

CITY OF LAS CRUCES LAS CRUCES UTILITIES CLC WATER SUPPLY November 25, 2013

Adrienne L. Widmer, P.E.
RES/TS Administrator
Las Cruces Utilities

City of Las Cruces Water Rights

■ Surface Water Rights

- Brown Farm: 58.23 Acres
- Esslinger Farm: 22.53 Acres
- King Farm: 13.92 Acres
- Old Mohs Farm: 57.51 Acres
- Rincon Farm: 65.05 Acres
- Mesilla Farm: 5.92 Acres
- JHWWTP & Utilities Site: 68.20 Acres
- Miscellaneous Parcels: 63.16 Acres
- Santo Tomas Farm: 1,060.36 Acres

■ Total 1,414.88 Acres

City of Las Cruces Water Rights

- Groundwater Rights
 - LRG-430: 21,869 AF/YR
 - City's Primary Water Right Source
 - Return Flow Required when annual SW allotment is less than 2 AF
 - Includes East Mesa, West Mesa and Valley Wells
 - LRG-East Mesa: 10,200 AF/YR
 - Offset of 644 AF/YR after 100 Years
 - LRG-389: 2,550 AF/YR
 - Must use all of LRG-430 prior to proving these up
 - LRG-399: 1,700 AF/YR
 - Must use all of LRG-430 prior to proving these up
 - LRG-5818: 792 AF/YR
 - Offsets or Return Flow of 1-1 for any use over 42 AF/YR
 - LRG-3275: 8,000 AF/YR
 - Offsets or Return Flow of 1-1
 - Stand Alone Water Conservation Plan
 - West Mesa Wells
- Total Groundwater Rights = 45,111 AF/YR

City of Las Cruces Water Rights

■ Definitions

- Return Flow – Return water (effluent) to the river
- Offset – Amount of water to be returned to the river system that depletes beyond acceptable surface water depletions
 - Retire a certain amount of pumped water rights
 - Provide effluent to river

City of Las Cruces Water Rights

- City of Las Cruces 40 Year Water Development Plan
 - Provides Water Supply Development Alternatives
 - Aquifer Storage and Recovery
 - Desalination
 - Importation of Water
 - 40 Year Protection from Losing Rights
 - Without 40 year protection – use it or lose it
 - Adjudication – Rights could be challenged

City of Las Cruces Water Rights

■ LRG-430

- Return Flow required when annual Surface Water Allotment is less than 2 AF
 - All effluent from the LRG-430 source is required to be discharged into the river.
 - Majority of effluent from JH Wastewater Treatment Plant
 - Approximately 45% of pumped water from LRG-430 wells

