



# Pima County Native Plant Program

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# Pima County, Arizona

- ◆ 9,189 Square Miles  
23,800 sq. km.
- ◆ Urbanized
- ◆ County builds: roads, wastewater treatment, flood control, public buildings
- ◆ 7,000 native plants on one recent project



# Native Plants as Aesthetic Icons



Saguaro cactus

# Native Plants as Aesthetic Icons



Ocotillo, Barrel cactus

Queen-of-the-night  
cactus

1929 Arizona Native  
Plant Law salvage and  
harvest restrictions



# Native Plants as Aesthetic Icons



Queen-of-the-night cactus



# Reduced Water Use

Desert willow  
(*Chilopsis sp.*),  
Fairy duster  
(*Calliandra sp.*)



# 1986 Native Plants as Wildlife Habitat?



**Fired:** Snyder is out as Sun Devils coach / Sports



# Arizona Daily Star

www.azstarnet.com

SERVING TUCSON SINCE 1877 · THURSDAY, NOVEMBER 16, 2000

**U.S. agency questions land-clearing**

## Pygmy-owl concerns halt Thornydale road widening

By Tony Davis  
ARIZONA DAILY STAR

Pima County road crews stopped clearing trees and cacti this week for a Northwest Side road-widening project after federal officials raised concerns about the work in endangered pygmy owl habitat, a county official said.

Halted for now is the \$9 million project to widen Thornydale Road from two to four lanes between Ina and Cortaro Farms roads. The county Transportation Department ordered work

stopped Tuesday after hearing concerns from the U.S. Fish and Wildlife Service about the clearing of hundreds of ironwood, palo verde and other desert trees, said Brooks Keenan, the department director.

Although county officials asserted that the land-clearing was necessary and legal, arguments that some environmental groups dispute, County Administrator Chuck Huckelberry acknowledged that county communication with federal officials and overall

handling of much of the project has been poor.

While exact counts weren't available, Huckelberry estimated that county contractors had cleared 300 ironwood and other trees. He said the county had failed to meet its current and proposed future rules for native plant preservation that it applies to developers, and it had not clearly told federal officials about the amount of environmental effects it expected from

SEE OWL / A17



A lone saguaro and a pile of composted vegetation are all that remain in the west corner of Thornydale and Cortaro Farms roads after crews scraped off an estimated 300 ironwood and other trees to 50 feet wide have been cleared along some sections of Thornydale.



Cactus  
ferruginous  
pygmy-owl



# Environmentally sensitive road design standards

Brittlebush,  
Globe mallow,  
Craycroft Rd.

