• Division of Water Resources
• Parks and Wildlife
• Oil and Gas Conservation Commission

• Water Conservation Board
• Reclamation, Mining and Safety
• State Land Board
• Forestry
Major Responsibilities of DWR

- Water Administration
- Public Safety - Well & Dam Construction Oversight
- Water Well Permitting
- Interstate compacts
- Hydrographic program
- Public information services
Topics

- Introduction to Water in Colorado and Water Administration Basics
- Ground Water
- Well Permit Basics
- Well & Water Right Considerations When Purchasing Property
- Additional Sources of Information
Introduction to Water in Colorado and Water Administration Basics
The Hydrologic Cycle

- Precipitation - snowfall and rain
- Runoff
- Evaporation
- Infiltration
- Flow out of state
19 States Rely on Colorado Water
Location of the Water vs. the Population

**West Slope**
- Population: 550,000
- Irrigated Acres: 900,000

**East Slope**
- Population: 4.5 Million
- Irrigated Acres: 2.5 Million

Sources: Colorado Water Plan (Draft 2014), wet and dry year observed flows; CFWE (2014) Citizen's Guide to Colorado's Transbasin Diversions
Initial Water Development

- **Surface water use**
  - **Mining and domestic uses**
    - Water taken from rivers and streams.
    - Predated laws, constitution, or any administration.
    - Small impact at first…
    - Increasing demand for finite resource leads to competition/conflict.
Article XVI, Section 6, State Constitution (1876)

“The right to divert the unappropriated waters of any natural stream to beneficial uses shall never be denied. Priority of appropriation shall give the better right as between those using the water for the same purpose...”
Prior Appropriation System

• “First in time, first in right”
• Water administration system often used in arid regions for allocation of scarce resource.
• Priority system designed to:
  ▫ Provide *security* to water right holders by identifying and protecting water rights.
  ▫ Provide *reliability* by administration and enforcement of water rights.
  ▫ Provide *flexibility* by allowing for changes of water rights (such as type of use or place of use) and by allowing water rights to be sold and transferred.
The Priority System

- Colorado’s Constitution requires diversion/beneficial use of water to occur according to the priority of the appropriation.
- Junior water rights (more recent)
  - May not divert during certain dry periods
  - Must let water pass by to senior rights
DOMINANT WATER RIGHTS DOCTRINES

DOCTRINE RECOGNIZED

- APPROPRIATIVE
- RIPARIAN
- BOTH APPROPRIATIVE AND RIPARIAN
Water Rights

- The Prior Appropriation Doctrine means those that put the water to use first are entitled to get their water first during periods of water shortage.
- A water right confirms a priority date and defines the source (surface or ground) of water; and the type, place, and amount of use.
- Only the water court can decree water rights.
- DWR administers water rights and distributes water according to each decree.
- Water rights are property rights that can be sold separately from the land.
Fast Forward to 2016

- Recreation
- Ag Preservation
- Energy
- Domestic well use
- Instream flow
Prior Appropriation in Practice

What Happens?

After the "senior" 70 cfs right is fulfilled, there is only 30 cfs available for the "junior" water right.

SENIOR
1860 Priority Water Right
70 cfs

1880 Priority Water Right
50 cfs

100 cfs

What Happens?
There isn’t enough water to supply the city. The city may buy the water right from the farm to have a reliable water supply.
Ground Water
Ground Water

- Tributary
- Nontributary
- Denver Basin
  - nontributary
  - not nontributary
- Designated Groundwater
Ground Water

- Tributary
- Nontributary
- Denver Basin
  - nontributary
  - not nontributary
- Designated Groundwater

In connection with surface water
Impact of Wells on Colorado’s Rivers

- Wells reduce the flow in local streams.
- Just like surface water rights, wells are administered in the priority system and are subject to curtailment.
Ground Water

- Tributary
- **Nontributary**
  - Denver Basin
    - nontributary
    - not nontributary
- Designated Groundwater

*Not connected to surface water*
Ground Water

- Tributary
- Nontributary
- Denver Basin
  - nontributary
  - not nontributary
- Designated Groundwater

• Bedrock formation
• Non-renewable
• Special administration & permitting rules
Denver Basin Overview

- The Denver Basin is a “layering” of water bearing geologic formations (aquifers) along the front range
- Limited connection to surface water
- Not administered in the priority system
  - Given statutory provisions for administration
  - Promulgated rules
    - further guide administration
    - describe physical/hydrologic properties
Denver Basin

GENERALIZED GEOLOGIC SECTIONS THROUGH THE DENVER BASIN
Ground Water

- Tributary
- Nontributary
- Denver Basin
  - nontributary
  - not nontributary
- Designated Groundwater

Areas with little surface water
**Denver Basin and Designated Ground Water Basins**

**Crow Creek & Camp Creek Basins**
Irrigation and Domestic water is from both Alluvial and Bedrock Aquifers. No surface water supply.
Lack of precipitation may result in increased pumping and lowering of the water table. This would lead to higher energy and production costs.