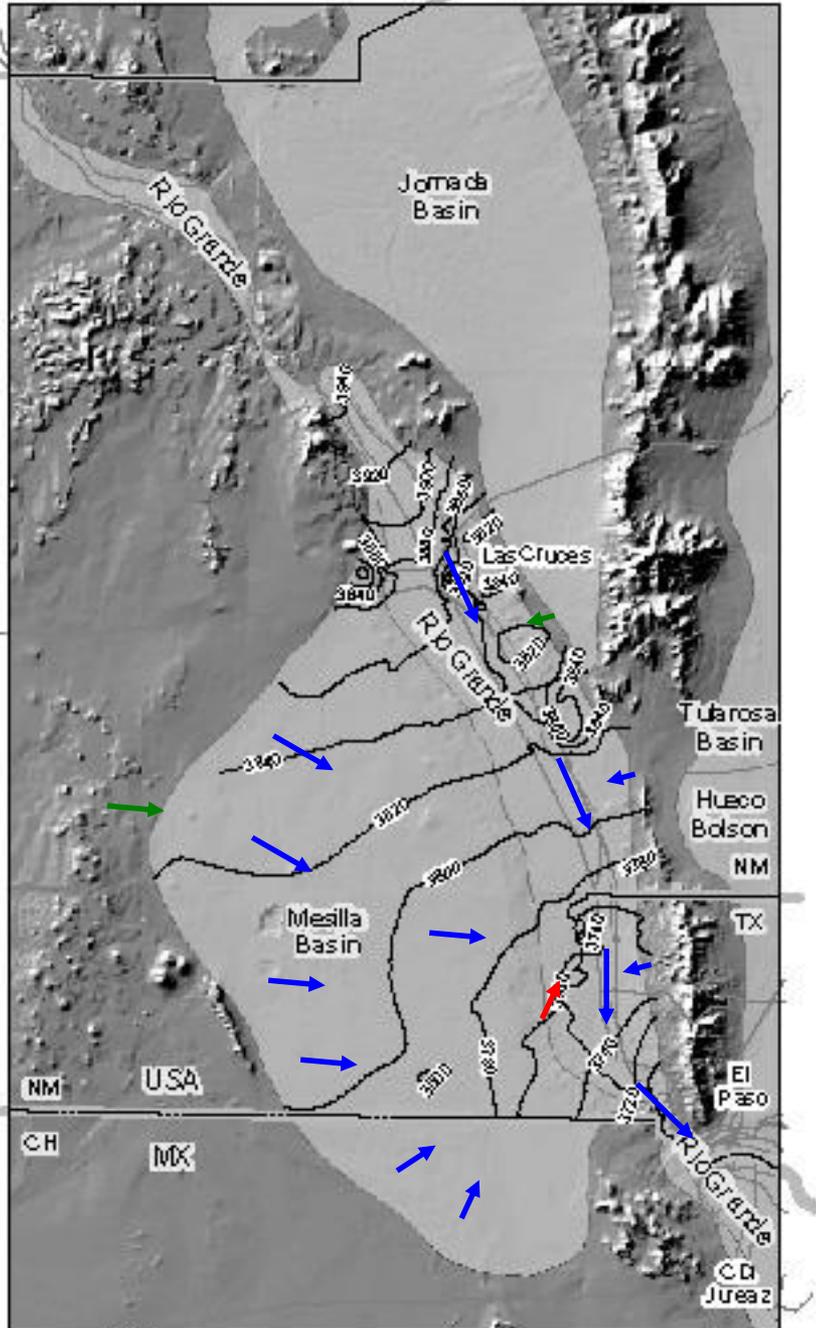
GROUNDWATER SUPPLY

MESILLA BASIN

~100 million acre-feet water in storage
~52 million acre-feet is fresh water

- City of Las Cruces Right at 34,911 AF/YR would be utilizing .07% per year
- 2012 City of Las Cruces used 16,805 AF or 0.03% of the basin

Courtesy of WRRI – LRGWUO Symposium June 2007



City of Las Cruces Water Rights

- LRG-East Mesa (3283-3285, 3288-3296)
 - Offsets required after pumping years 5 and beyond
 - Offsets on a stepped scale
 - Offsets after year 5 pumping = 0.03 AF
 - Maximum offset 644 AF after pumping year 100

