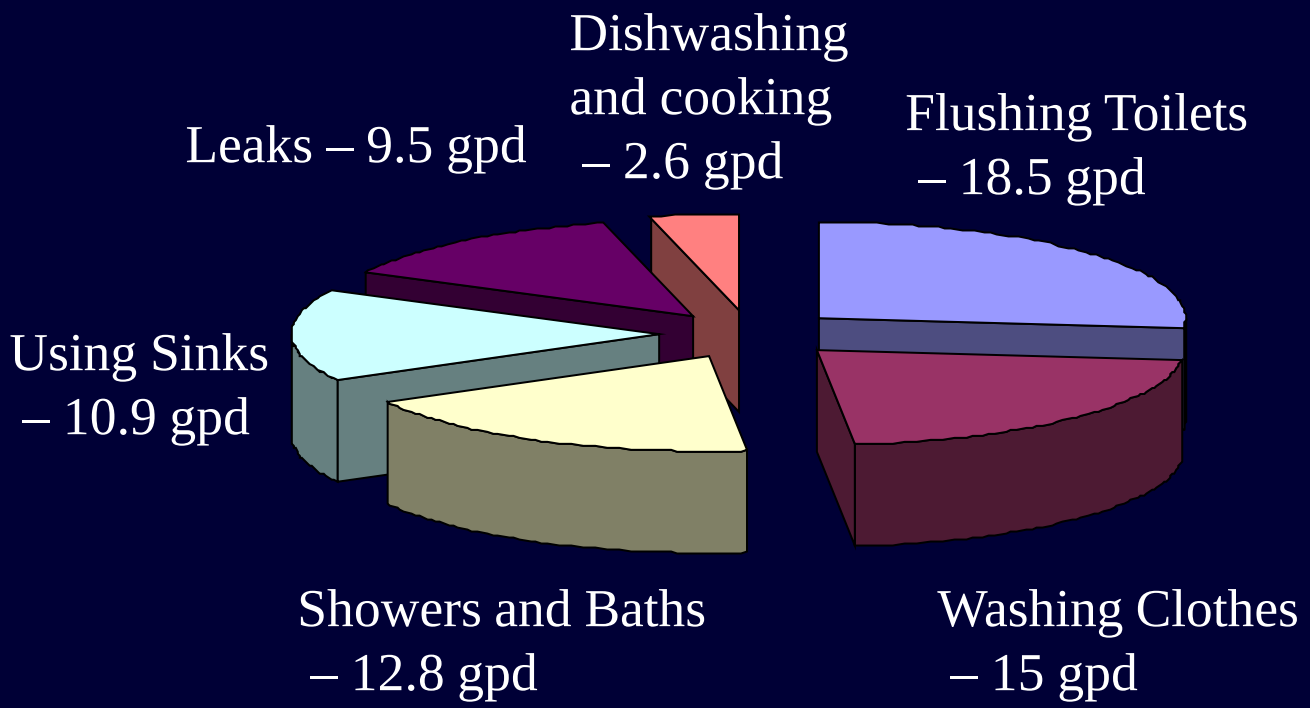
Why Conserve Water?

What does water do for our communities?