**Kiowa-Bijou**
Irrigation water supply is from the Alluvial Aquifer, No surface water supply. Domestic supply from both Alluvial and Bedrock Aquifers.
Lack of precipitation may result in increased pumping and lowering of the water table. This would lead to higher energy and production costs.

**Northern High Plains**
Irrigation and domestic water supply is from the Ogallala Aquifer. No surface water supply.
Lack of precipitation may result in increased pumping and lowering water levels. This would lead to higher energy and production costs.

**Lost Creek**
Irrigation and Domestic water is from both Alluvial and Bedrock Aquifers. No surface water supply.
Lack of precipitation may result in increased pumping and lowering of the water table. This would lead to higher energy and production costs.

**Southern High Plains**
Irrigation and domestic water supply is from the Ogallala, Dakota, Cheyenne and Docum Aquifers. No surface water supply.
Lack of precipitation may result in increased pumping and lowering water levels. This would lead to higher energy and production costs.

**Upper Black Squirrel**
Irrigation water supply is from the Alluvial Aquifer, No surface water supply. Domestic water supply from Denver Basin Aquifers.
Lack of precipitation may result in increased pumping and lowering of the water table. This would lead to higher energy and production costs.

**Upper Big Sandy**
Irrigation water supply is from the Alluvial Aquifer, No surface water supply. Domestic supply from Alluvial and Bedrock Aquifers.
Lack of precipitation may result in increased pumping and lowering of the water table. This would lead to higher energy and production costs.

**Denver Basin**
Ground water supply is from the four major Denver Basin Bedrock Aquifers, Dawson, Denver, Arapahoe and Laramie-Fox Hills. The aquifers are not part of the surface system and are not affected by drought conditions. However, in times of shortages in the surface water supply, increased use of ground water from the basin can result in accelerated water level declines.

**Lost Creek**
Irrigation and Domestic water is from both Alluvial and Bedrock Aquifers. No surface water supply.
Lack of precipitation may result in increased pumping and lowering of the water table. This would lead to higher energy and production costs.

**Crow Creek & Camp Creek Basins**
Irrigation and Domestic water is from both Alluvial and Bedrock Aquifers. No surface water supply.
Lack of precipitation may result in increased pumping and lowering of the water table. This would lead to higher energy and production costs.

**Upper Black Squirrel**
Irrigation water supply is from the Alluvial Aquifer, No surface water supply. Domestic water supply from Denver Basin Aquifers.
Lack of precipitation may result in increased pumping and lowering of the water table. This would lead to higher energy and production costs.

**Upper Big Sandy**
Irrigation water supply is from the Alluvial Aquifer, No surface water supply. Domestic supply from Alluvial and Bedrock Aquifers.
Lack of precipitation may result in increased pumping and lowering of the water table. This would lead to higher energy and production costs.
Well Permit Basics
Exempt vs. Non-Exempt Wells

- Certain wells are “exempted” from operating under the priority system.
  - Many residential wells are “exempt”.
  - These wells can continue to operate in times of scarcity.
  - Limited uses help protect senior water rights from injury.

- All other wells are considered “non-exempt” and may typically operate only with a water court approved plan for augmentation.
Parcel Creation Affects Issuance of Exempt Permits

- Exempt permits may be available for:
  - Pre-June 1, 1972 Parcels
  - Parcels 35 Acres or Larger
  - Subdivision Exemptions
  - Cluster Developments (exemption)

- Exempt permits may **not** be available for:
  - Subdivisions created after June 1, 1972
    - Typically require augmentation plan
    - Exempt permits *may* be available for wells in Denver Basin aquifers
Typical Exempt Well Permits

• Parcel less than 35 acres:
  • Household use only

• Parcel of 35 acres or more:
  • Up to 3 houses
  • Irrigation of up to 1 acre of home lawn & garden
  • Domestic animals, poultry, livestock on a farm or ranch

• Denver Basin
  • Same as above for 35 acre parcel
  • Outside uses may be allowed on parcel less than 35 acres
    • Tributary status of aquifer
    • Quantity of water available

• Commercial Exempt
  • Indoor drinking & sanitary use only
  • Livestock
  • Monitoring
What Does “Domestic” Use Really Mean?

