

WATER RESOURCES & WATER CONSERVATION PROGRAM STATUS

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Water Resources Manager
City of Flagstaff



FLAGSTAFF CITY COUNCIL
MAY 12, 2015



Tonight's Agenda: Media and Public Concerns & Comments

- Conservation
 - Not enough effort
- Water Supply Availability
 - Williams
 - Colorado River conditions
 - California water situation
 - Growth & supply
- Resiliency and Preparedness
 - Council Goal #11 Ensure that we are as prepared as possible for extreme weather events
- Outreach
 - Transparency concerns
 - Outreach & Planning



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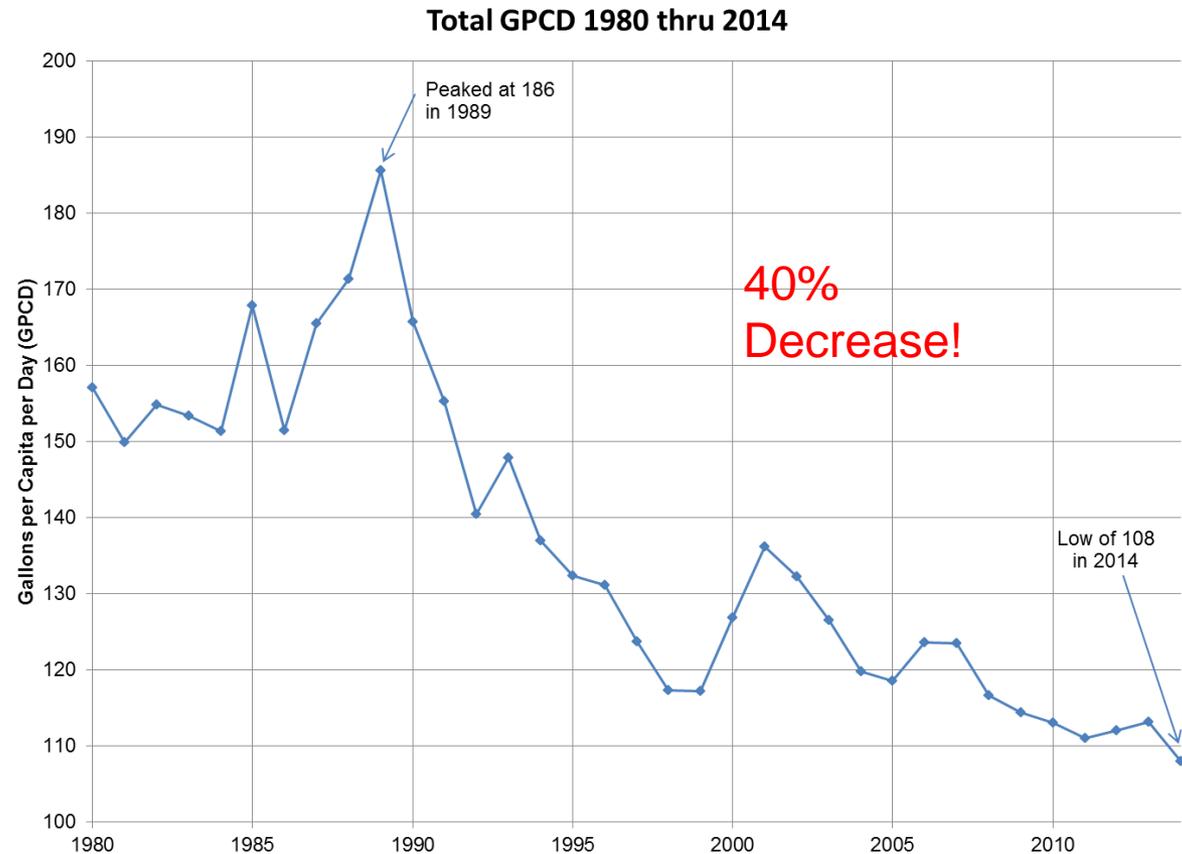
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“The challenge value,” said is \$6 but no the tap — it’s song, then s

The screenshot shows the homepage of azdailysun.com. The main navigation bar includes links for News, Sports, Opinion, Obits, Lifestyles, Entertainment, Calendar, and Tabs. A weather widget displays 58° with broken clouds and a weekly forecast. The featured article is titled "Williams digs for water solutions" and is categorized as "WELL". The article includes a photo of a construction site with a crane and a worker. The byline identifies the reporter as EMERY COWAN, Sun Staff Reporter. The article text mentions Kyle Christiansen, director of public works for the city of Williams, overseeing the resuscitation of a failed water well. The article is dated February 01, 2015, 5:15 am.