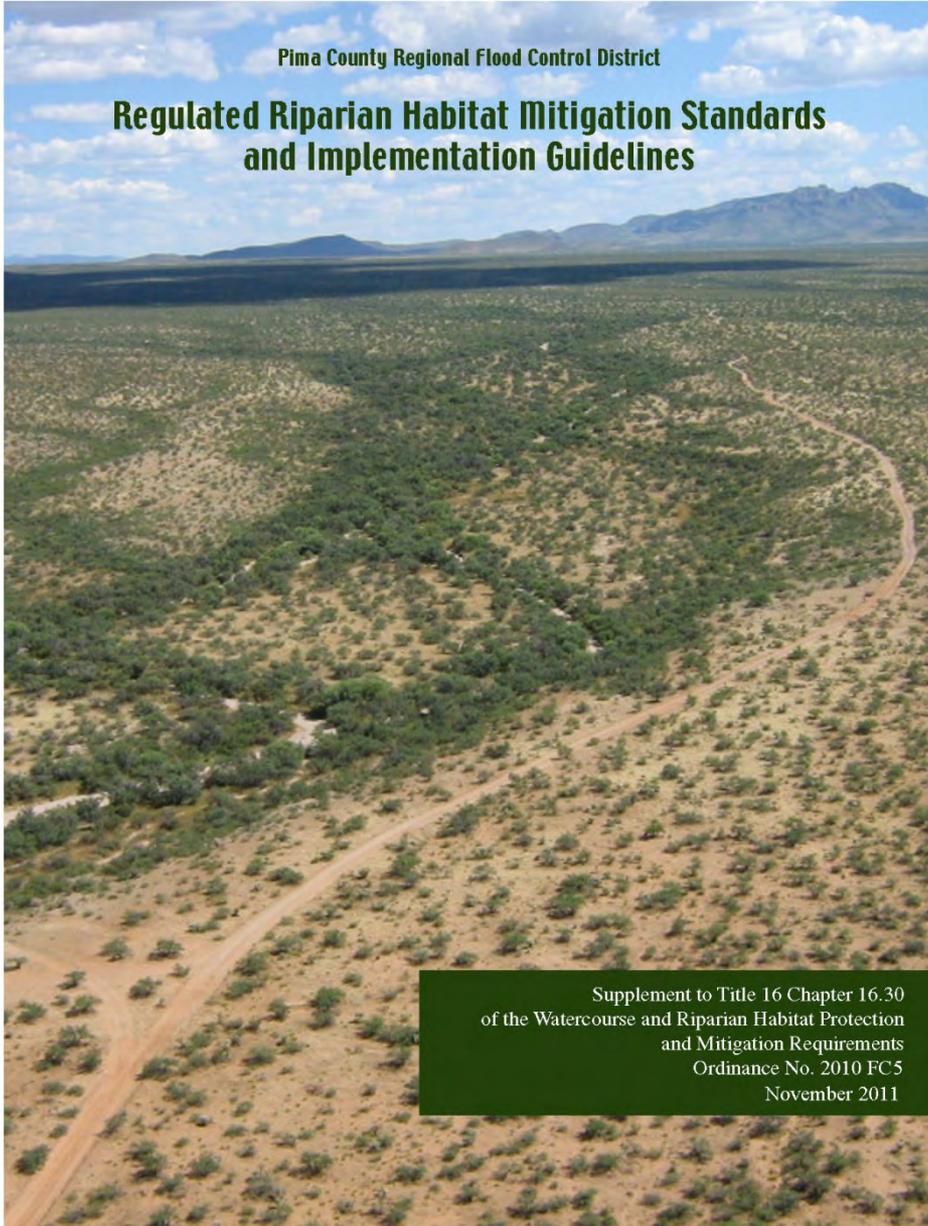
# Environmentally sensitive road design standards



Sunrise Road

Pima County Regional Flood Control District

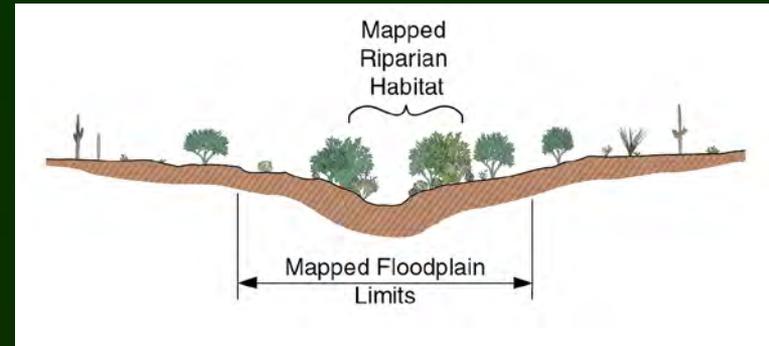
## Regulated Riparian Habitat Mitigation Standards and Implementation Guidelines



Supplement to Title 16 Chapter 16.30  
of the Watercourse and Riparian Habitat Protection  
and Mitigation Requirements  
Ordinance No. 2010 FC5  
November 2011

Excerpted from the Regulated Riparian Habitat Mitigation Standards and Implementation Guidelines

# Native Plants and Floodplains



# Native Plants and Revegetation



# Native Plants and Revegetation

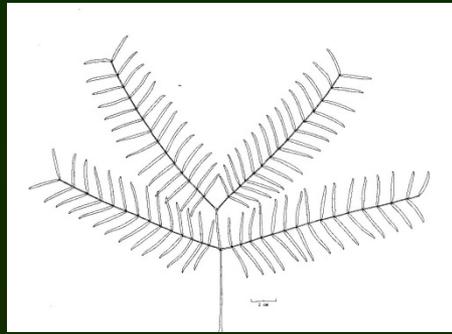
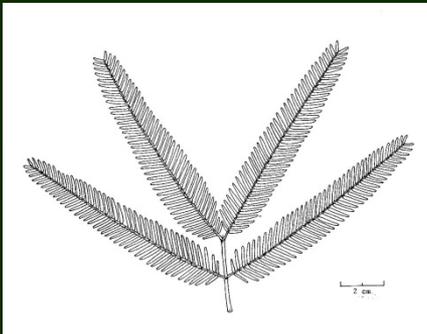