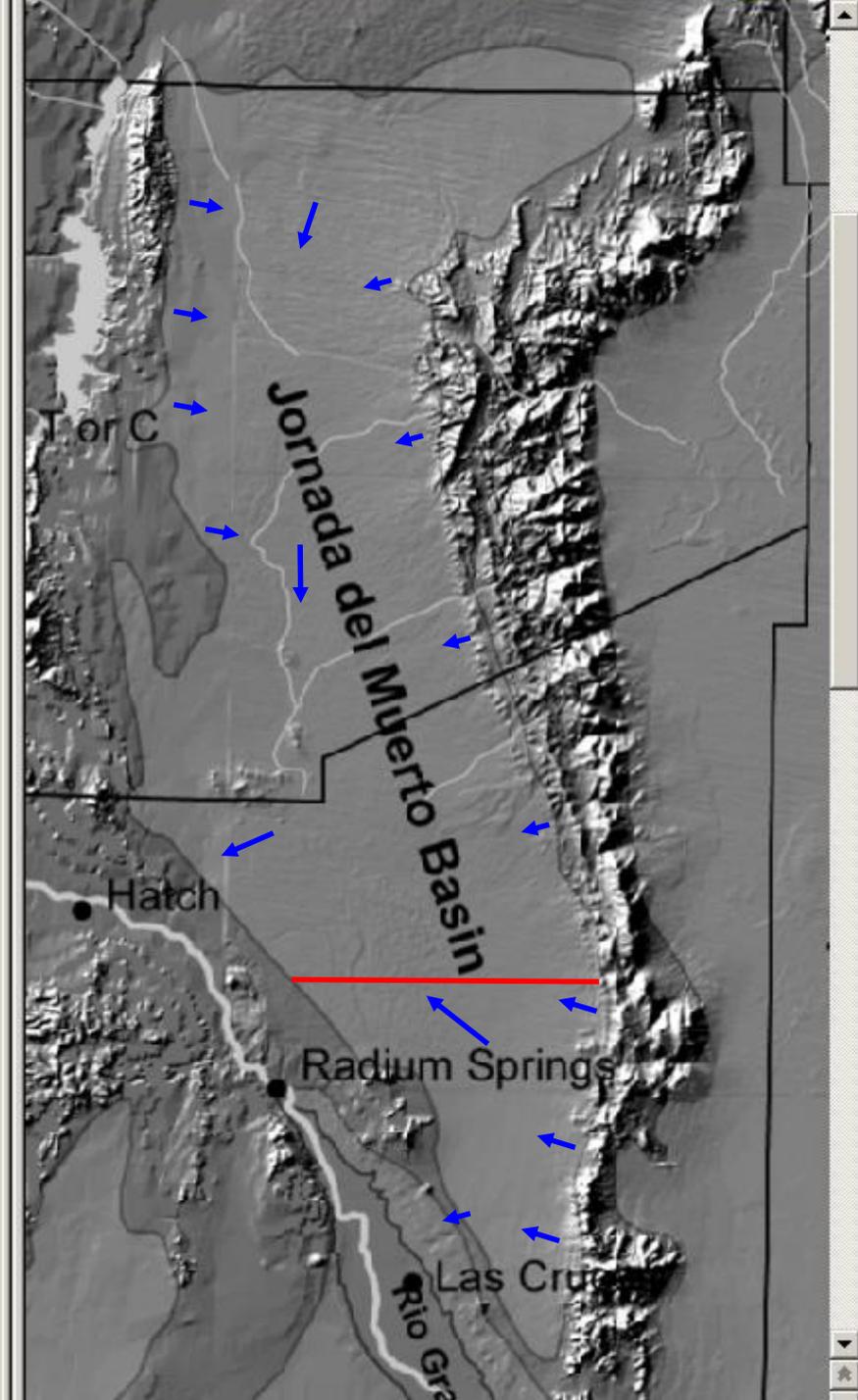
GROUNDWATER SUPPLY

JORNADA BASIN

northern limit of a basinfill aquifer
— system that is capable of producing
significant quantities of fresh water

~ 100.36 million acre-feet in southern part
(Shomaker and Finch, 1996)

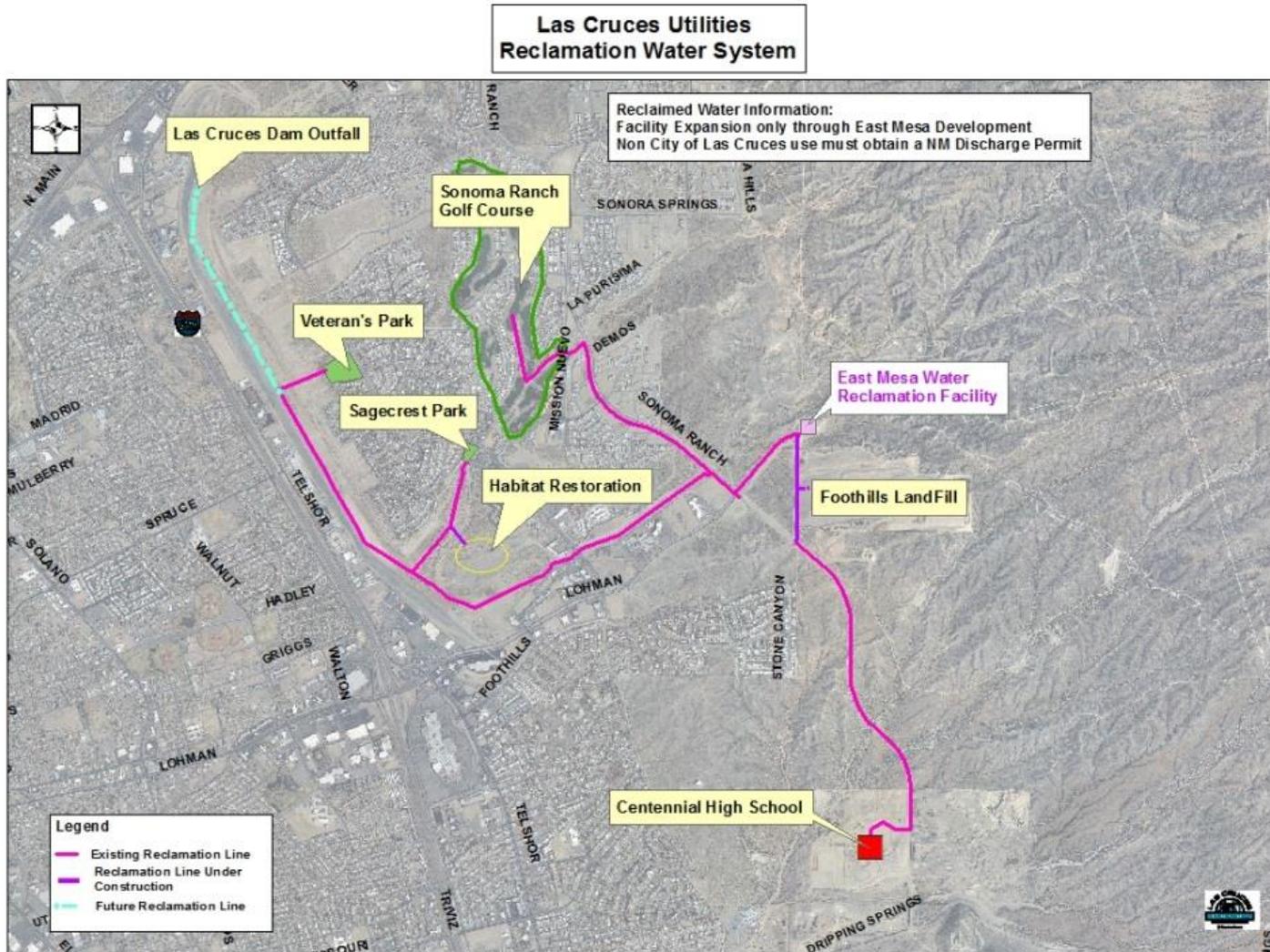
- City of Las Cruces Right at 10,200 AF/YR would be utilizing .01% per year
- 2012 City of Las Cruces used 3,852 AF or 0.004% of the basin