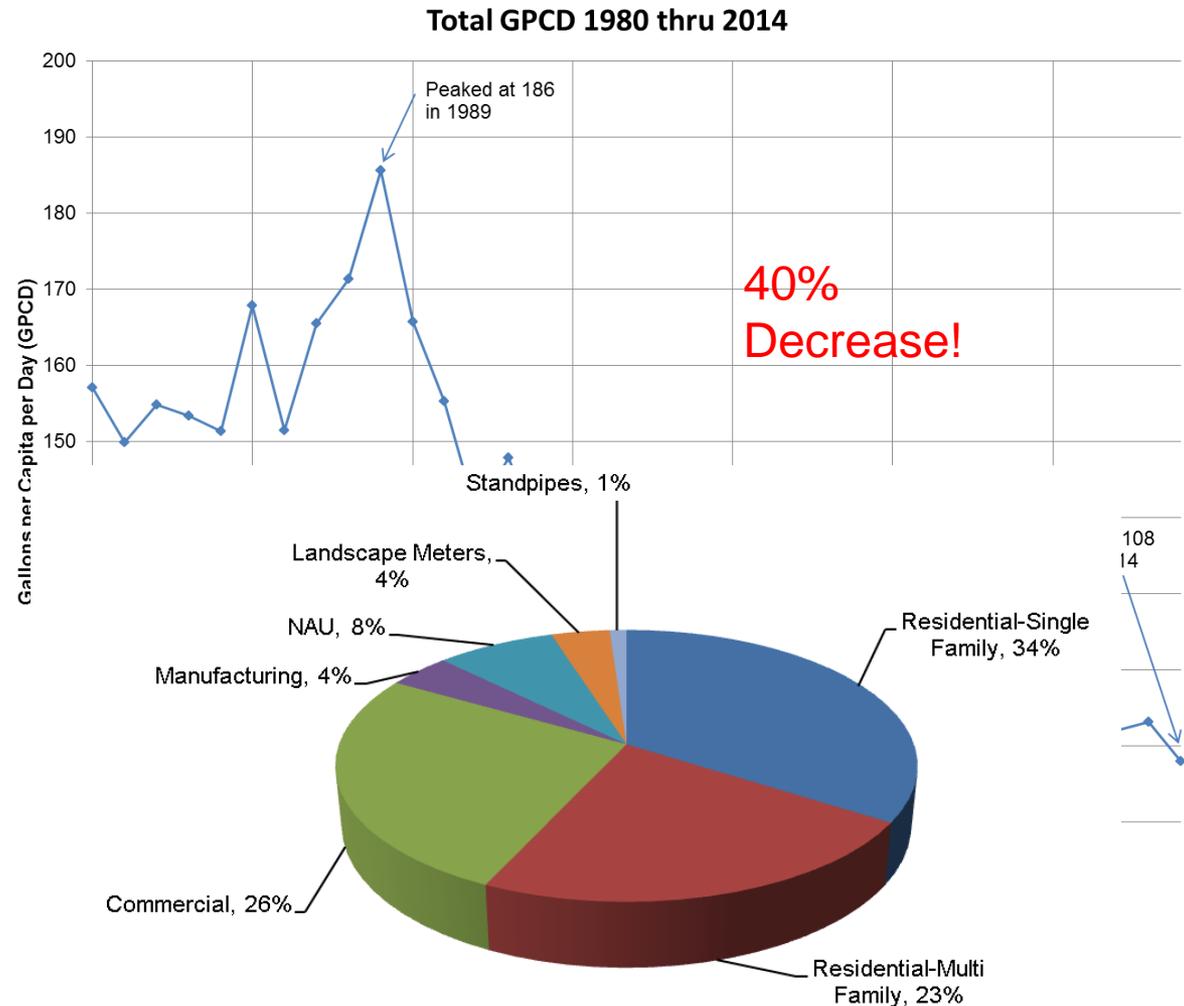
Conservation Achievements – 108 GPCD!

- Conservation ordinance adopted by Council in 1988
- *Inverted rate structure*
- *Odd/even watering days*
- *“Water cops”*
- *Public outreach & Rebates*
- *Rio plant and reclaimed water extension (1994)*
- Water System Leak Detection Study on 50% of system
- *Plumbing codes*