Restoration of disturbed  
lands: 454 acres



Flood Control Retention Basin

# Which mesquites are native?



## Velvet Mesquite (*Prosopis velutina*)



**RANGE:** Central and southern Arizona, extreme southwestern New Mexico, and adjacent northern Mexico below 5,000 feet.

**FORM:** Large shrub or small tree with spreading crown. May be single-stemmed and up to 50 feet tall or grow as an erect, multi-stemmed shrub.

**LEAVES:** Alternate and bi-pinnately compound; usually about 6 inches long. Each leaflet has **15 to 20 pairs of minor leaflets**, less than one half inch long. **Finely fuzzy surface**; dull green above, and paler below. Deciduous in the winter.

**FLOWERS:** 2–3 inch **catkin-like inflorescences of pale yellow flowers**; late spring to early summer.

**FRUITS:** **Straight or slightly curved tan pods** 3–7 inches long; solitary or clustered, ripen mid to late summer and drop in the fall.

**TWIGS:** Light brown and velvety, slightly zig-zagged with **paired slender spines at the base of each leaf**. Bark on young stems can be greenish.

**BARK:** **Dark brown, rough and shreddy, sometimes gnarled and twisted**. Newer bark can be reddish brown.



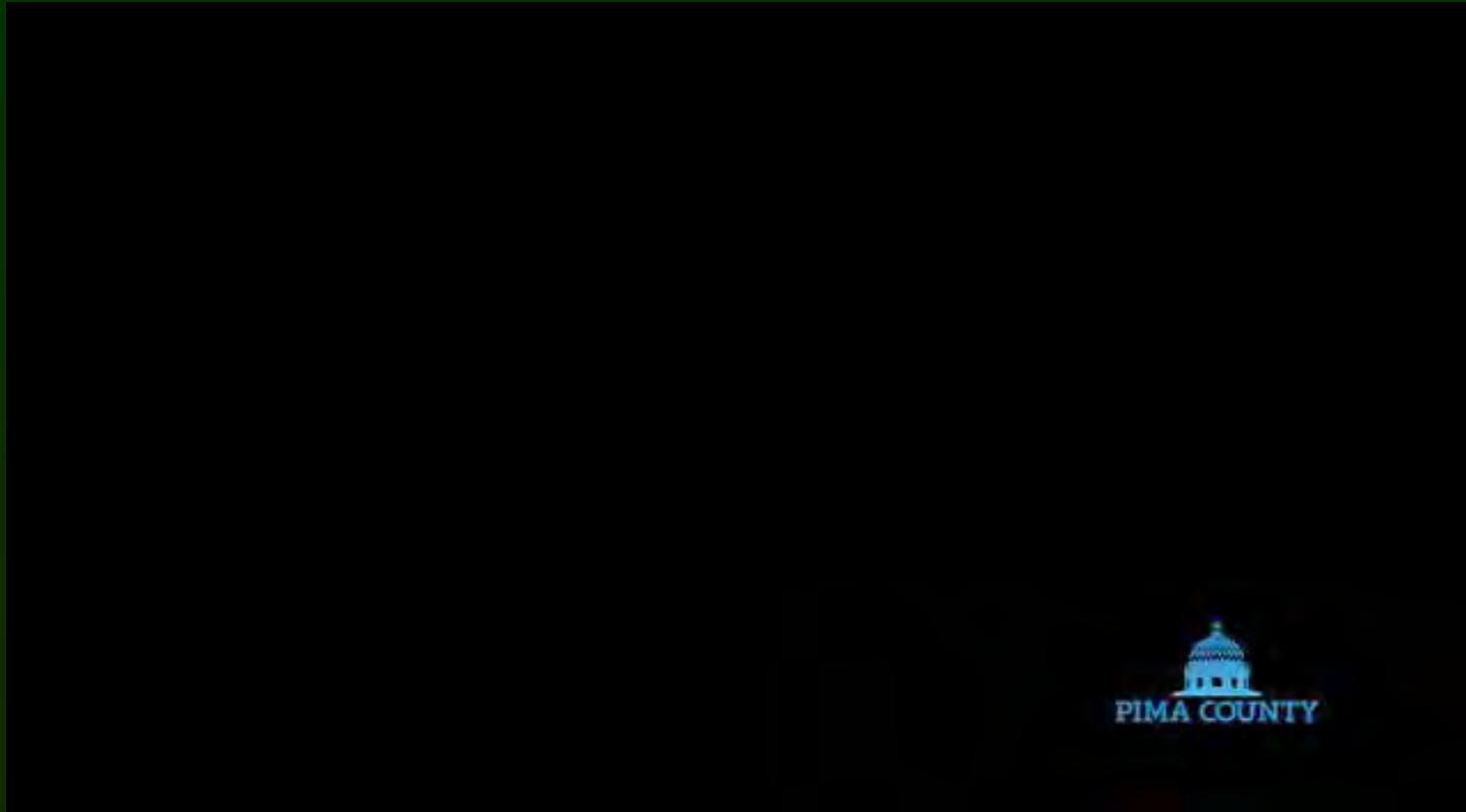


# Pima County Native Plant Nursery

- ✦ 20,000 plants
- ✦ 11 projects
- ✦ various container sizes
- ✦ 24 agave types
- ✦ 7 milkweed species
- ✦ 11 grass species



