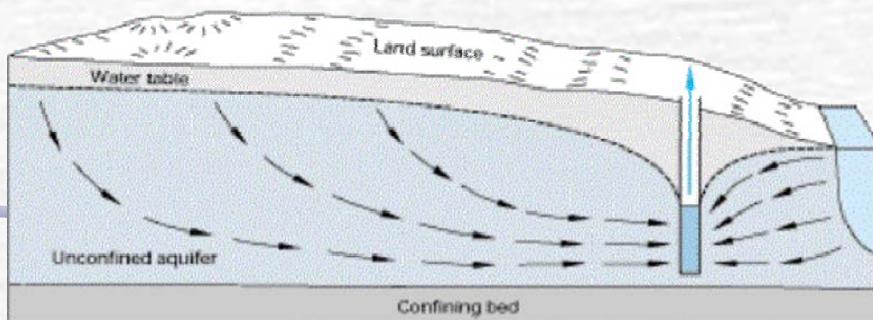
Potential Effect of Ground-Water Withdrawals on Streams



Natural conditions: ground water discharges to stream

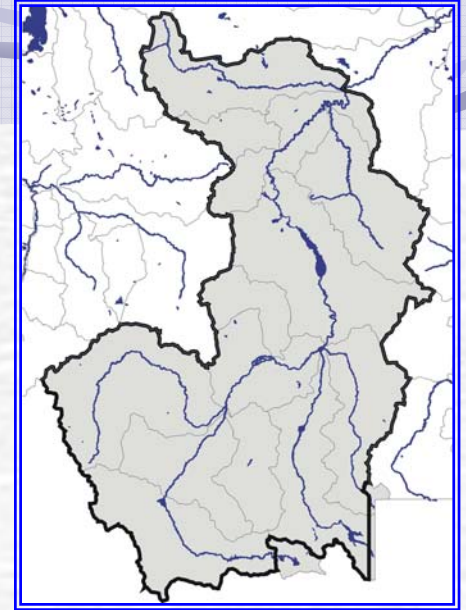


Pumping will intercept some of the water that would have discharged to the stream



Continued or additional pumping may draw water from the stream to the well

MISSOURI RIVER CLOSURE



- DNRC can not process an application for groundwater where groundwater is "Immediately or Directly" connected to surface water
 - **DNRC interpretation:**
 - Inducement of surface water by a well
 - Interception of groundwater flowing to a stream not accounted for

