



Arts & Innovation

Why We Are Cool: Riverside Public Utilities in Action



Santa Ana River Watershed Conference 2014

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RPU Background & Demographics

We are Owned by the Customers We Serve

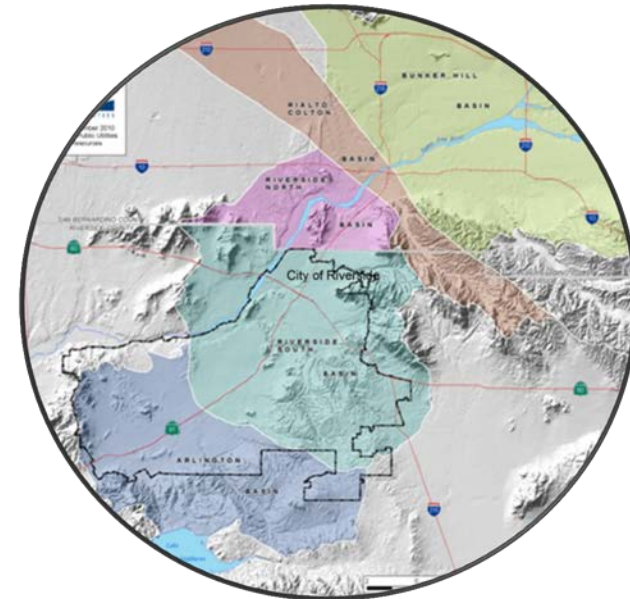
- **Municipal Water Utility Established 1913**
 - 72 square mile service area
 - 275,000 population served
 - 67,000 metered connections
- **Municipal Electric Utility Established 1895**
 - 84 square mile service are
 - 302,000 population served
 - 103,000 metered connections

Water System Today

- **74 active wells in four groundwater basins**
- **11 treatment plants**
- **3 wholesale connections to WMWD/MWDSC**
- **8 emergency inter-ties (fire and backup)**
- **16 storage tanks – 120 MG capacity**
- **41 booster pumping stations**
- **900+ miles pipeline (4” – 72”)**