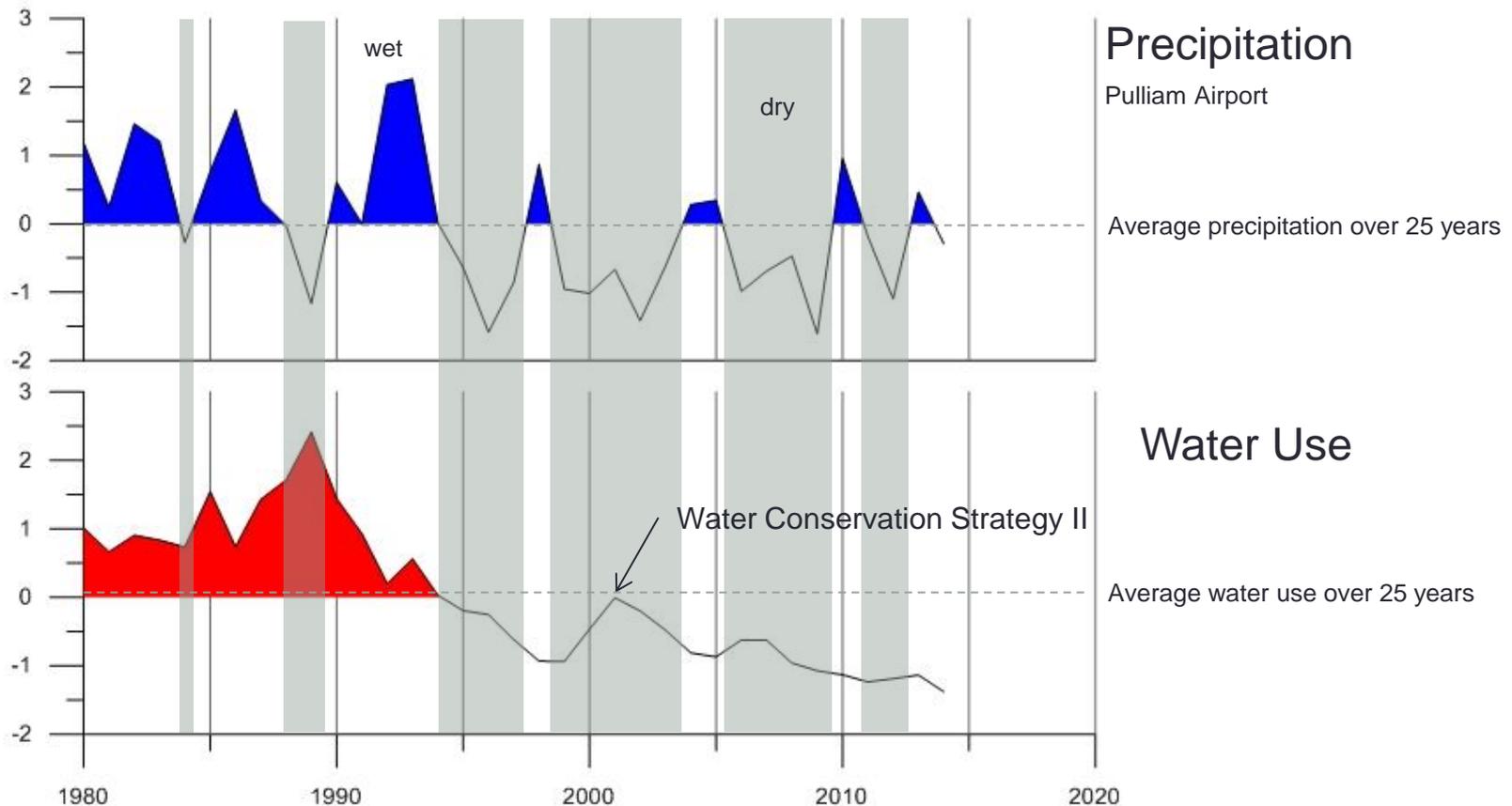
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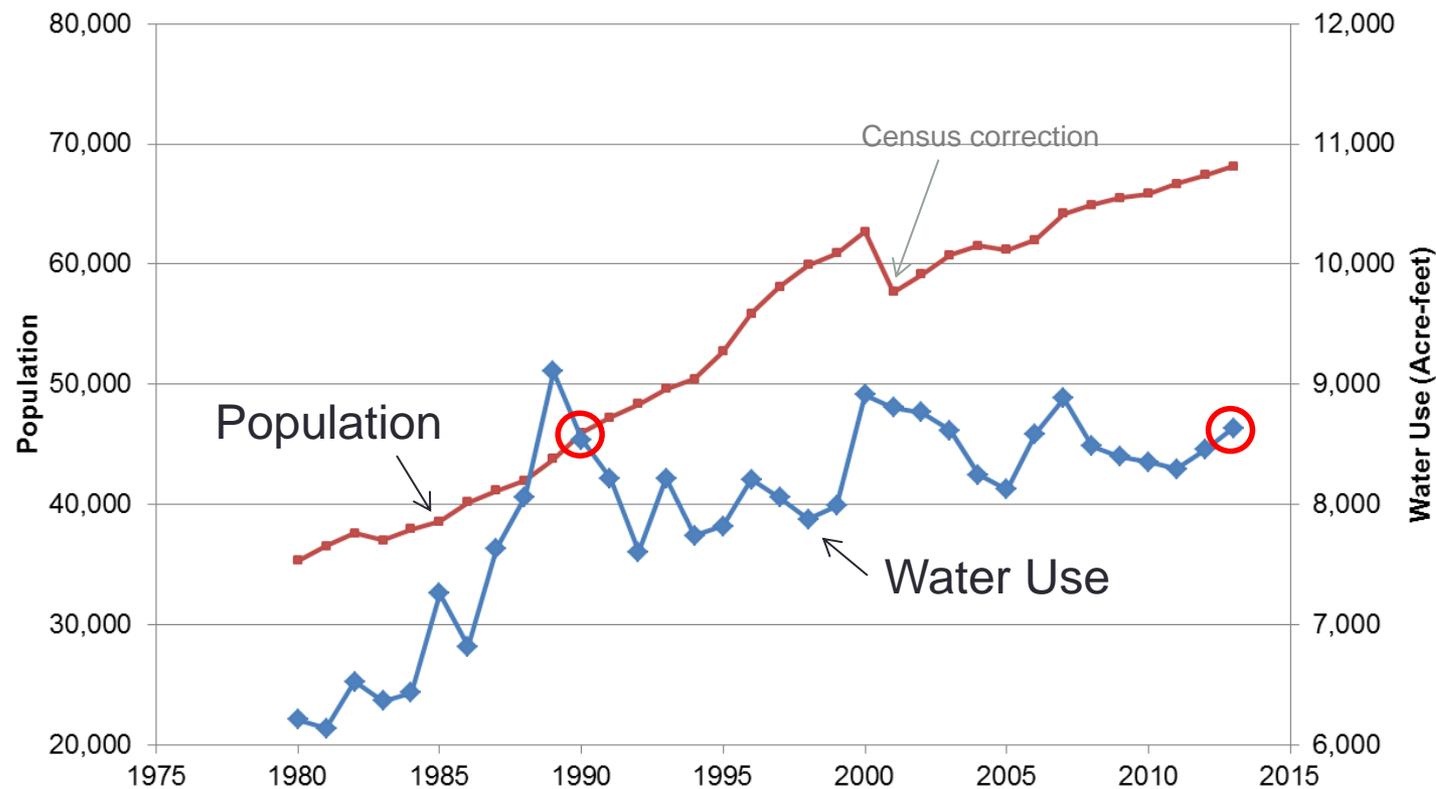