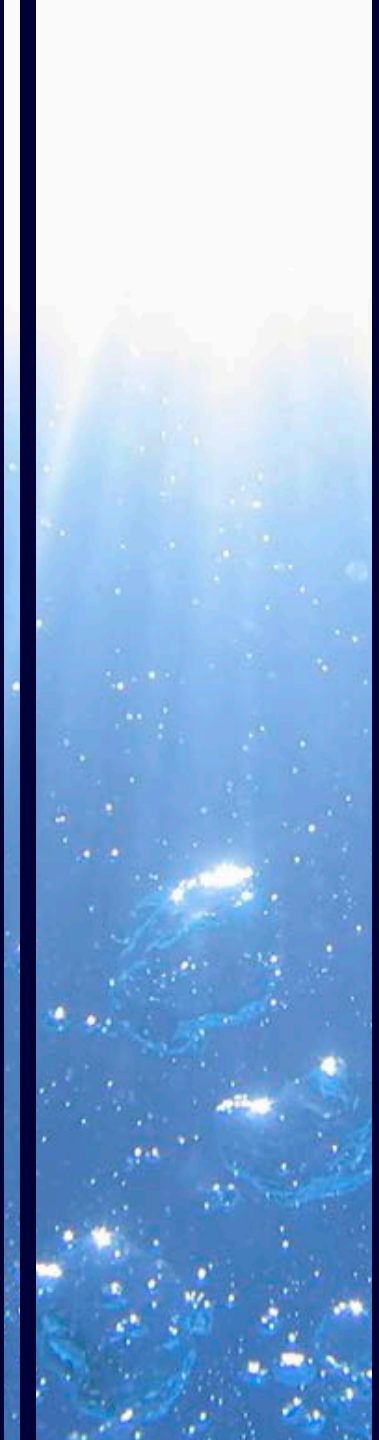
- Safe drinking water.
- Sustains our way of life.
- Natural resource for business.
- Fire protection.

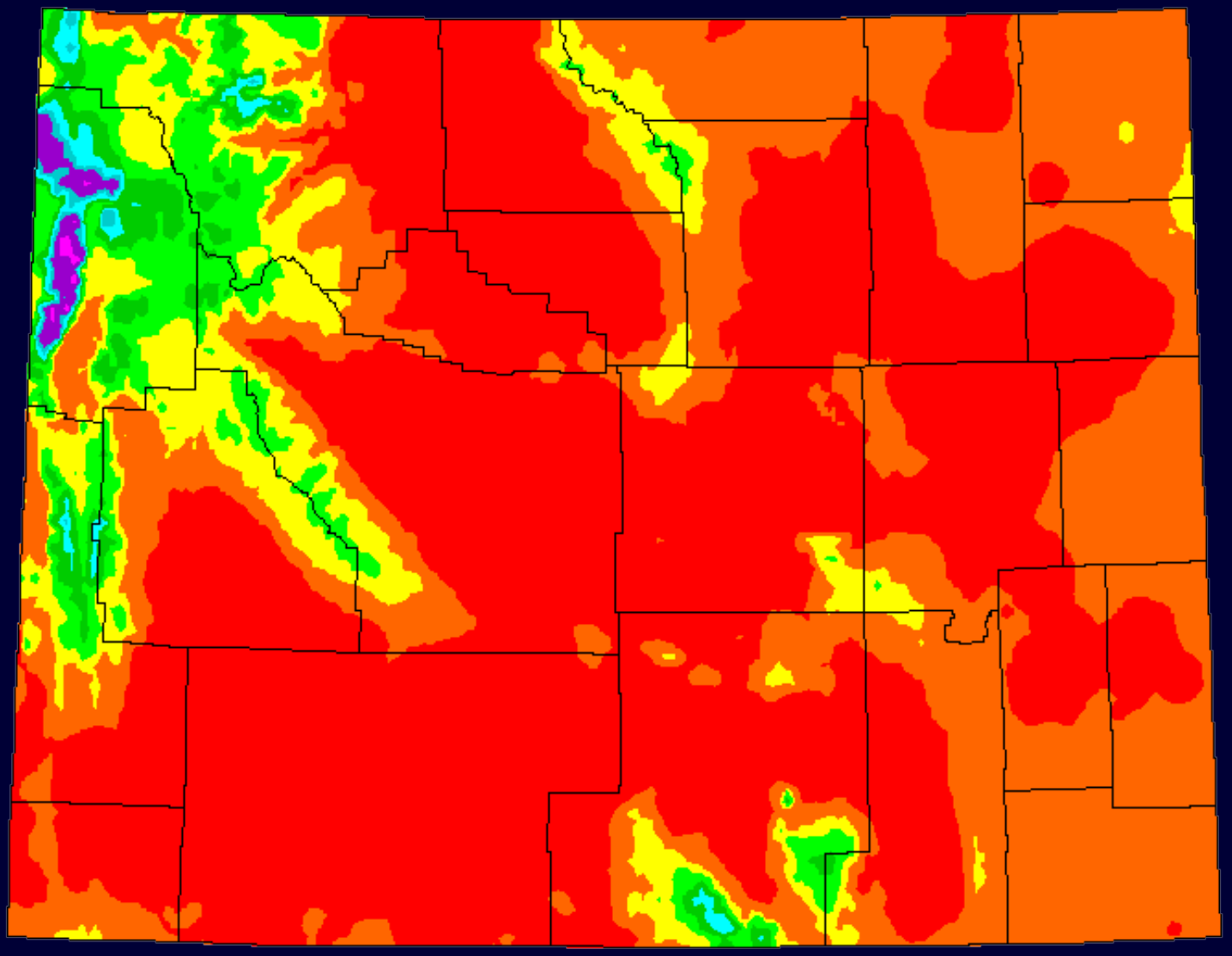
How much water do we use?