• It Depends!! All “Domestic” wells are not created equal.
  ▫ Post-1972, 35 acres or more, outside uses
  ▫ Pre-1972, only historical uses
  ▫ In Denver Basin, may have some outside uses on < 35 acres
  ▫ Post-1972, < 35 acres, inside use only
  ▫ Well permit file may have more details

• If in doubt, ask us!
Purchasing “Horse Property”?

• Can the well legally serve horses?
  • County Zoning is independent of state statues
  • Property may still only qualify for a household use (inside use only) well permit
  • If in doubt, ask us!

• What if there is a creek or spring on the property?
  • Water can only be taken in priority. Need legal source of livestock water on property.
  • Junior water rights are not reliable to supply water to horses
How do I get a well permit that allows horse boarding, a hot tub, a fish pond, etc.?

- Augmentation plans are the only way to add outside uses for areas outside of the Denver Basin.
  - Work with attorney and engineer and apply to water court.
  - Newer subdivisions may have existing decreed augmentation plans to allow some outside uses (those uses would be listed on the well permit).
  - Some areas covered by “blanket” augmentation plans that you can join (cost varies).
  - Inside the Denver Basin, may be able to add outside uses by drilling well into a nontributary (typically deeper) aquifer.
What is a Plan for Augmentation?

- Detailed plan to provide replacement water to allow junior water rights to legally divert when otherwise out-of-priority. Replacement water provided to offset impacts of junior diversions.
- Plan must address *time*, *location*, and *amount* of depletions to prevent injury.
- Approved by the Water Court.
- Permanent Plan
Property sales and well permits

- As of January 1, 2009, the buyer in a residential real estate transaction that includes a permitted well is required to complete a Change in Owner Name/Address form (GWS-11).

- For wells not on record with DWR, an application to register or permit the well must be completed by the buyer in lieu of a Change in Owner Name/Address form.
  - Forms must be submitted to DWR within 60 days of closing.

- Filing a Change in Owner Name/Address form is for contact information purposes only and does not convey real property.
What if the well doesn’t have a permit?

- Exempt well in use prior to May 8, 1972 - Late Register for historic use.
  - Use form nos. GWS-12 & 12-A.
  - Form no. GWS-57 is also required for commercial use.
- Well use after May 8, 1972 - well permit application evaluated based on current statutes and rules.
  - Use form no. GWS-44.
  - If no log, also complete form no. GWS-68.
- Expired well permits *may* be able to be reinstated.
  - Exempt wells only.
  - Well must have been constructed prior to permit expiration date.
Registering Exempt Pre-1972 Wells

- Historic uses established prior to May 8, 1972.
- Uses limited to:
  - Household use (up to 3 homes)
  - Home lawn & garden irrigation (up to 1 acre)
  - Domestic animal watering
  - Livestock watering
  - Drinking & sanitary for commercial / non-residential uses
- Any uses that have been discontinued for 10 or more years are considered to be abandoned.
Rainwater Collection (Rain Barrels)

- As of July 1, 2009 limited collection and use of precipitation allowed.
  - Residential property only.
  - Must have or be eligible for a well permit.
  - Properties that qualify for exempt wells only.
  - No water supply available from municipality/water district.
  - Must be collected from roof of a building used primarily as a residence.
  - Water collected may only be used for those uses allowed by the exempt well permit.
- Permit required
  - Existing well - use GWS-78, no fee
  - New well - use GWS-44 & GWS-78, $100 filing fee
  - Rooftop Precipitation Collection system only (no well) - use GWS-78, $60 filing fee
Well & Water Right Considerations When Purchasing Property
Purchasing Property?

- How was lot/parcel created? - Can affect availability of new well permit.
- Water Supply
  - Individual on-lot well
  - Central supply (surface or ground water)
  - Shared well
- Septic/Leach Field or Central
- Well Pumping Rate - is amount reported by well construction log still relatively correct?
- Well Water Quality - recent test performed?
Purchasing Property?

• Existing Well
  ▫ Valid permit? Do existing uses match permitted and decreed uses?
  ▫ Are other permit conditions met? Such as permitted well location.
  ▫ Change in owner name on DWR database.
  ▫ Non-exempt wells need Aug. Plan.

• Other Water Rights
  ▫ Direct flow (ditch) - decree terms?
  ▫ Storage (reservoir) - decree terms?
There is a ditch on the property!