Las Cruces Water Level Monitoring Program

- First Annual Report April 2013
 - East Mesa – Long Term Water Level Declines of 3ft – 6ft annually average = 4.5 ft/yr
 - Anticipated by OSE when the water right was issued
 - Valley Wells along I-25 Corridor
 - Monitoring well water level declines due to Griggs Walnut Well Pumping
 - Active Supply Wells show longer term water rises in water levels
 - Valley Wells within the Valley
 - Some wells show water level declines first half of 2012 and water level rises in latter half of year from seasonal pumping
 - Several wells show long term water level declines at 2 to 3 ft/yr (need additional data to determine if localized or regional)
 - West Mesa
 - Trends are variable and need additional data
 - Initial data suggests long term water level decline of approximately 4 ft/yr

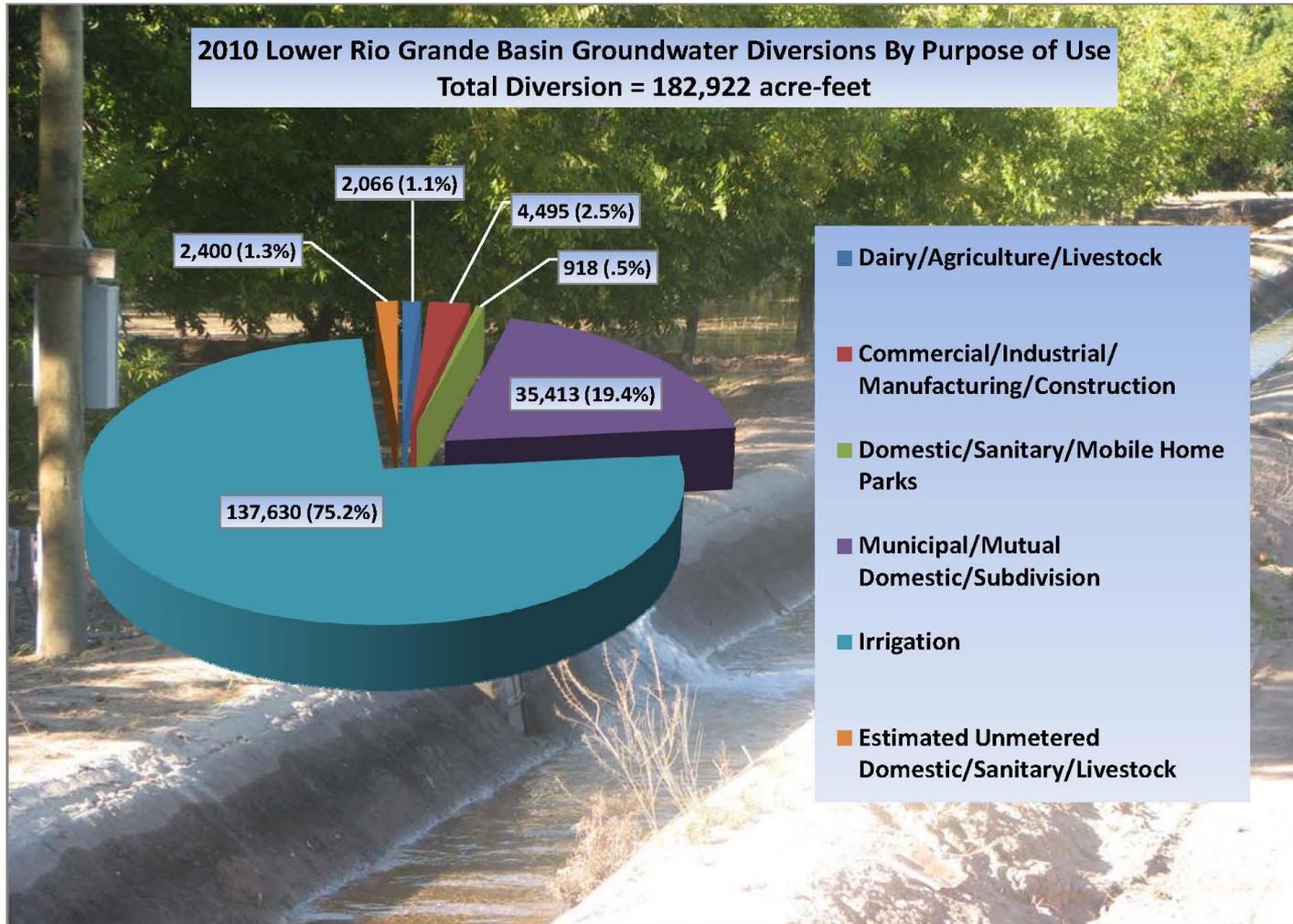
City of Las Cruces Reclaimed Water



City of Las Cruces Reclaimed Water

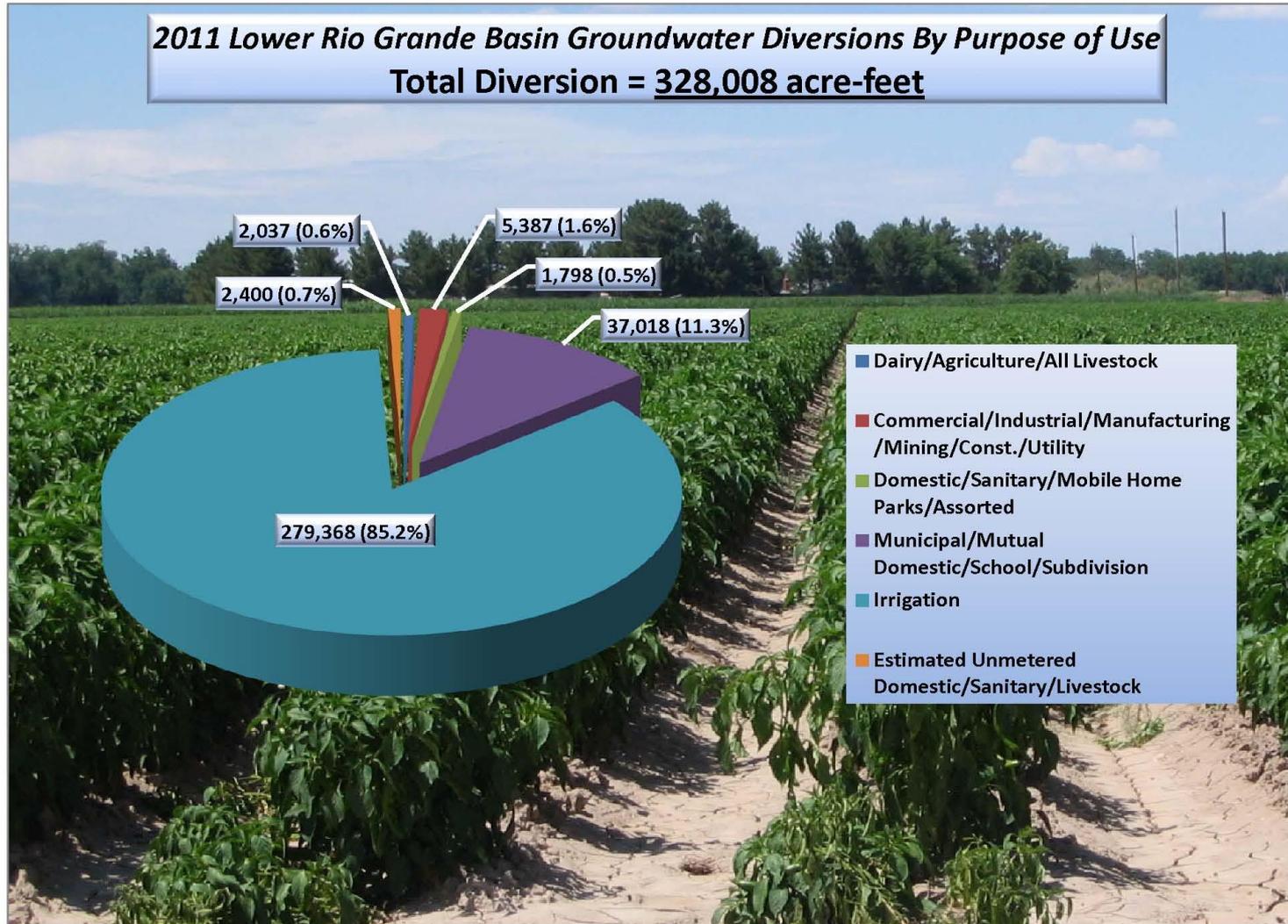
- 2012 Reclaimed Water Use Example
 - All effluent from LRG-430 returned to river
 - LRG-East Mesa pumped water = 3,281 AF
 - Approximately 45% is effluent = 1,486 AF
 - 2012 EMWRF produced approximately 280 AF in reclaimed water for parks and the Sonoma Ranch Golf Course
 - Approximately an additional 1,206 AF of effluent was returned to the river.
- At full capacity, EMWRF can provide 1,120 AF of reclaimed water
- Use of reclaimed water for non-city facilities must obtain their own Ground Water Discharge Permit from NMED