Conservation Achievements – 108 GPCD!

- Community behavior change rather than annual response

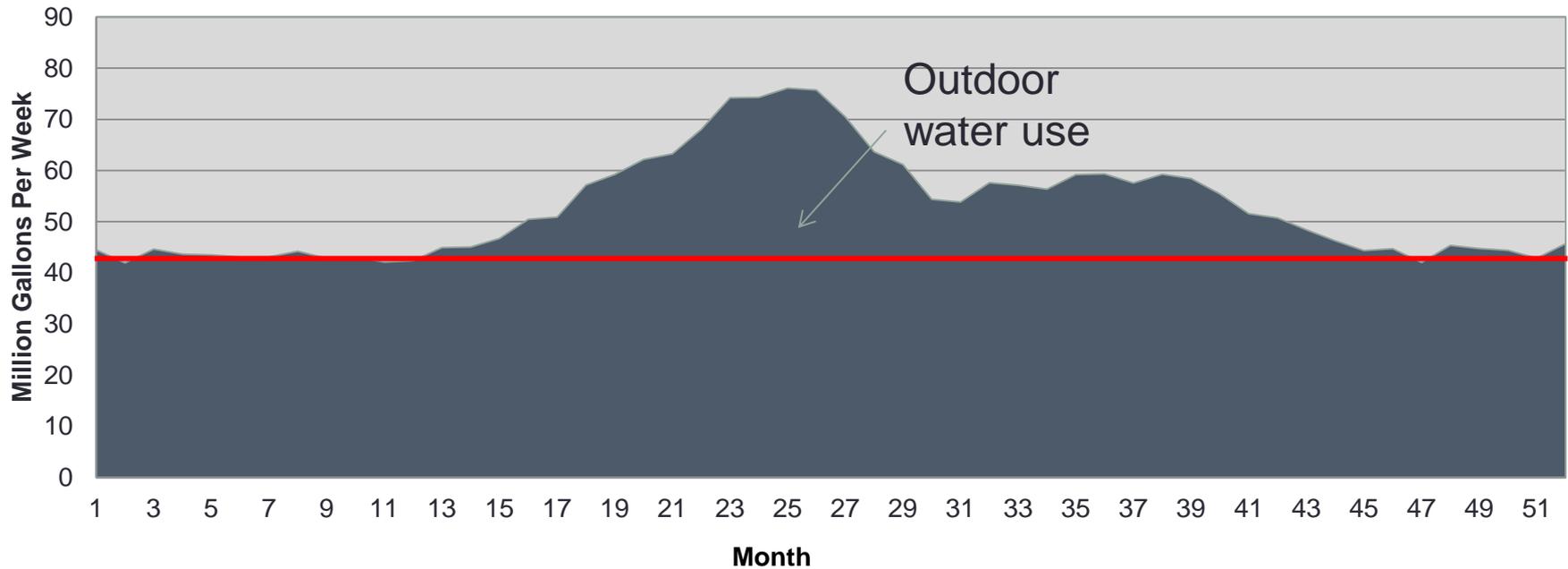


Conservation Achievements – 108 GPCD!



Over 25 years population increase of 51% & same water use!

Conservation Achievements – 108 GPCD!



Assume we cut all outdoor water use
GPCD would be reduced by 20 gpcd or an **additional 17-19%**

How low do we want to go?