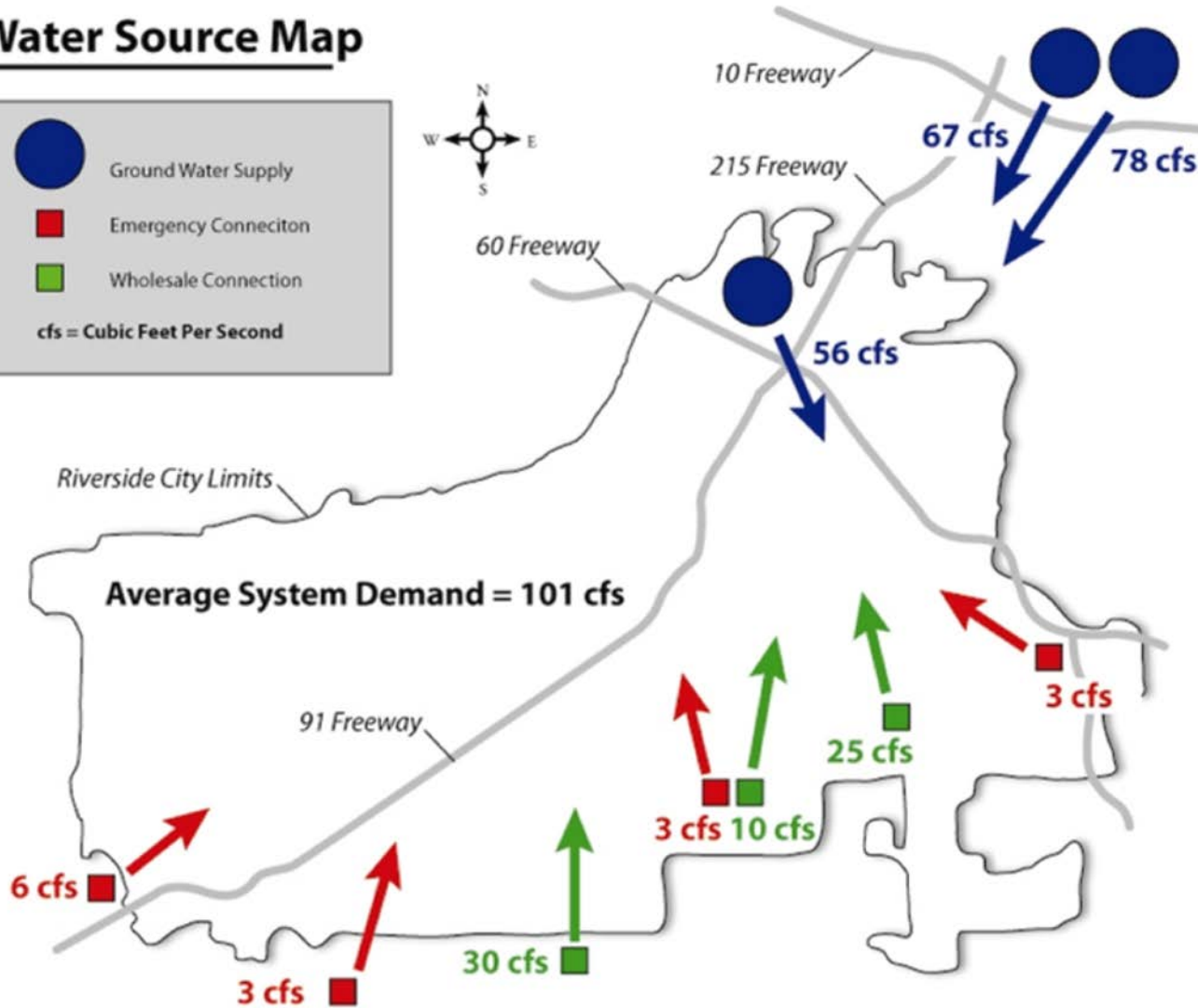
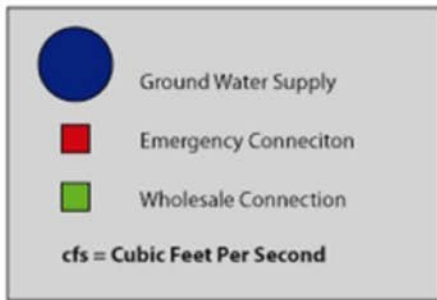
RPU Water Supply

- **100% groundwater since 2008**
 - Pump from adjudicated basins
 - San Bernardino
 - Colton/Rialto
 - Riverside North
 - Riverside South
- **Pro-active engagement with groundwater cleanup**
- **Active participants in basin-wide activities**