2010 LRG Groundwater Diversions



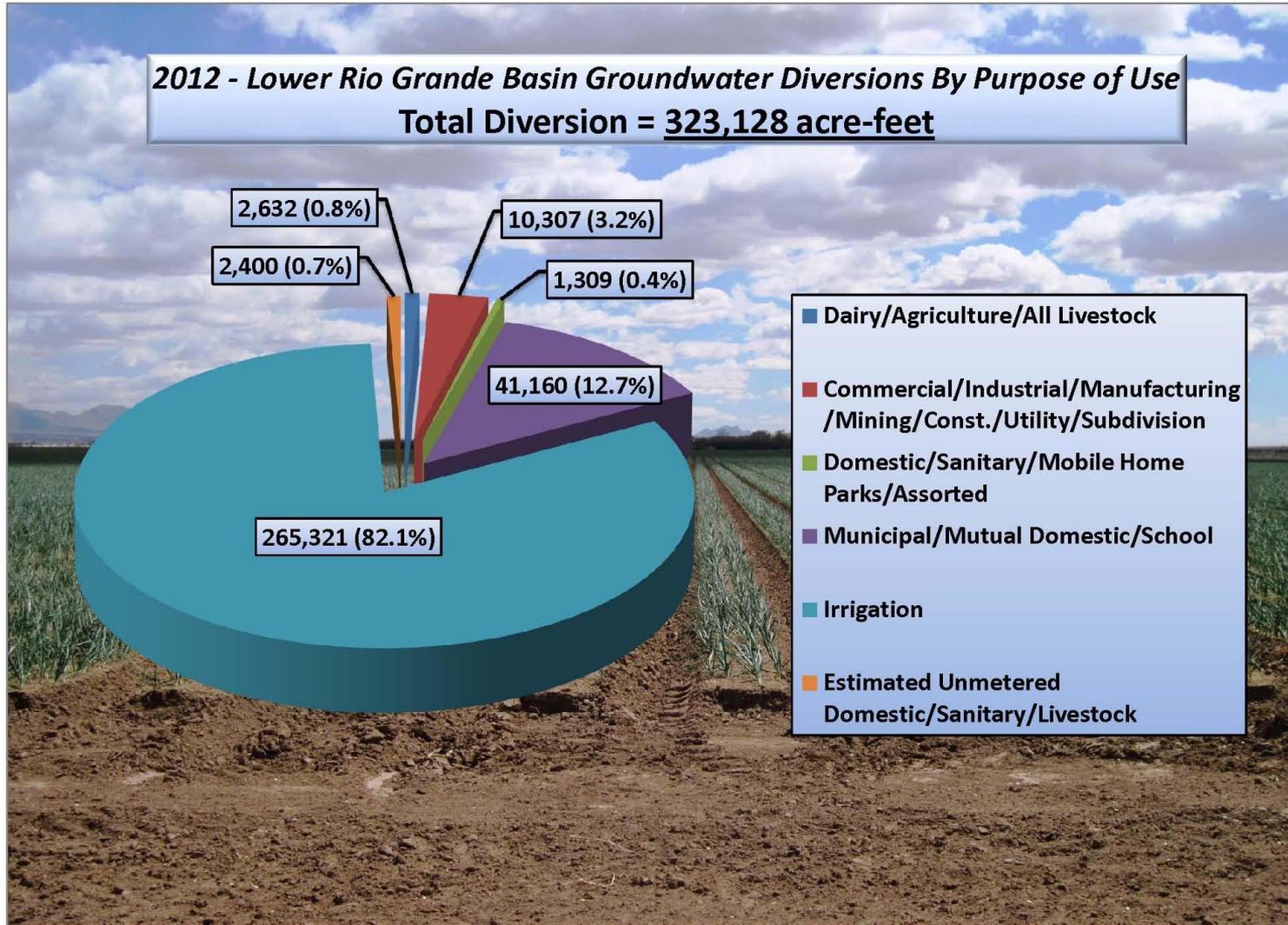
As provided by OSE

2011 LRG Groundwater Diversions



As provided by OSE

2012 LRG Groundwater Diversions



As provided by OSE

City of Las Cruces Water Use 2010 - 2012

Groundwater Diversions per OSE

Sector	2010	2011	2012	CLC % of Total	CLC % of Total	CLC % of Total
				2010	2011	2012
Dairy/Agriculture/All Livestock	2,066	2,037	2,632			
Com/Indus/Man/Const/Utility/Subdivision	4,495	5,387	10,307			
Domestic/Sanitary/MH Parks/Assorted	918	1,798	1,309			
Municipal/Mutual Dom/School	15,177	15,368	20,503			
City of Las Cruces	20,236	21,650	20,657	11.06%	6.60%	6.39%
Irrigation	137,630	279,368	265,321			
Est Unmetered Dom/Sanitary/Livestock	2,400	2,400	2,400			
Totals	182,922	328,008	323,129			

Note: 2010 metering order enforcement by OSE and may not include all GW diversions by irrigators

CITY OF LAS CRUCES LAS CRUCES UTILITIES WATER CONSERVATION PROGRAM November 25, 2013

Leslie R. Kryder, M.A., M.W.R.
Water Conservation Program Coordinator
Las Cruces Utilities