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Inner Basin Well House March 2015

Peak Water Production Capacity (2015)

June (Driest Month)

**AVERAGE YEAR
TOTAL CAPACITY
20.8 MGD**

**DRY YEAR
TOTAL CAPACITY
15.3 MGD**

**10-YR Actual Maximum Day
Delivered 13.5 MGD**

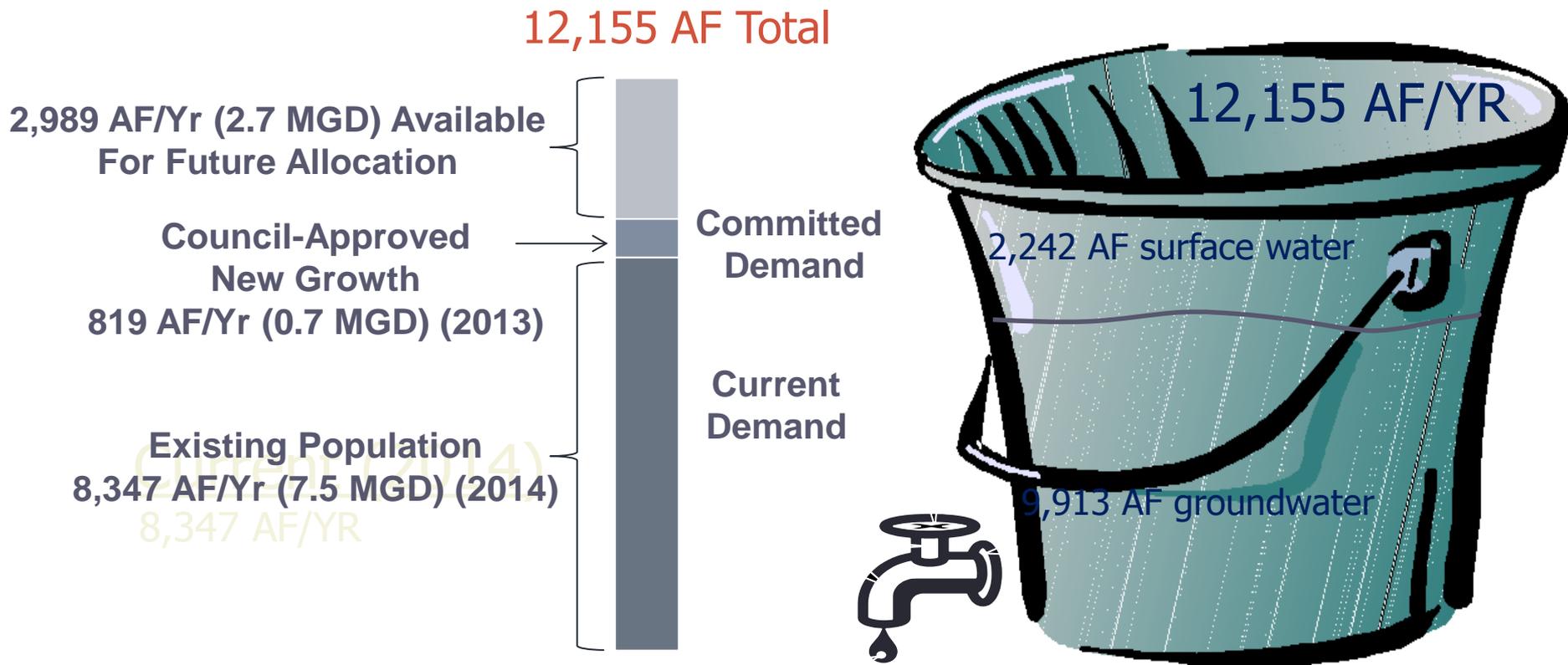
Groundwater	13.33 MGD
Woody Mountain Wells	5.24 MGD
Lake Mary Wells	3.43 MGD
Local Wells	4.66 MGD
Avg Year Surface Water	7.50 MGD
Upper Lake Mary	5.50 MGD
Inner Basin	2.00 MGD
Dry-Year Surface Water	2.00 MGD
Upper Lake Mary (17% full in May)	2.00 MGD
Inner Basin	0.00 MGD

**We Are Prepared! Council & Community Bond Approval in 2004 adding
3 new water wells**

Long-term Planning – Water Resources

- Evaluation of 100-Year “bucket of water” for long term

Not including Red Gap Ranch



ADWR Hydrologist-Approved
“Bucket of Water”