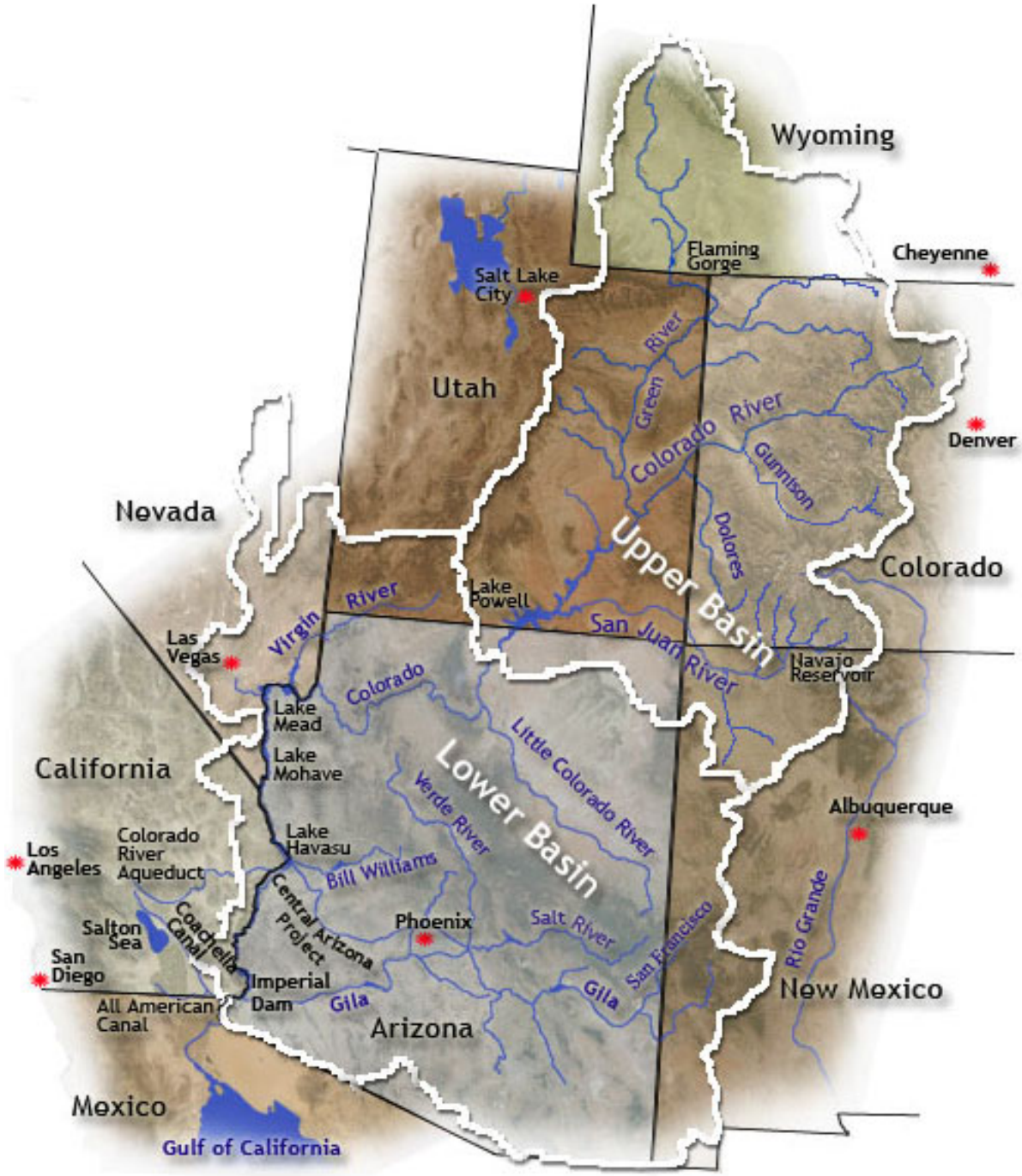
- On average, people use 100 gallons per person per day indoors.
- Can use four to five times that much outdoors.