Objective

■ The Water Conservation Program

- wise water use
- lead by example
- permit compliance



Wise Water Use



- Educating**
- Promoting**
- Enforcing**



Public Education



- Lush & Lean **Workshops** – offered each spring and summer
- Water **Festival** – an event for elementary school children
- Provide **literature** on water conservation practices

Promote Water-Wise Practices

■ For the public

- Residential and commercial water audits
- Help with leak detection
- Xeriscaped demonstration gardens

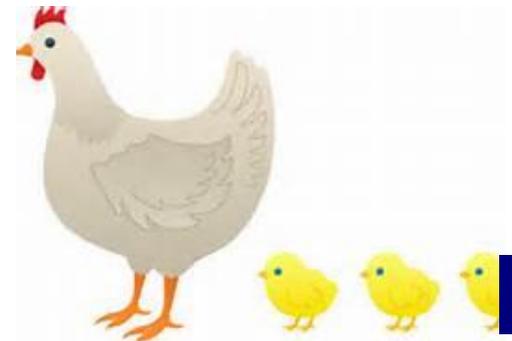
■ For City government

- Audits of City buildings



Lead by Example

- Fixing leaks
- Smart Irrigation Controllers
- Landscaping and drip-irrigation systems
- Low-flow toilets and appliances



Lead by Example

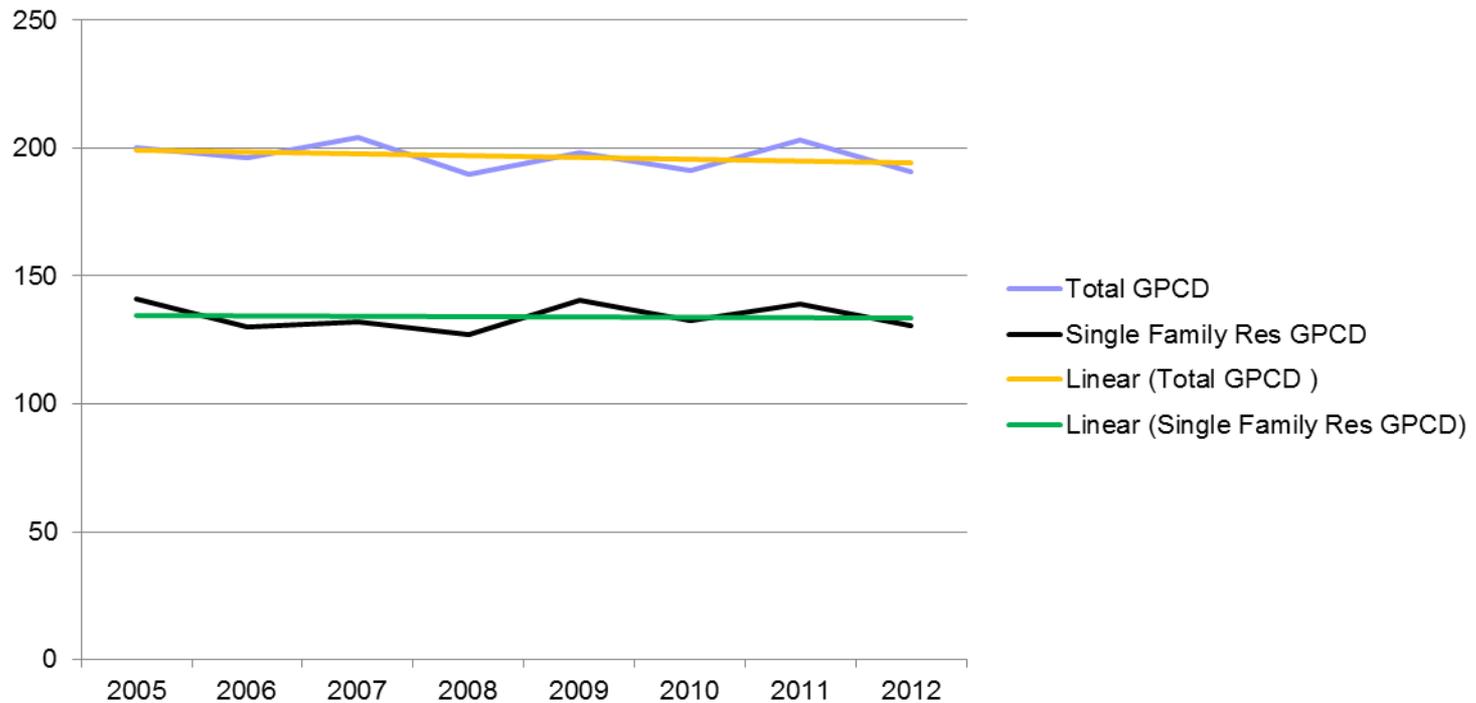
- **Munson Center Project - \$18,000**
 - Install separate landscape water meter
 - SMART irrigation controller
- **Benefits**
 - No sewer charge on landscape water
 - Estimated \$9,100 per year savings
 - Efficient irrigation
 - Reduction in water use