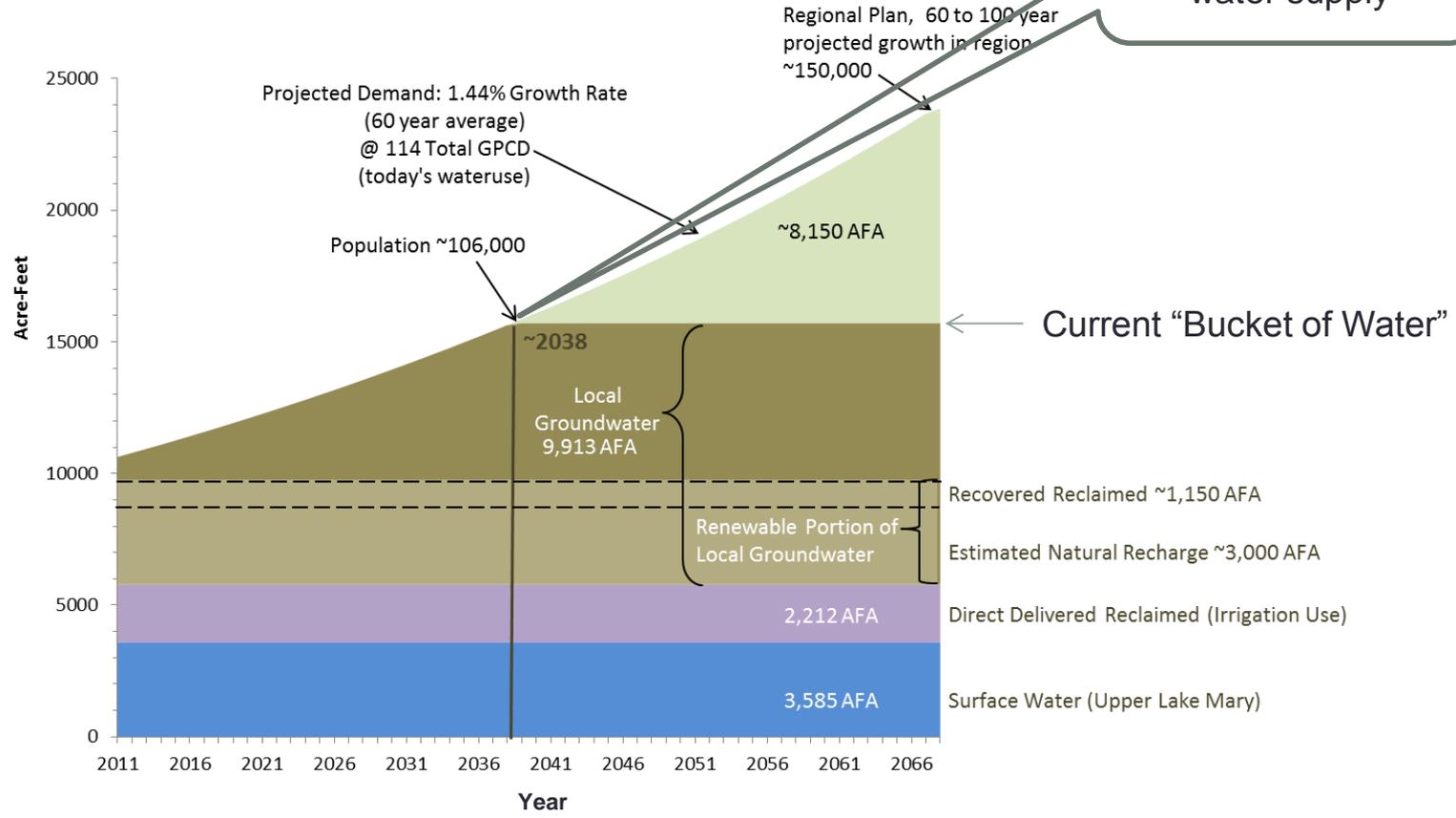
Long-term Planning-Water Resources

How Long Flagstaff Can Sustain Growth Until a New Supply is Needed?

ADWR-approved City of Flagstaff 100-Year Designation of Adequate Water Supply

(as accepted by Arizona Department of Water Resources, supplies are in acre-feet annually [AFA])

~25 years, Flagstaff needs an additional water supply



Media and Public Concerns & Comments

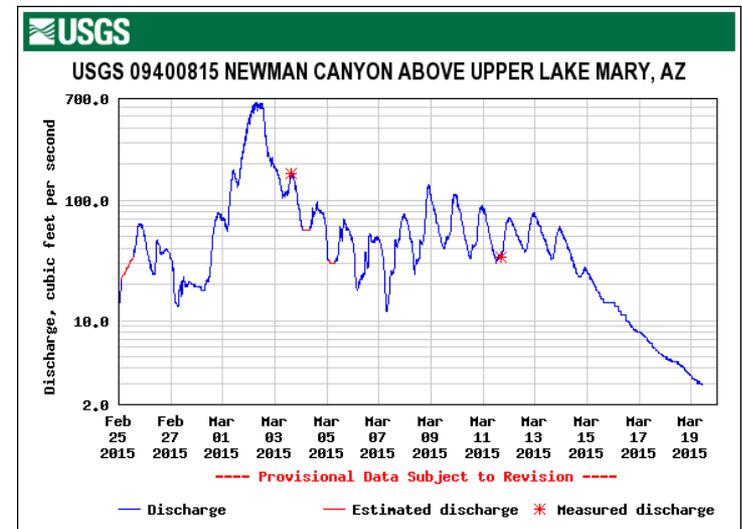
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Resiliency and Preparedness

- Drought scenarios and climate change
 - Water Resources Master Plan
 - Groundwater flow modeling
- “Unused” reclaimed water in winter (~3,600 AF/YR)
- Resiliency & Preparedness Plan, May 2012
- Watershed & C aquifer water supply monitoring partnerships: Flagstaff Watershed Protection Project, NAU, SRP, USGS monitoring partnerships