RPU Water Sources

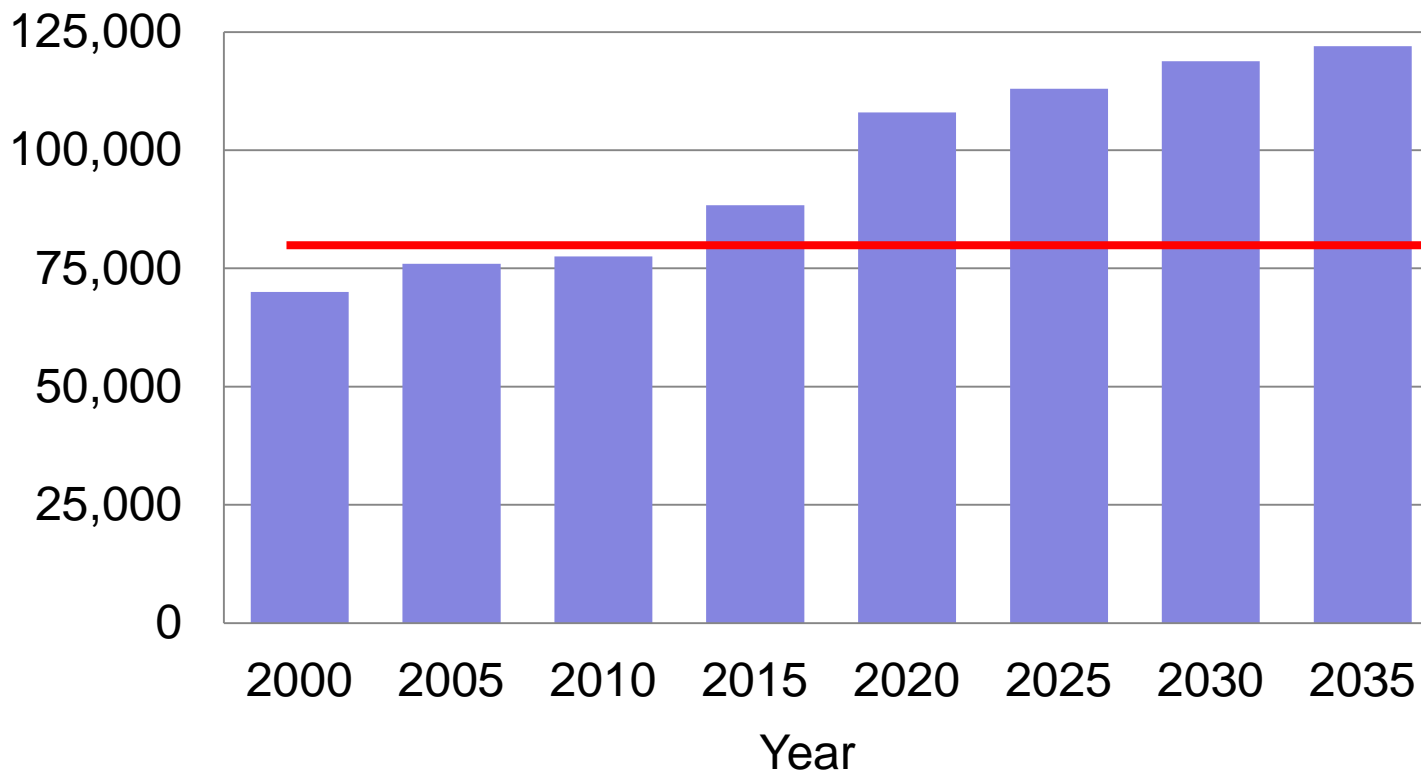
Water Source Map



Geographic diversity enhances supply reliability

Future Water Demand

Demand - AFY



Shortage /
Need

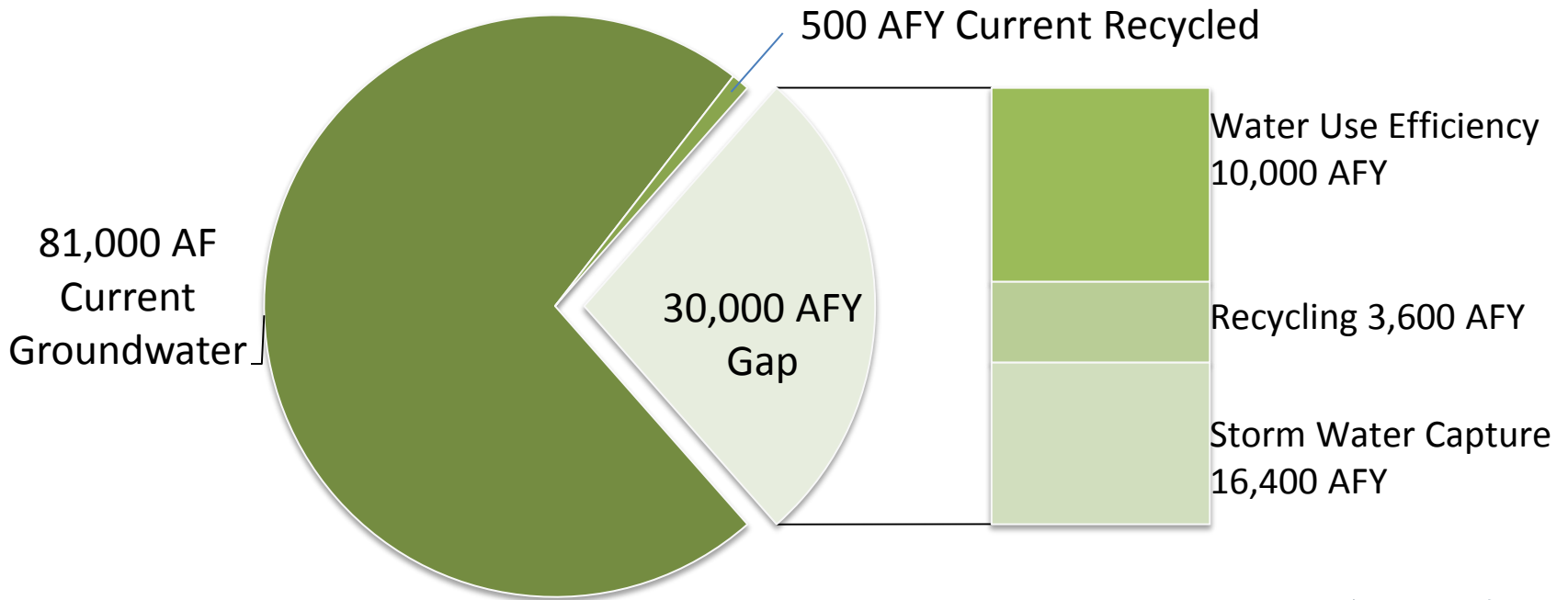
Developed
Resources

RPU Future Water Supply

- **Estimated 30,000+ AFY gap from present supply**
- **Three prong approach to “fill the gap”:**
 - Water Use Efficiency
 - Recycled Water
 - Storm Water Capture
- **Goal is long term “water independence”**

RPU Future Water Supply

Estimated 2035 Water Portfolio



Future Water Supply - Efficiency

- **Behavioral modification**
 - WaterSmart
 - School education
 - Consumer outreach
- **Rebates & incentives**
 - Turf rebate
 - WBICS
 - Landscape audits
 - Indoor incentives



Future Water Supply - Recycling

- **Landscape substitution**
 - Purple Pipe
 - Focus around treatment plant
 - Design to maximize future opportunities
- **Groundwater recharge**
 - Partnerships with other agencies
 - Maximize ecological benefits
- **Direct potable reuse**
 - Long-term future!



Future Water Supply – SW Capture

- **Large scale**
 - Conjunctive Use with other agencies
 - Riverside North Aquifer Storage & Recovery
 - Pellessier Ranch Recharge Project
- **Small scale**
 - Repurpose local detention basins
 - Parkway conversions
 - Urban stream restoration



Water-Energy Nexus

- **Johnson Foundation Recommendations***
 - Proactively manage energy demand
 - Enhance energy efficiency & bolster alternative generation
 - Shift to clean power sources
 - Leverage resource recovery opportunities
 - Shape Federal & State policy
 - Engage in community development & resilience planning

**Building Resilient Utilities: How Water and Electric Utilities Can Co-Create Their Futures, November 2013, The Johnson Foundation at Wingspread* www.johnsonfdn.org/chartingnewwaters



Water-Energy Nexus

- **Riverside's actions:**