South Fork Smith River




Lower Smith R. irrigation 2000



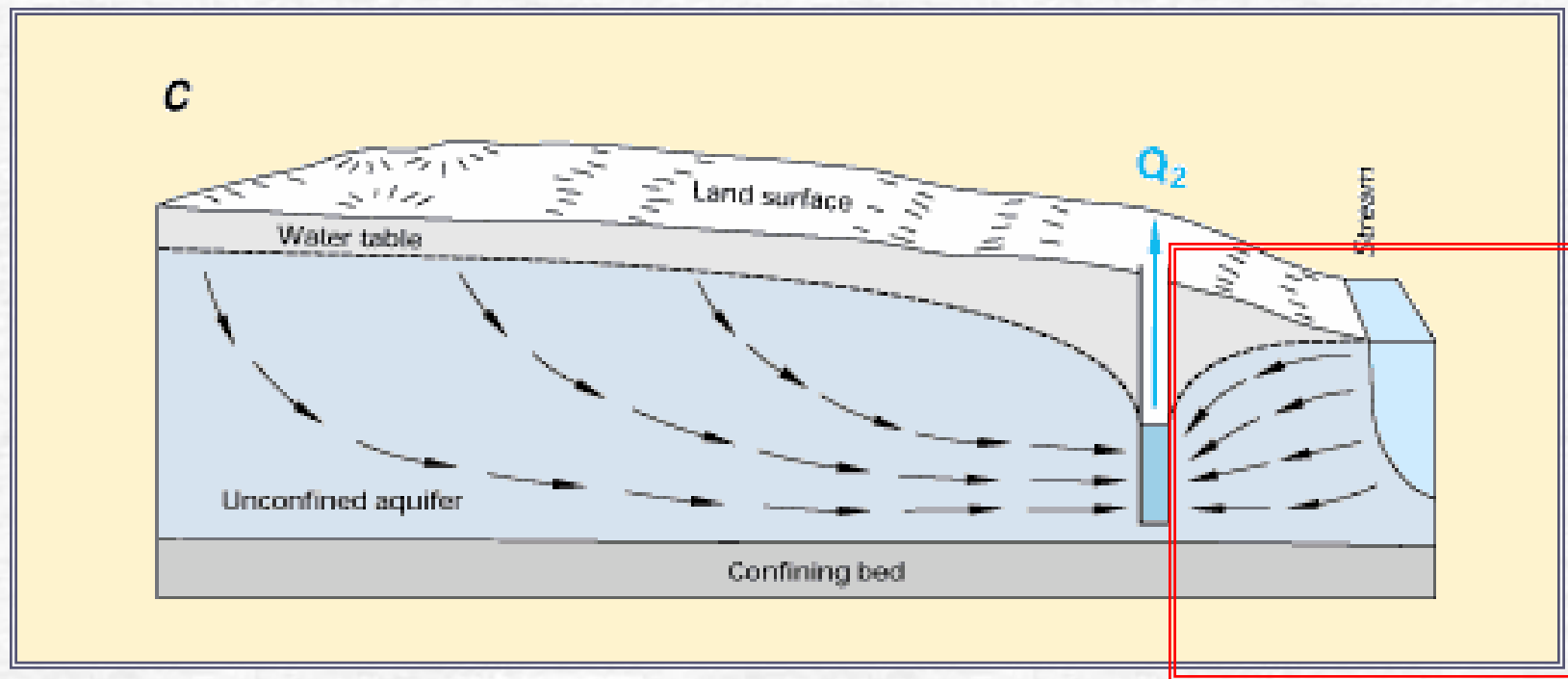
- The Concerns:
- Additional dewatering
 - Protection of Seniors
 - Cumulative Impacts
 - Application of Permit Exemptions