Wyoming's water challenges

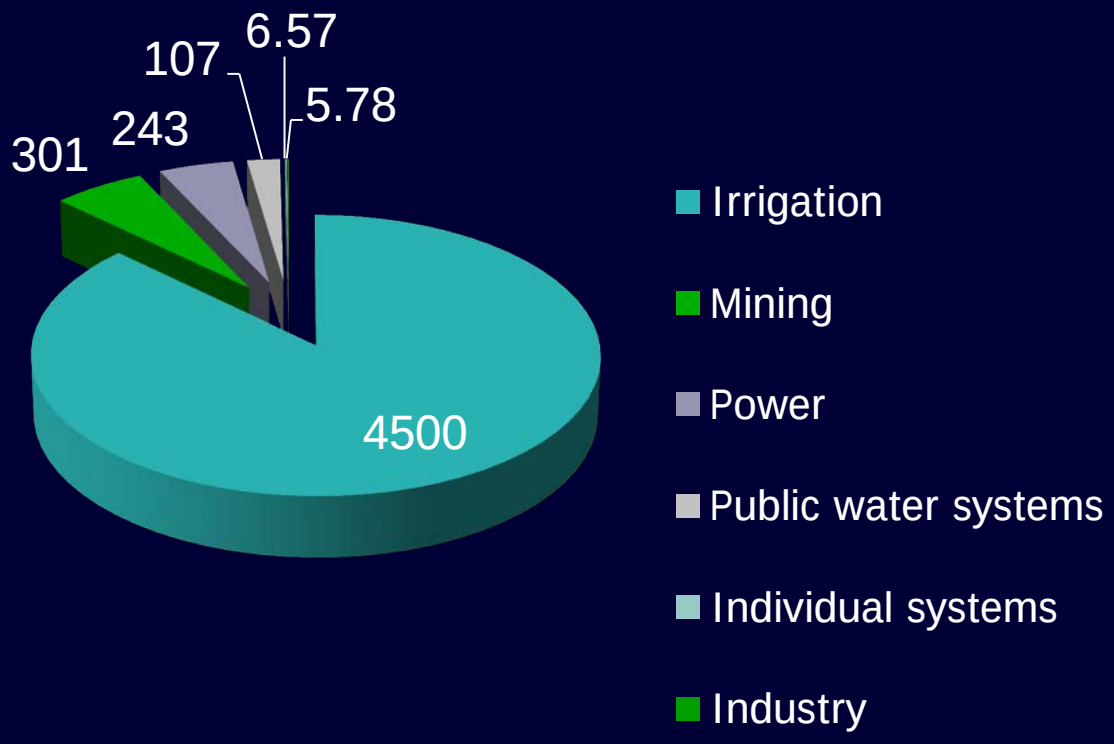



Legend (in inches)
Under 14
14 to 22
22 to 30
30 to 38
38 to 46
46 to 54
54 to 62
62 to 70
Above 70