 - Water Energy Management Master Plan
 - Embedded energy and GHG profiles
 - Shifted most well production to time of use
 - Implemented demand response protocols
 - 1st in nation Lucid PowerPipe (in-conduit turbine)
 - Planned 3.4 MW Solar PV for well fields
 - Recycled water use at power plant
 - Integrated Urban Water Management Planning
 - Water Portfolio Management Principles

Resilience through Water Portfolio Policy Principles

- **Minimize operational reliance on imported water**
 - Insulate community from state-wide water pressures
- **Annually exercise groundwater export rights**
 - Balance water quality, financial, legal, and basin management interests
- **Conjunctive management of water supply**
 - Surface, ground, and recycled water
- **Monetize unused and expiring local water rights**
- **Ensure water supply availability**
 - Local, imported, and conserved water

Resilience through Property Portfolio Policy Principles

- **Provide a framework for decision making**
 - Strategically evaluate and value land assets
 - Maximize water supply portfolio options
 - Consider in broad financial context
 - Hedge present and future requirements
- **Leverage relationship with electric utility**
- **Maintain real options**

Envisioning a Resilient Future

- **Integrated Urban Water Management**

- New Relationships

- Customers
- City Public Works
- County Flood Control
- Other water agencies

- Conjunctive Use

- "Post-judgment" considerations – move beyond constraints
- Water banking
- Reuse



Envisioning a Resilient Future

- **Pro-active ecology management**
 - Watershed wide view
 - Responsible stewards
- **Climate implications**
 - Adaptive Response
- **Financial considerations**
 - Rates, reserves, and rating agencies
 - Advanced technology
 - Changing and adaptive workforce



Questions?

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