

# RAINWATER HARVESTING IN COLORADO

## THE PAST, THE PRESENT, AND THE NEAR FUTURE

AWSE

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# Rainwater Harvesting

- Intuitively, it seems like the “right” thing to do...to the layperson
- Under some circumstances, it can contribute to the tributary system

# Rainwater Harvesting



**Woman Drawing Water from Cistern at Orabi Pueblo (circa 1880-1900)**

source: [www.ancestral.com/cultures/north\\_america/hopi.html](http://www.ancestral.com/cultures/north_america/hopi.html)



# Rainwater Harvesting

- However, it conflicts with Colorado's constitutional prior appropriation system and Colorado's statutes regarding precipitation



# Rainwater Harvesting

- Precipitation – Section 36-20-103, C.R.S.
  - “The general assembly declares that the state of **Colorado claims the right to all moisture suspended in the atmosphere which falls** or is artificially induced to fall within its borders. **Said moisture is declared to be the property of the people of this state...**”
- Therefore,



# Rainwater Harvesting

- It is illegal to divert, store, and beneficially use precipitation from one's own property, unless it is done according to a water right administered in priority

Problems...



# Rainwater Harvesting

- How can this be enforced?
- What can we do about land development and storm water management? They are constants.

Is this the best approach?



# Rainwater Harvesting

- Land development and storm runoff
  - We acknowledge this need
  - We allow for incidental consumption
  - The objective must be storm water management





# Rainwater Harvesting

- Case for rainwater harvesting:
  - We question the use of treated water for irrigation
  - Minimizes unnecessary consumption of storm runoff (waste)
  - Helps manage storm runoff
  - Water quality management
- But we still need to reconcile our actions with the prior appropriation system.



# Rainwater Harvesting

- New Colorado Legislation - 2009:
  - Senate Bill 09-80
  - House Bill 09-1129

# Rainwater Harvesting

## Senate Bill 09-80



Small Scale Rain Barrel  
source: RainBarrelSource.com



## Rainwater Harvesting

- Senate Bill 09-080, which was passed by the General Assembly and signed by the Governor during the 2009 legislative session, allows limited collection and use of precipitation for landowners, only if:



# Rainwater Harvesting

- Residential property, and
- Well water supply, and
- Well permitted for domestic uses, and
- No other water supply available, and
- Rain water is collected only from roof, and
- Water is used only for the same uses as the well.



# Rainwater Harvesting

- Fundamental premises:
  - This allowance is acknowledged and tracked by the Division of Water Resources
  - Given a tributary aquifer, precipitation will be used in lieu of ground water
  - If, for example, the precipitation were 75 percent lost to the system, then capture for specific beneficial uses saves 75 percent of precipitation occurring

# Rainwater Harvesting House Bill 09-1129



Underground Residential Cistern



# Rainwater Harvesting

- House Bill 09-1129, which was passed by the General Assembly and signed by the Governor during the 2009 legislative session, allows ten real estate development pilot projects:





# Rainwater Harvesting

- Purpose:
  - Evaluate the technical ability to quantify amount of precipitation returning to streams,
  - Create baseline data and methodologies for evaluating the effect of weather patterns on returns,
  - Evaluate precipitation harvesting systems,



# Rainwater Harvesting

- Purpose (cont.):
  - Measure precipitation capture efficiencies,
  - Quantify the amount of harvested precipitation that must be augmented to prevent injury,
  - Provide for water court adjudication of permanent plans



# Rainwater Harvesting

- The pilot projects should:
  - Represent diverse geography and hydrology,
  - Be able to meet local requirements with sources other than precipitation



# Rainwater Harvesting

- Priority will be given to projects that:
  - Are located in areas that have water supply challenges,
  - Promote water conservation



# Rainwater Harvesting

- How does it operate without causing injury?
  - For a minimum of two years, project must operate under one year approvals by the State Engineer
  - Approval is based on replacement to the system of 100 percent of precipitation captured



# Rainwater Harvesting

- How does it operate without causing injury?
  - After two years of operation, the sponsor may apply to water court for a permanent plan of augmentation
  - At that time, the sponsor may claim credit for effective precipitation, that is, that amount that historically would not have returned to the stream (THAT'S WHAT MAKES THIS LEGISLATION UNIQUE!)



# Rainwater Harvesting

- What does the future hold?
  - SB-80 – All residents will continue to ask why rooftop collection is limited to limited well owners,
  - HB-1129 –
    - Push to claim credit for historical consumption of pre-existing vegetation
    - Will these pilots be successful? Will there be calls to accelerate the evaluation?



# Additional Information

- More information on HB 09-1129 can be found at <http://cwcb.state.co.us/NR/rdonlyres/3C1C7E23-A568-4F5B-802C-6A5653936383/o/18.pdf>
- More information on SB 09-80 can be found at <http://water.state.co.us/pubs/pdf/RainWaterBills.pdf>