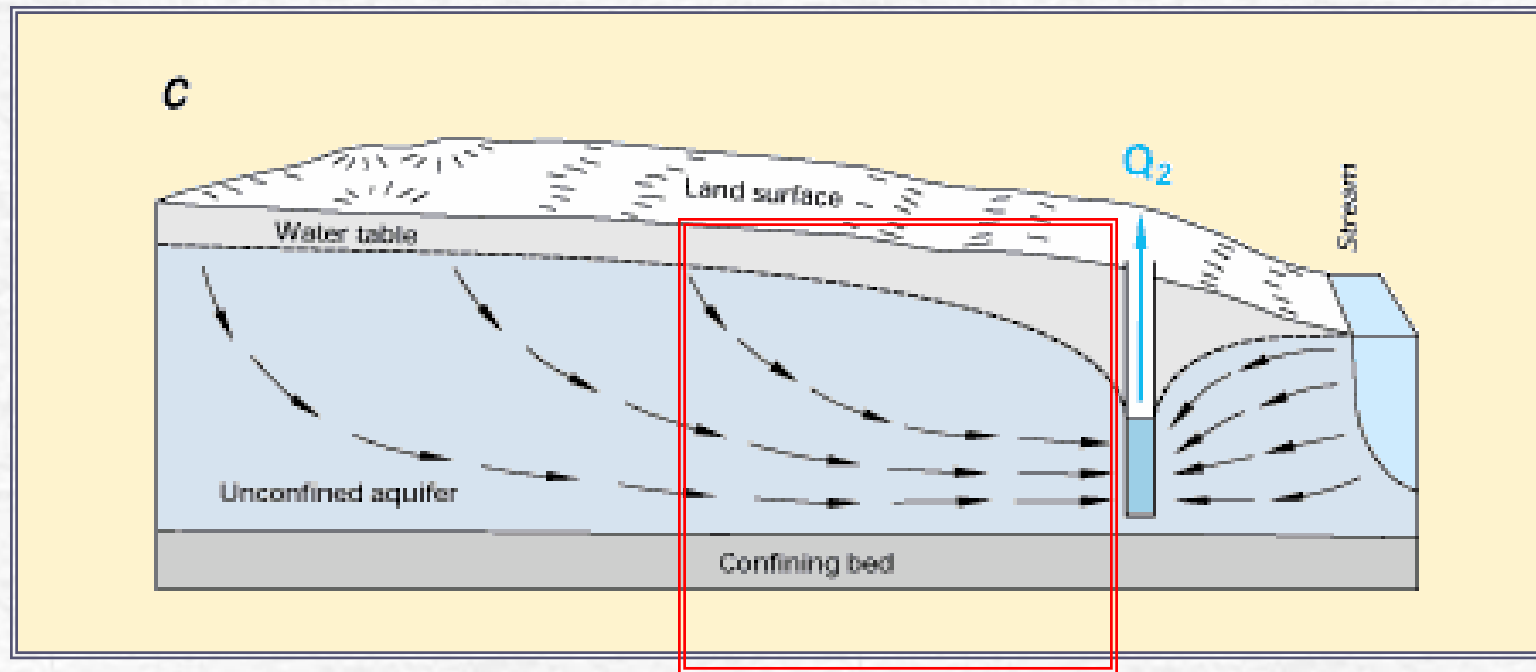
TROUT UNLIMITED V. DNRC

- TU v. DNRC, 331 Mont. 483, 133 P.3d 224 (2006)
 - Supreme Court ruled against DNRC
 - Held “groundwater includes pre-stream capture of tributary groundwater”
 - Resulted in the present *de facto* closure in the Upper Missouri for uses >35gpm and >10AF
- 

Induced Ground Water



Pre - stream Capture



SW - GW WORK GROUP

- DNRC's Director Sexton convened
 - Numerous interest groups participated.
 - Met in early summer of 2005 until winter 2006.
 - Recommendations incorporated into HB138.
- Issues:
 - Current water law related to sw/gw appropriations.
 - Closed basins and impact of groundwater on senior surface water rights.
 - Proliferation of ponds in these basins.
 - Cumulative impact of exempt small wells on senior rights.

Outcome – HB 138 and HB 104 failed but.....

HB 831



- Ground Water Appropriations in Closed Basins
- Introduced into statute
 - Aquifer recharge / mitigation
 - Aquifer storage and recovery
- Hydrologic assessments
 - Evaluate “net depletion” to surface waters
 - Evaluated resulting adverse affect
 - Net Depletions off set by
 - Mitigation plan
 - Aquifer recharge plan

HB 304 - Furey

- Creating the Water Policy Interim Committee
 - Much of work now part of EQC duties.
 - Review, evaluate and monitor functions on water related issues
 - Examines
 - SW/GW conditions
 - SW/GW appropriations
 - Water Banking
 - Augmentation



Ground & Surface Water:

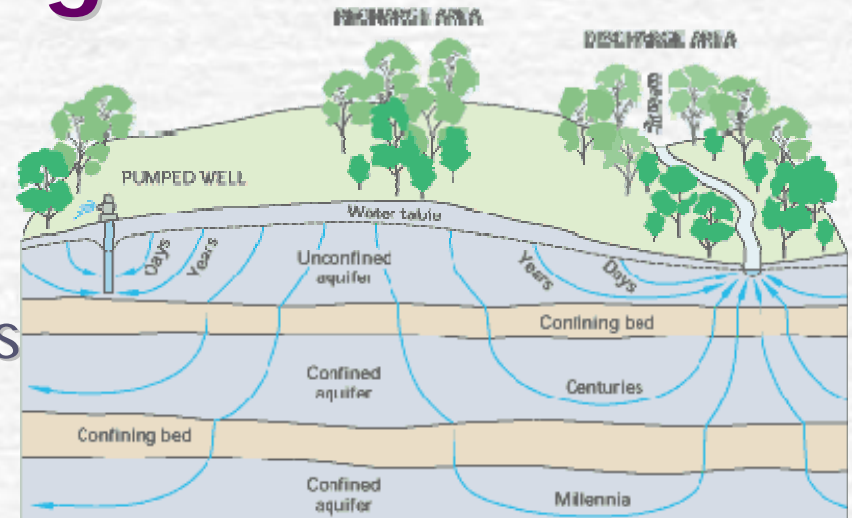
A single resource

Benefits:

1. Increased flexibility
2. Refection of natural systems
3. Reduces future risks

What are our challenges?

- May need additional system characterization.
- Need development of quantifiable basin models.
- Need enhanced monitoring systems.
- Outreach and education!
- Undoubtedly will result in legislation or litigation.



Other Water Mgmt concepts:

☛ Cumulative effects of wells

- Lowering & limiting Uses under “Exempt GW”
- Addressing “in combination with”
- Water for Subdivisions

☛ Water For Future Use

- Water Marketing
- Water from Existing Storage
- Ground water storage / Augmentation

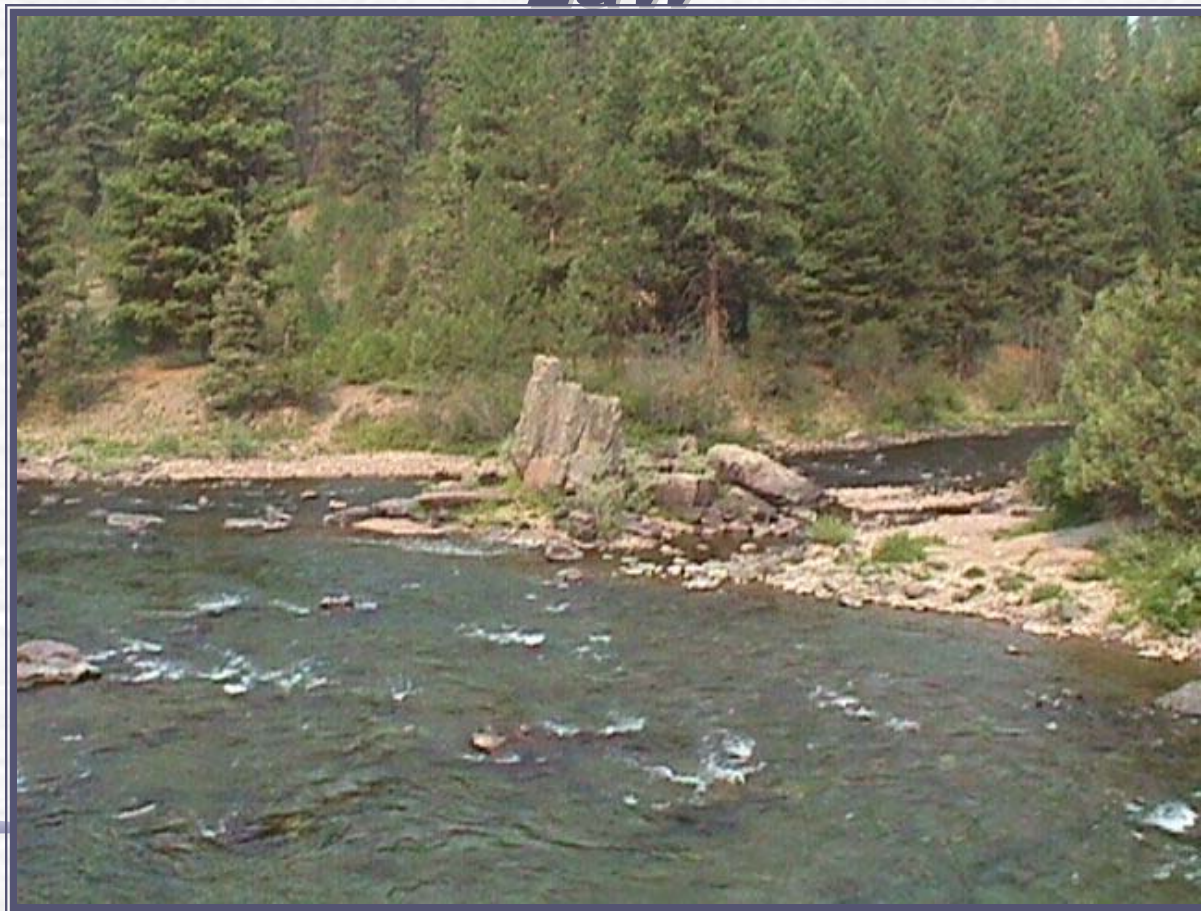
☛ Water Management



Instream Flow Protection

Strategies in Montana Water

Law



Instream Protection Methods

1. Murphy Rights (Statutory Designation)
2. Storage
3. Water Reservations