- You cannot take water out of the ditch unless you are a shareholder/owner of the ditch!!
- The holder of a ditch easement has the right to access, inspect, operate, maintain and repair the ditch.
- The Division of Water Resources does not resolve ditch easement or ownership issues—we only administer to the ditch headgate.
- Ownership or easement issues may be resolved by civil court action (not water court).
Not the whole story!

”Domestic” wells on 35+ acres are for exempt residential use. Irrigation of 1 acre allowed, but for residential use, not for a commercial grow operation.

It is perfectly legal to grow, sell and use marijuana in Colorado. These 75 acres consist of two parcels. One is 37 acres and the other is 38 acres. Each parcel allows a well that can produce nearly a million gallon of water per year. The property is fully fenced and easily accessible. Perfect for hunters, survivalist, and growers. Call for more details.
Additional Sources of Information
Resources

• DWR website (www.water.state.co.us)
  ▫ Search for well permits and water rights, access application forms, find factsheets on augmentation plans and precipitation collection, and much, much more.
  ▫ AskDWR Information request via email

• Records Section
  ▫ Walk-in 8am-5pm, M-F, 1313 Sherman Street, Denver, Room #821
  ▫ Call (303) 866-3581, 9am-4pm, M-F

• Ground Water Information Desk (303) 866-3587
  ▫ 9am-4pm, M-F
Well Permit Search

Available Search Options:
- Receipt
- Permit Number
- Owner
- Location (PLSS)
- Location (UTM)
- Address
- Parcel ID
- Subdivision
- Actions

Q40
Q160
Section
Township
Range
PM

Search
Help
Search Hints

Additional Filters
- Limit to Geographical Area
- Limit to Use
- Limit to Status

County
- ADAMS
- ALAMOSA
- ARAPAHOE
- ARCHULETA
- BACA
- BENT
- BOULDER
- BROOMFIELD

Limit to Use
- ALL BENEFICIAL USES
- AUGMENTATION
- COMMERCIAL
- DOMESTIC
- EVAPORATIVE
- FIRE
- FISHERY
- GEOTHERMAL
- HOUSEHOLD USE ONLY
- INDUSTRIAL

Limit to Status
- Application Denied
- Application Received
- Application Unacceptable
- Application Withdrawn
- Permit Canceled
- Permit Expired
- Permit Extended
- Permit Issued; Completion Status Unknown
- Well Abandoned
- Well Constructed

Viewing 1 - 7
**This page is not the actual permit**
The information contained on this page is a summary of the permit file and may not reflect all details of the well permit. *(Full Disclaimer)*

### Permit Details
**Date Issued:** 07/30/1962  
**Date Expires:**  
**Uses:**  
General Use(s): DOMESTIC  
Aquifer(s): ALL UNNAMED AQUIFERS  
**Special Use:**  
**Area which may be irrigated:**  
**Annual volume of appropriation:**  
**Statute:**  
**Cross Reference Permit(s):** Permit Number: Receipt:  
**Comments:**

### Well Construction/Usage Details
**Well Construction Date:** 07/18/1962  
**Pump Installation Date:**  
**Well Drilled:**  
**1st Beneficial Use:** 07/18/1962  
**Elevation Depth:**  
**Perforated Casing (Top):**  
**Perforated Casing (Bottom):**  
**Static Water Level:**  
**Pump Rate:**  
**Lic #:** 414  
**Name:** HERSH, HARRY  
**Address:** 9181 N. CITY RD, 28E LOVELAND, CO 80537  
**Phone Number:** 203-647-4956

### Application/Permit History
**Well Construction Report Received:** 08/13/1962  
**Application Received:** 07/30/1962  
**Permit Issued:** 07/30/1962  
**First Beneficial Use:** 07/18/1962  
**Well Constructed:** 07/18/1962

[Link to the permit search page](http://dwrdenappdev/WellPermitSearch/View.aspx?receipt=9038841)
5) The use of ground water from this well is limited to ordinary household purposes inside one (1) single family dwelling.
PERMIT APPLICATION FORM

( ) A Permit to use ground water
( ) A Permit to construct a well
( ) A Permit to install a pump
( ) Replacement for No. ____________
( ) Other ____________

FOR OFFICE USE ONLY: DO NOT WRITE IN THIS COLUMN

Receipt No. 57588
Basin ____________
Dist. ____________

CONDITIONS OF APPROVAL

This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of the permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.