Wyoming
Flaming Gorge
Cheyenne
Salt Lake City
Utah
Green River
Colorado River
Gunnison
Denver
Nevada
Upper Basin
Dolores
Colorado
Lake Powell
Virgin River
San Juan River
Navajo Reservoir
Las Vegas
Colorado
Lake Mead
Lake Mohave
California
Little Colorado River
Lower Basin
Verde River
Albuquerque
Lake Havasu
Colorado River Aqueduct
Los Angeles
Bill Williams
Central Arizona Project
Coachella Canal
Salton Sea
Phoenix
Salt River
San Francisco
Rio Grande
San Diego
Imperial Dam
Gila
Gila
New Mexico
All American Canal
Arizona
Mexico
Gulf of California

Water Use in Wyoming

(millions of gallons per day)
source USGS Fact Sheet 2006-3099



Why conserve?

- Cost
  - Reduced operations costs.
  - Reduced electrical demand.
  - Delay treatment, distribution system expansions.
  - Delay pursuing additional water resources.
  - Reduce wastewater treatment
  - Keep rates lower
- Example
  - Conservation measures in Cheyenne have reduced summer peak flows from 37 mgd to 28 mgd, delaying a $30 million expansion of the treatment plant and corresponding $0.46/1,000 gallons rate increase.

Why conserve

- Stewardship
  - Improve supply reliability
  - Help customers have lower bills
  - Regulatory compliance
  - Public perception
- Example
  - Cheyenne's recycled water system saves approximately 2 million gallons of water per day by using reuse water to irrigate parks and athletic fields instead of drinking water. As a result of this and other conservation efforts, Cheyenne's water resources are expected to out supply demand through the year 2042.

What is water conservation?

- Efficient use of supply resources, example: reservoir management or maximizing collection capabilities
- Facility rehabilitation or replacement
- Leak detection or repair.
- Meters
- Pricing – rates should pay for costs
- Water efficient plumbing and appliances
- Efficient irrigation systems and programming
- Public information and education
- Reuse.

Which ones to choose?

- Forecast water demand against supply
- What do you need the conservation program to accomplish?
  - Cheyenne vs Gillette
- Evaluate which methods will work best in your community. Consider:
  - Cost to implement vs benefits
  - Conservation potential/effectiveness
  - Reliability
  - Manpower
  - Community goals

Start with ....

- Consider the following first:
  - Meter all uses
    - Modern meters can be remotely read, store water use history, identify leaks or protect against backflow
  - Public education
  - Update codes and standards to promote efficient water use.
  - Water waste restrictions
  - Internal water audits
- Next
  - Appliance rebates
  - Leak detection

Public Education

Information sources for customers

- Letters and phone calls – notify customers of potential leaks or high use.
- Messages on bills – 58% of customers are likely to see it.
- Inserts with bills – 43%
- Refrigerator magnets – 37%
- Newspaper articles – 35%
- City/County newsletter – 23%
- Info sent home from schools – 16%
- Community Center displays – 11%
- Websites – 6%

Use multiple methods

Construction Codes

Ways to include conservation in codes

- Water waste restriction and penalty – runoff onto streets or gutters is finable
- Landscape requirements – example: turf shall not exceed 40 percent of landscape. From EPA
- Plumbing requirements – pressure reducers, plumb to reduce time before hot water arrives, water sense logo
- Irrigation efficiency requirements – distribution uniformity, Landscape Efficiency Performance Indicator

Keep it simple to understand and follow.

look for

Internal Audit

AWWA Free Water Audit Software

- http://www.awwa.org/files/science/WaterLoss/WaterAuditTermsOfUse.pdf
- Microsoft Excel spreadsheet
- Subtracts hydrant flushing activities, maintenance, operational losses, meter inaccuracies, etc from water losses.
- Fill it out once a year and it will identify water losses and areas to address.

National average for water loss from a system is 12 percent

- Reducing losses decreases treatment costs and keeps rates lower.