# Pima County Native Plant Nursery



<https://www.youtube.com/watch?v=wZHImPJCnMM>

# Native Plants for Better Security



Cholla



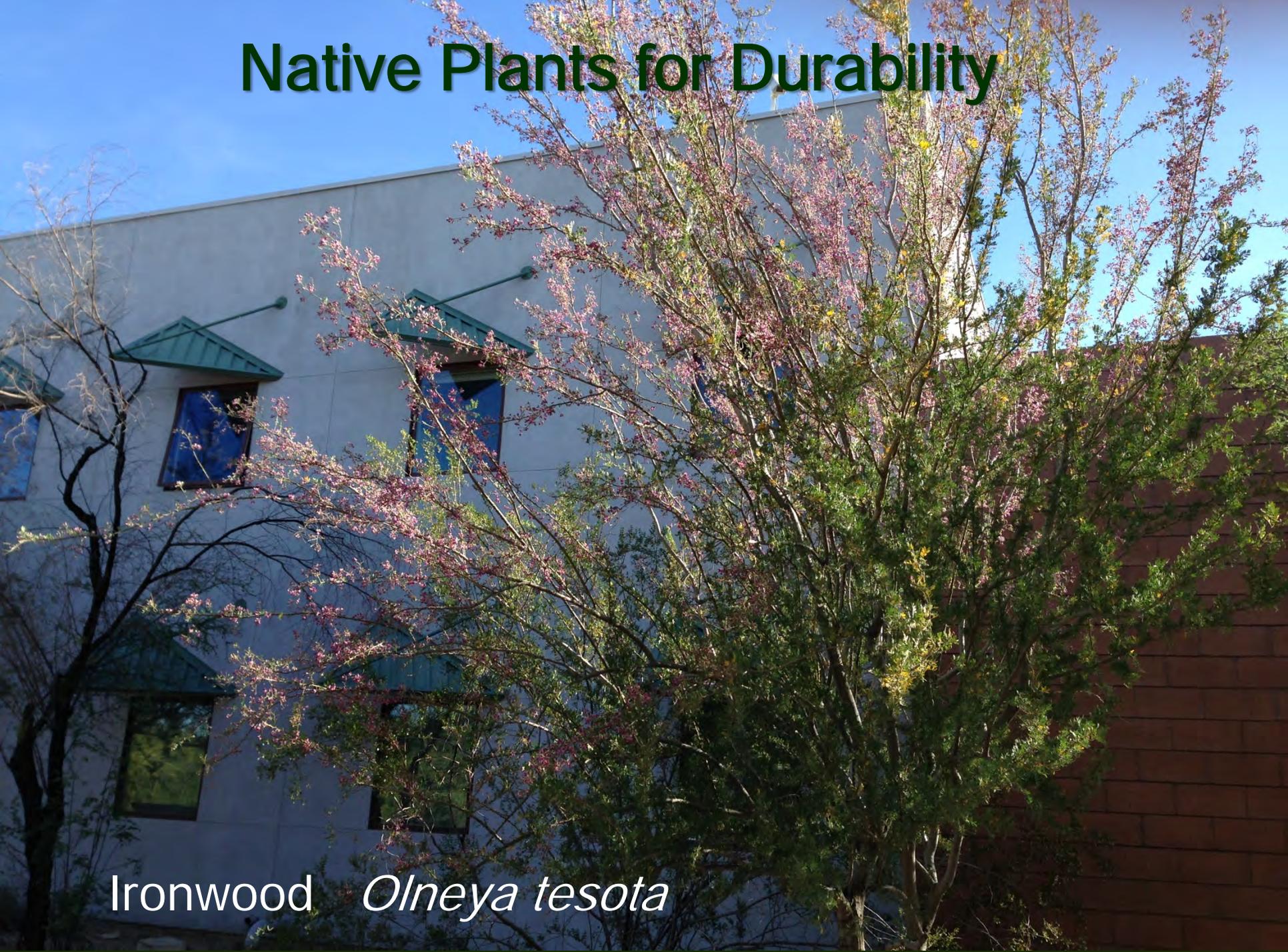
D. Evans

# Native Plants for Durability and Reduced Irrigation





# Native Plants for Durability



Ironwood *Olneya tesota*