APPROVED FOR HOUSEHOLD USE ONLY, FOR ONE (1) SINGLE FAMILY DWELLING AND NOT TO BE USED FOR IRRIGATION. THE RETURN FLOW FROM THE USE OF THIS WELL MUST BE RETURNED TO THE SAME STREAM SYSTEM IN WHICH THE WELL IS LOCATED.

APPROVALS

APPROVALS

(1) APPLICANT - mailing address

NAME: Viola W. Jueck

STREET: PO. Box 626

CITY: McCoy, Colorado 80463

TELEPHONE NO. 926-7651

(2) LOCATION OF PROPOSED WELL

County: Eagle

SE 1/4 of the SW 1/4, Section 1

Twp: 28, Rng: 64W, 6th P.M.

(3) WATER USE AND WELL DATA

Proposed maximum pumping rate (gpm) 15

Average annual amount of ground water to be appropriated (acre-feet): one

Number of acres to be irrigated: none

Proposed total depth (feet): 100

Aquifer ground water is to be obtained from: unknown

Owner's well designation: ____________

GROUND WATER TO BE USED FOR:

( ) HOUSEHOLD USE ONLY - no irrigation (0)
( ) DOMESTIC (1) ( ) INDUSTRIAL (5)
( ) LIVESTOCK (2) ( ) IRRIGATION (6)
( ) COMMERCIAL (4) ( ) MUNICIPAL (8)
( ) OTHER (9)

(4) DRILLER

Name: J & J DRILLING INC.

Street: BOX 1

City: Grand Lake, COLO. 80447

Telephone No. 627-3622, Lic. No. 643

APPLICATION APPROVED

PERMIT NUMBER: 77737

DATE ISSUED: DEC 20 1974

EXPIRATION DATE: DEC 20 1976

By: Bruce E. O'Brien

DEPUTY, STATE ENGINEER

I.D. 3-23 COUNTY: 19
Domestic use

```
APPLICATION FOR:  Replacement for No. __________ (Reason)

PRINT OR TYPE
APPLICANT: Victor Popper
Street Address: Rt 4, Box 194
City & State: Longmont, Colo

DOMESTIC USE
Use of ground water is domestic.
Number of acres to be irrigated: __________
Legal description of irrigated land:
Other water rights on this land:
Owner of irrigated land:
Aquifer(s) ground water is to be obtained from:

ESTIMATED WELL DATA
Est. quantity of ground water to be claimed:
Est. Max. Yield: __________ GPM or CFS
Est. average annual amount to be used in acre-feet:
Storage capacity: __________ AF
Anticipated start of drilling: 7-22-1968

HOLE DIAMETER:
9 in. from __________ ft. to __________ ft.

Casing:
Plain: __________ in. from __________ ft. to __________ ft.
Perf: __________ in. from __________ ft. to __________ ft.

PUMP DATA:
Type: Submersible HP __________ Size: __________

CONDITIONS OF APPROVAL

APPLICATION APPROVED:
VALID FOR ONE (1) YEAR AFTER DATE ISSUED
UNLESS EXTENDED FOR GOOD CAUSE SHOWN TO THE ISSUING AGENCY

PERMIT NO. 34642 CONDITIONAL

DATE ISSUED: JUL 2 1968

STATE ENGINEER or CHAIRMAN GROUND WATER COMMISSION

APPLICATION MUST BE COMPLETED SATISFACTORY BEFORE ACCEPTANCE

(OVER)
```
Questions?

- Website: water.state.co.us
- Email: Ask DWR
- Phone: Records Section or Ground Water Information Desk
- Walk-in: Main Office in Downtown Denver
Differences Between Exempt and Non-exempt Well Permits

• **Exempt**
  - Not administered in the priority system
  - No augmentation required
  - Presumption of no material injury
  - Use limited by statute
  - Most limited to 15 gpm
  - Most require return flow
  - No well to well spacing

• **Non-exempt**
  - Administered within the priority system (except DB, NT, and Des. Bas.)
  - Augmentation plan typically required
  - Material injury must not occur
  - Well to well spacing requirement of 600 feet
  - Municipal, Irrigation, Industrial, Commercial
Differences Between a Well Permit and a Decree

• Well Permit
  ▫ Issued by DWR
  ▫ Permit to construct
  ▫ Limitations on use
  ▫ Does not convey a water right
  ▫ Does not guarantee quantity or quality of water

• Decree
  ▫ Issued by Water Court
  ▫ Adjudication of water right
  ▫ Absolute or conditional
  ▫ Does not approve construction of well
  ▫ Does not guarantee quantity or quality of water