Permit Requirements

- ❑ Water Conservation Plan
- ❑ Overall GPCD (gallons per capita per day) of 180 by 2030
- ❑ Reduce residential GPCD to equal southwestern states average
- ❑ Use best technology available and economically feasible to ensure maximum conservation of water
- ❑ Annual GPCD reporting to State Engineer



Historic Gallons Per Capita Per Day



Source: Las Cruces Utilities and NMOSE GPCD Calculator

Gallons Per Capita Per Day

- GPCD in 2012:
 - Total was 191
 - Single Family Residential was 131
- GPCD Trend out to 2030:
 - Total will be 181
 - Single Family Residential will be 130

Programs: Enforce Ordinance

■ Water Conservation Ordinance

Water Waste Hotline
575.528.4444



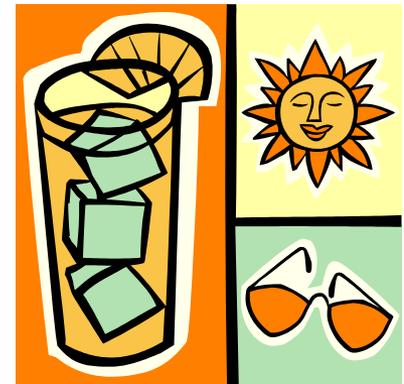
Ordinance changes

Current Water Conservation Ordinance

- Day of week restrictions: (28-303)
 - Apply to **residential** and **commercial**
 - **Even** street numbers water only on
T, TH, Sat
 - **Odd** street numbers water only on
W, F, Sun
 - No watering on Mondays

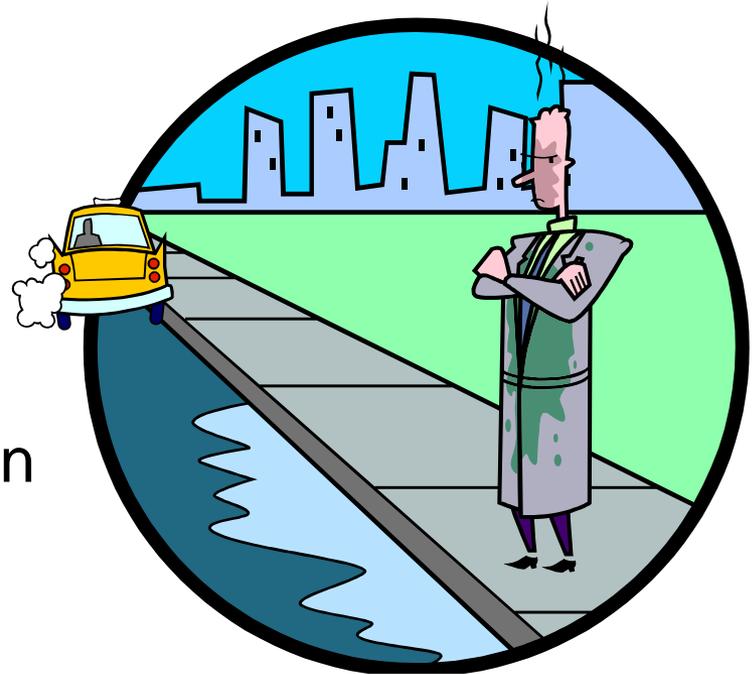
Current Water Conservation Ordinance

- Seasonal time of day restrictions: (28-303)
 - In the warm season
April 1 thru October 1
 - No outdoor watering between
10am and 6pm
- Applies to City Utility, not EBID water



Current Water Conservation Ordinance

- Water waste prohibitions: (28-304)
 - **Ponding** on site.
 - **Failure to repair** a leak within 5 days.
 - Allowing water to **flow onto adjacent property**, street, or public right-of-way (e.g. sidewalk).



Water Conservation Ordinance

- Water waste restrictions: (28-304)
 - Washing vehicles only with bucket and/or **hose with shutoff** for quick rinses
 - Washing **impervious surfaces** with a hose (sidewalks, driveways, parking areas, patios, tennis courts, etc.)
 - Except to remove hazardous materials
 - Or eliminate dangerous conditions



Changes are needed

- **Water wasting** problem
- **Ineffective** enforcement
 - Staffing shortage
 - No off-hours staffing
 - Violations often not upheld in court
- **Alternate** enforcement **mechanisms**

“An unenforced ordinance is just a suggestion.”

Proposed changes

Enable LCU Utility Board to do the following:

- **Streamline** the ordinance
 - Change from legal to **administrative process**
 - Develop administrative **guidelines**
- **Step up enforcement**
- **Water wasting fees to fund enforcement and water conservation**

Summary

- The Water Conservation Program Objectives
 - wise water use
 - lead by example
 - permit compliance
- Proposal:
To **streamline** the **ordinance**
in order to reduce water waste