# Going Native for Stormwater Quality



Old design: water collects,  
causing pavement failure

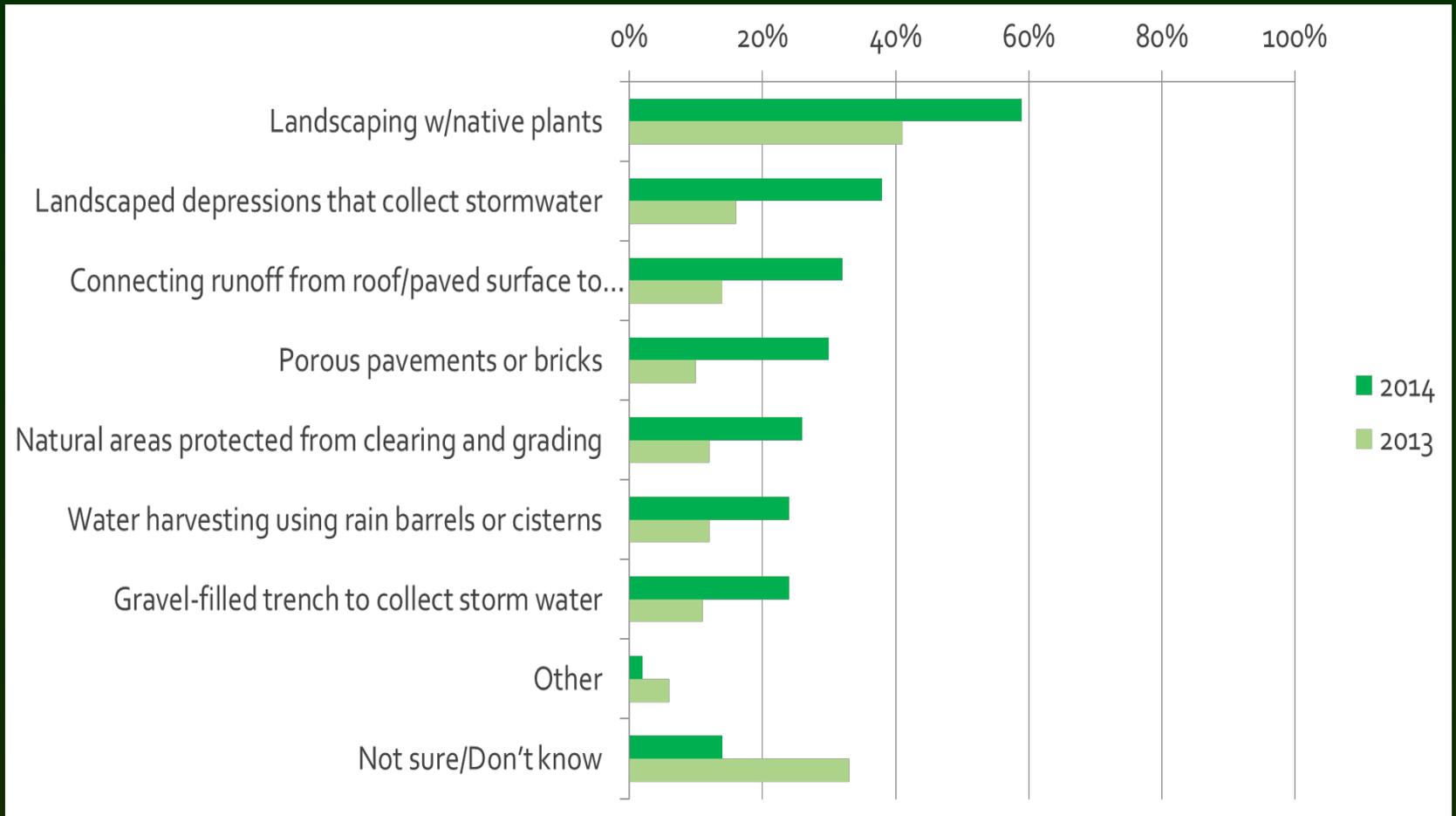


New design

# Going Native for Stormwater Quality



# Going Native for Stormwater Quality



# Going Native for Stormwater Quality



Native grasses:

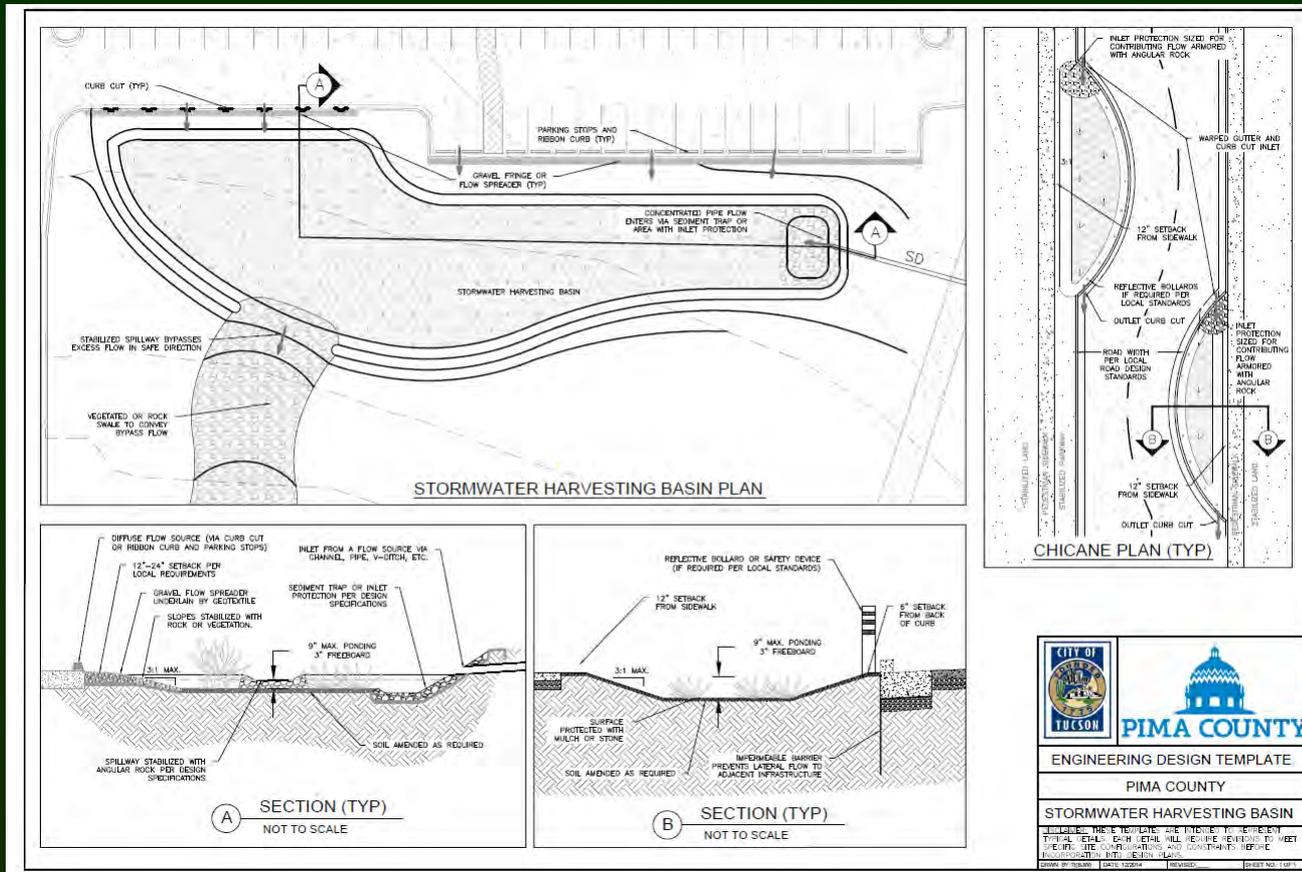
Tolerate drought

Filter pollutants

Build soil carbon

Don't encroach  
bike lanes

# Going Native for Stormwater Quality



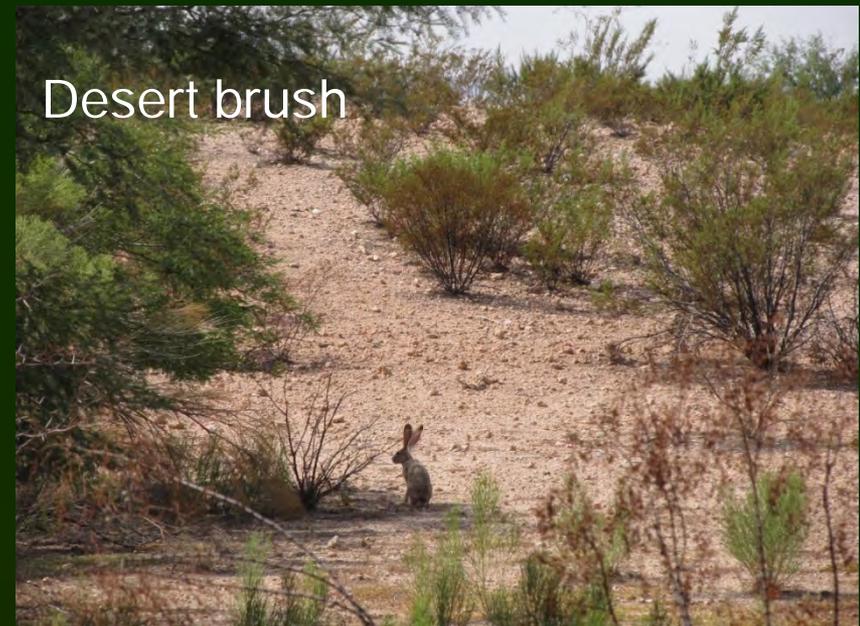
## City-County Low Impact Development and Green Infrastructure Guidance Manual



# Kino Ecosystem Restoration Project



# Kino Ecosystem Restoration Project (KERP)



# Pima Prickly Park: A Flood of Plants



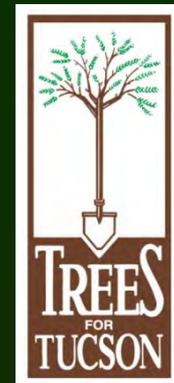
# Urban Shade: Phoenix versus El Paso

- ✦ Velvet mesquite 8%
- ✦ Calif. fan palm 8%
- ✦ Sweet acacia 7%
- ✦ Italian cypress 26%
- ✦ Afghan pine 11%
- ✦ Mex. fan palm 7%