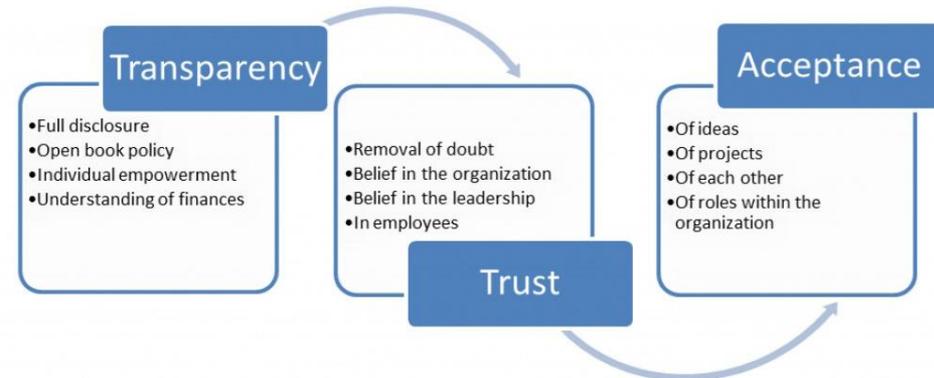


“flowtography” time-lapse photos within Upper Lake Mary watershed



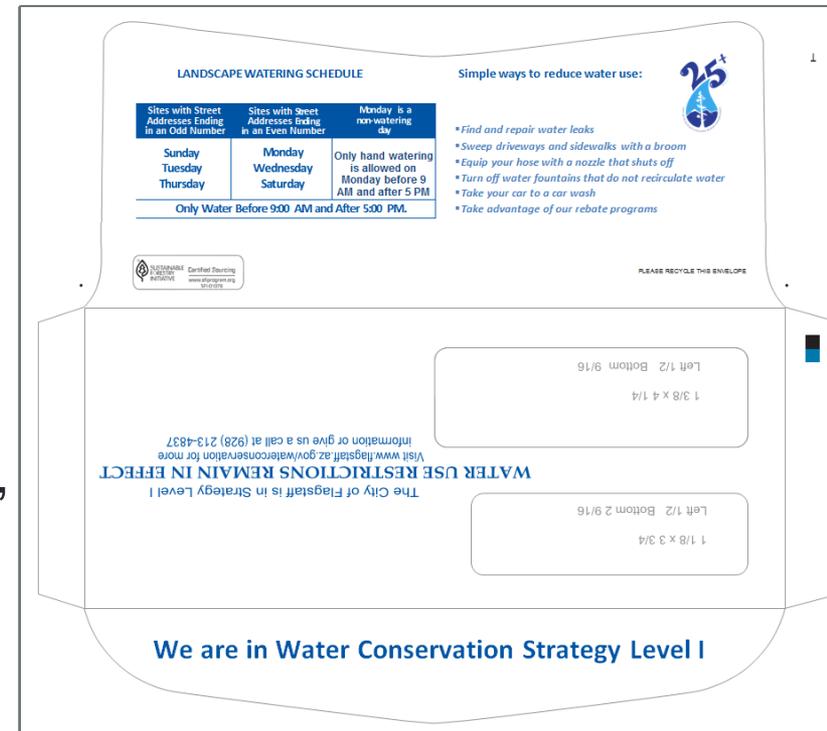
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- Water Supply Availability – Prepared Today & Looking to the Future!
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 - Water Supply Available for Growth
- **Resiliency and Preparedness – Incorporated in planning & established relationships with collaborators**
 - **Council Goal #11 Ensure that we are as prepared as possible for extreme weather events**
- Expanded Outreach
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Transparency (how)

- Nationally, the utility culture aren't the best at outreach...so, we are making strides at improving
- Expanded outreach to assist with Transparency
 - Website
 - Billing envelopes
 - Facebook
 - Radio announcements & interviews
 - Cityscape
 - Community events & presentations
 - Developing program support on how, what & when to better communicate with our citizens