4. Water Leasing
5. Basin Closures
6. Judicially Recognized Rights



AUG 8 2001

Today is an Opportunity

We can choose.

Actions will define our future

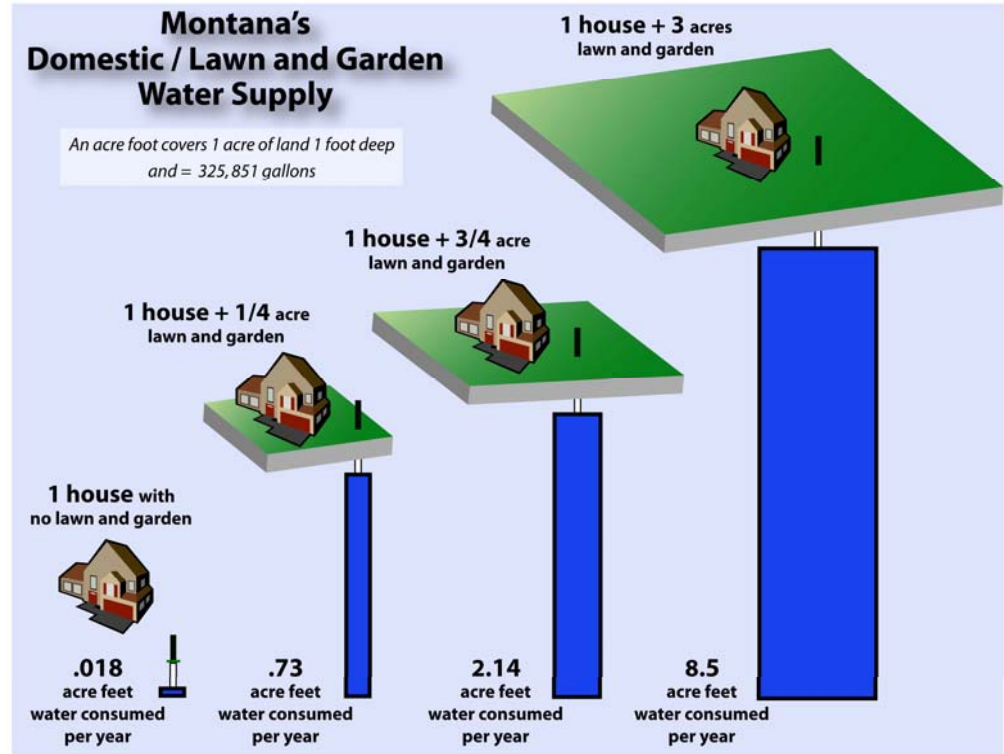
What do we want?



HB 104

Permit Exemptions

- Limit uses to domestic and commercial
- Limit irrigation to $\frac{1}{4}$ acre
- Limit diversion from wells to 35 gpm or < and 1 AF
- Stock remains at 35 gpm or < and 10 AF or < from wells or developed springs
 - However, must have a 40 contiguous acres



HB 262 -- Jopek



- Title: Water Right in Growth Counties
- Amends both subdivision & water law
- Bill would
 - Require a water right or water supply prior to plat approval.
 - majors and subsequent minors would be subject to review under water use act
 - In growth co., a combined appropriation requires a permit.