Source: Adkins and Rogstad, 2014



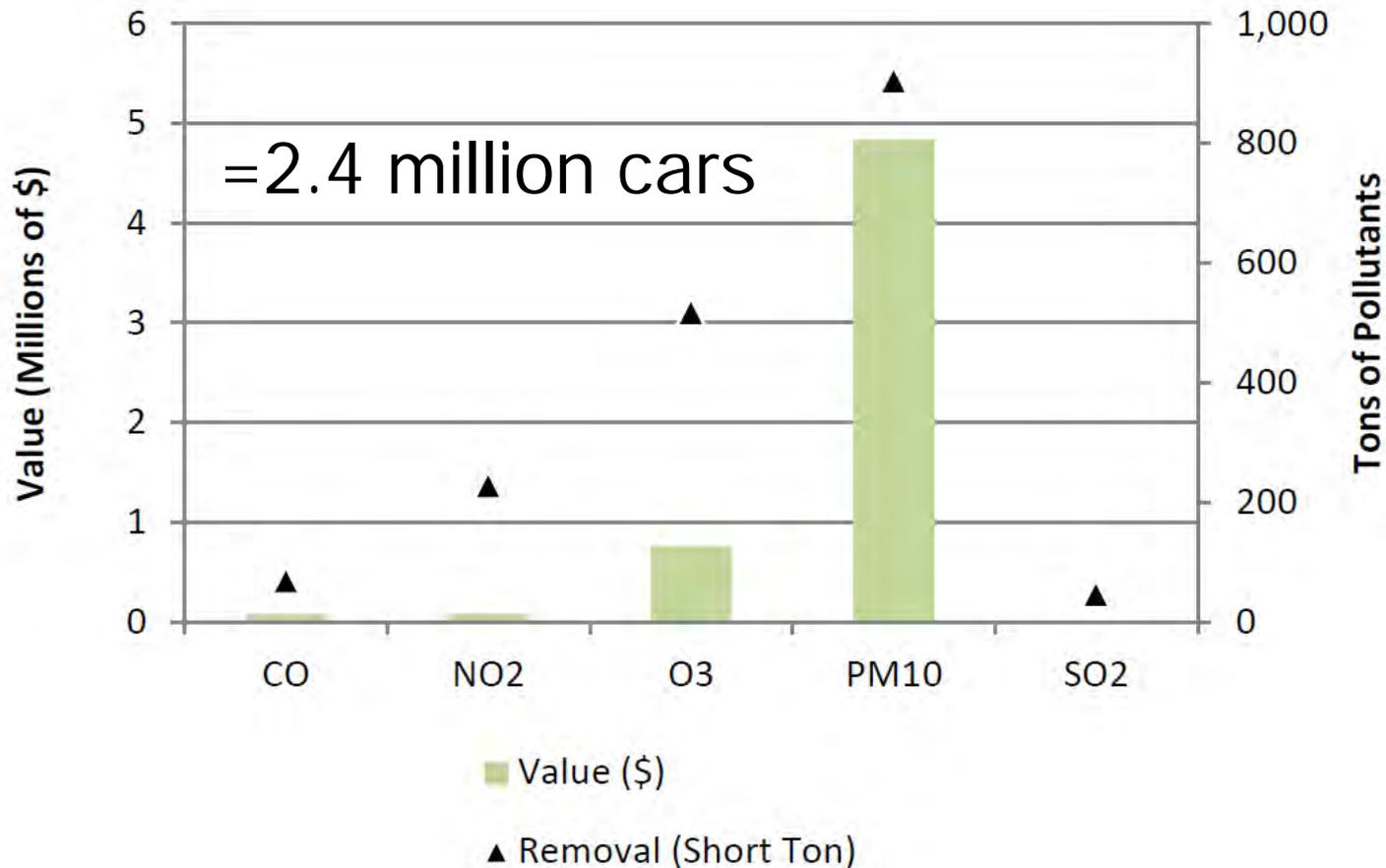
# Energy Savings and Reliability



Shading a home can save 20-30% in energy.

Source: Tucson Electric Power

# Clean Air: Can Natives Help?



# Native Plants for Pollinators



# Native Plants and Jobs



# Wanted: Native Seeds



# Pima County Seed Library



16,000 packets shared  
last year



# Lessons Learned

- ✦ Native plants are more useful than we can imagine.
- ✦ Tap local plant expertise.
- ✦ Be incremental.
- ✦ Nurture your plant suppliers.
- ✦ Educate!



# Thank You and Credit to:



Ellen Alster, Gary Bachmann, Sandy Bolduc, Jessie Byrd, Wendy Burroughs, Neva Connolly, George Kuck, Marie Light, Brian Powell, Iris Rodden, Jim Veomett, at Pima County.

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Lori Woods, RECON Environmental





## Pima County Native Plant Nursery

<https://www.youtube.com/watch?v=wZHImPJCnMM>

## LID and Green Infrastructure Guidance Manual

<http://webcms.pima.gov/cms/one.aspx?pageId=65263>