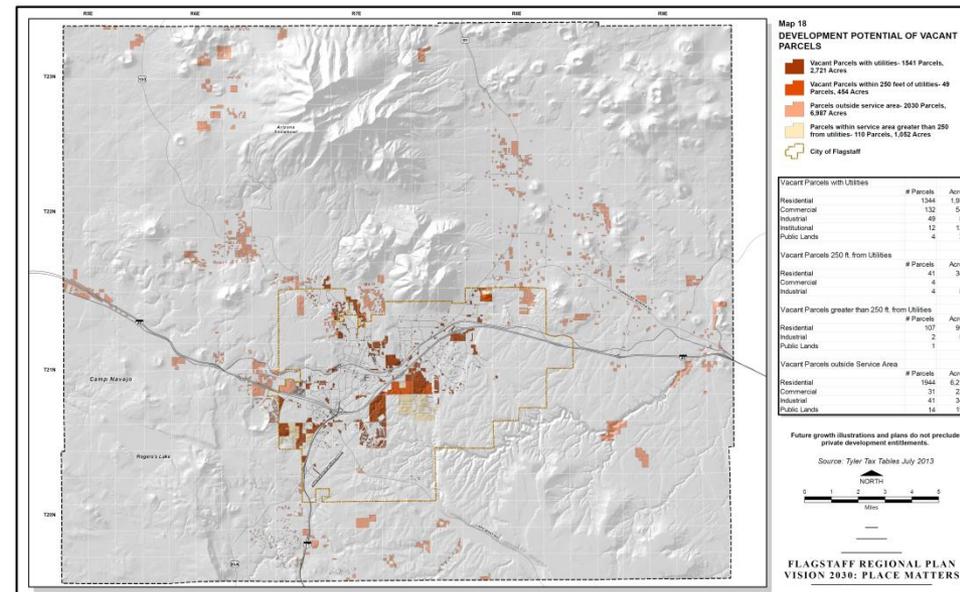
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Outreach & Planning (what)

- Update Water Resources Master Plan (2011) with new voter-approved Regional Plan Land Uses
 - Review build-out water needs
 - Update Future Water Supply Options and Cost v. Supply Table
 - Community involvement and review
- Recently completed Water & Wastewater Infrastructure master planning efforts
- Economic value per gallon



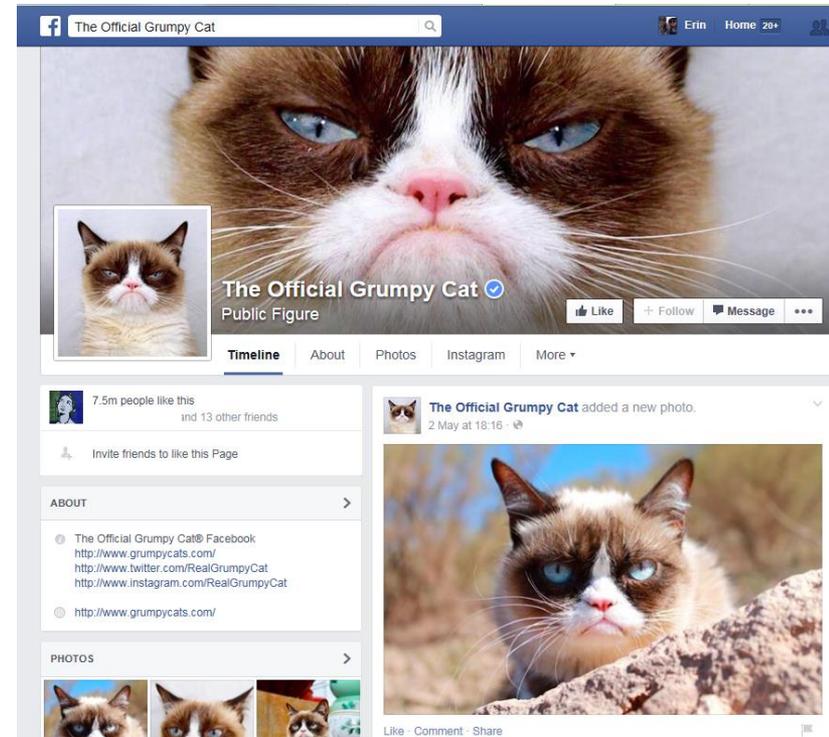
Outreach (continued)

- Conservation education and outreach
 - Rebates
 - Water Festival – 1,080 4th grade students in 2014
 - Water Conservation Enforcement Aides
 - Conserve2Enhance
 - Public Works Sustainability Program
- Regular presentations for stakeholder groups



Recap: Purpose

- Conservation
 - Continuing to promote conservation
- Water Supply Availability
 - Prepared but still work to do
 - Increased use of reclaimed water
 - Red Gap Ranch
- Resiliency and Preparedness
 - Partnering with research teams
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 - Doing a lot with staff we have
 - Assistance from experts



Grumpy Cat 7.5 Million Likes

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Utilities >100 Likes

The image shows two overlapping Facebook pages. The top page is for 'The Official Grumpy Cat', featuring a large close-up of the famous grumpy cat's face. The bottom page is for the 'City of Flagstaff Utilities Division', which has a scenic background of a forest and mountains. The page includes a profile picture with the city seal, a cover photo, and a post about water awareness. The post text reads: 'This article gives attention to water awareness as it applies to what we eat http://www.latimes.com/.../a-me-in-water-hungry-foods-201504...'. Below the text is a circular infographic titled 'Beef' showing that 100.28 gallons of water are needed to produce one pound of beef, compared to 10 gallons for pork. The infographic also notes that an 8-ounce piece of steak requires 800 gallons of water, and one pound of beef is roughly 10 times more water-intensive than chicken and consumes more than double the water of pork. The post has 109 likes and 7 post reaches. The page also features a 'Find New Customers' button and an 'About' section with a 'Promote Website' button.

Thank You!

Questions or Comments?

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(928) 214-2405



WE MAKE THE CITY BETTER