HJ 15 - Furey



- Creating Interim Study of Water Markets and Feasibility of a Montana Water Bank(s)
 - Requests an interim committee
 - Examine current water market and leasing activity
 - Examine options for reallocation of water
 - Leasing, banking, trading & sales.

Legislative Actions: (51 intro, 104 unintro)

- ☛ Appropriate Fund to Study Leasing from Hungry Horse
 - 443 Janna Taylor
- ☛ Revise Water Marketing Law,
 - Senate Bill 378, Jackson
- ☛ Revise law related to water distribution & commissioners
 - SB 365, Story
- ☛ Revise ground water data collection procedures
 - SB 324, Jackson

HB 138 (Work Groups Bill)

➤ Closed Basins

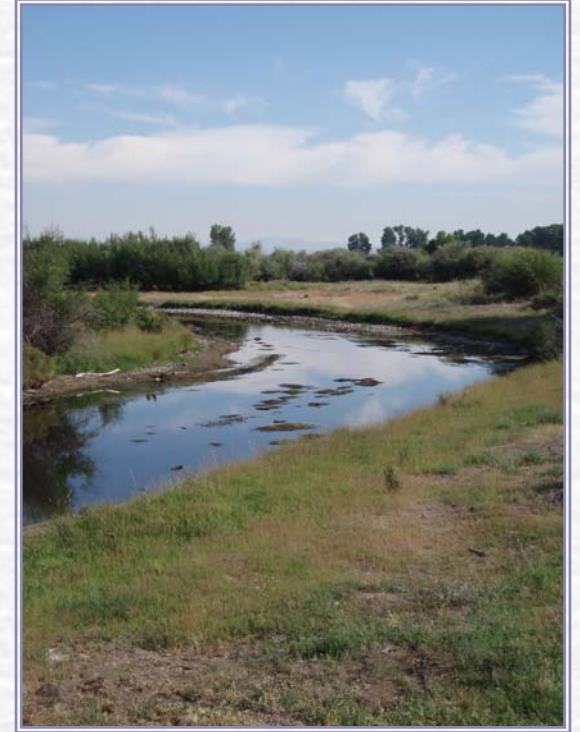
- Remove reference to “I & D” groundwater.
- Provide a definition of “Augmentation”
- Require groundwater provide a hydraulic report that defines
 - the aquifer unit and
 - Nature and extent of SW and GW interconnection; and an augmentation plan
- Require Augmentation – when needed
 - Where interaction & therefore depletions

HB 138 (cont.)

➤ Closed Basins (cont.)

➤ Reduce exemptions to:

- Storage of 50 AF or more
- Municipalities
- Stock
- Remediation required by certain federal Acts



Alternative Legislation – HB 373

- Includes Augmentation
- Defines “induced infiltration / recharge”
- Requires a hydrologic report
 - Report is to define “Induced Infiltration”
 - Show not adverse affect****
 - Ability of senior to “*reasonably exercise*”
there right

HB 373 (cont.)

- 311 additions – Permitting Criteria
 - priority of appropriations do NOT include right to prevent change
 - Includes lowering of a water table
 - Prior appropriator can reason exercise the water right
 - Consideration of cessation of diversion & increase in source of supply – futile call

Water Use Estimates

Research Data

In house

- 61,500 gallons/yr.
- 10% consumed

Irrigation

- 2.83 ac. ft. /ac/yr
- A maximum consumptive demand
- Assumes no effective precipitation, no waste & no carry over moisture

Data Sources

- Bureau of Reclamation AGRIMET
- American Water Works Association

DNRC Rules Standards

In-house Domestic

- 1 acre foot per yr.
(325,851 gallons)
- Consumption not defined

Irrigation

- Lawns, gardens, shelterbelts
- 2.5 ac. ft/ac./ yr.