



***Riparian Restoration in an Urban Environment  
Unique Challenges and Opportunities***

**Arizona Riparian Council Conference  
April 5, 2013**



**City of Phoenix**

# 7<sup>th</sup> Avenue to Central Avenue, 1997



W Magnolia St

S 7th Ave

S 5th Ave

W Lower Buckeye Rd

S Central Ave

793 ft

© 2011 Google  
Image U.S. Geological Survey

© 2011 Google

Imagery Date: 4/29/1997

33°25'15.55" N 112°04'37.69" W elev 1063 ft

Eye alt 4433 ft



# 7<sup>th</sup> Avenue to Central Avenue, 2011







# RioSalado

HABITAT RESTORATION AREA



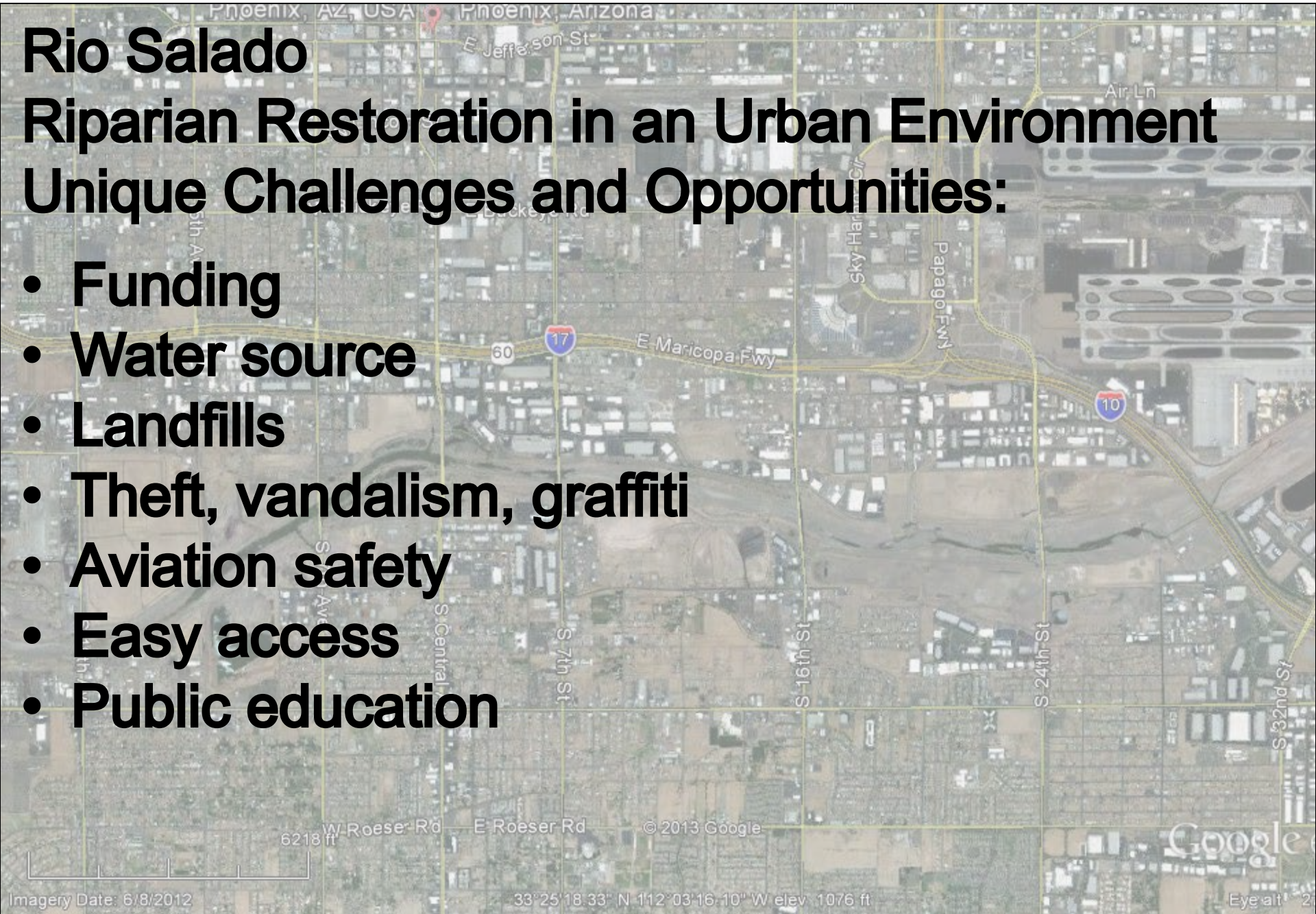
- <http://www.phoenix.gov/RIOSALADO/>
- 1998 Feasibility Study
- Grand Opening November 2005
- Construction complete 2009

- 600 acres of wetland, riparian, & upland habitats
- Wetland, riparian, & upland habitats
- Over 250 species of birds
- Nina Mason Pulliam Rio Salado Audubon Center



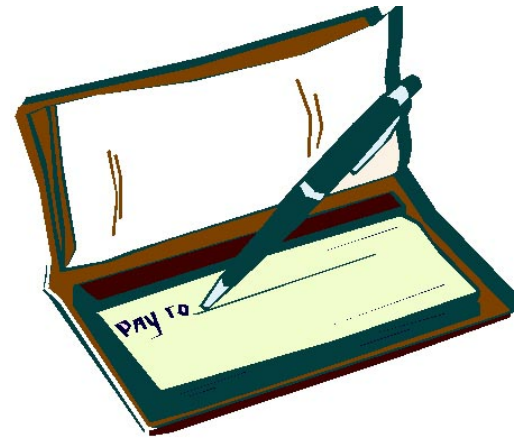
# Rio Salado Riparian Restoration in an Urban Environment Unique Challenges and Opportunities:

- Funding
- Water source
- Landfills
- Theft, vandalism, graffiti
- Aviation safety
- Easy access
- Public education





# Funding



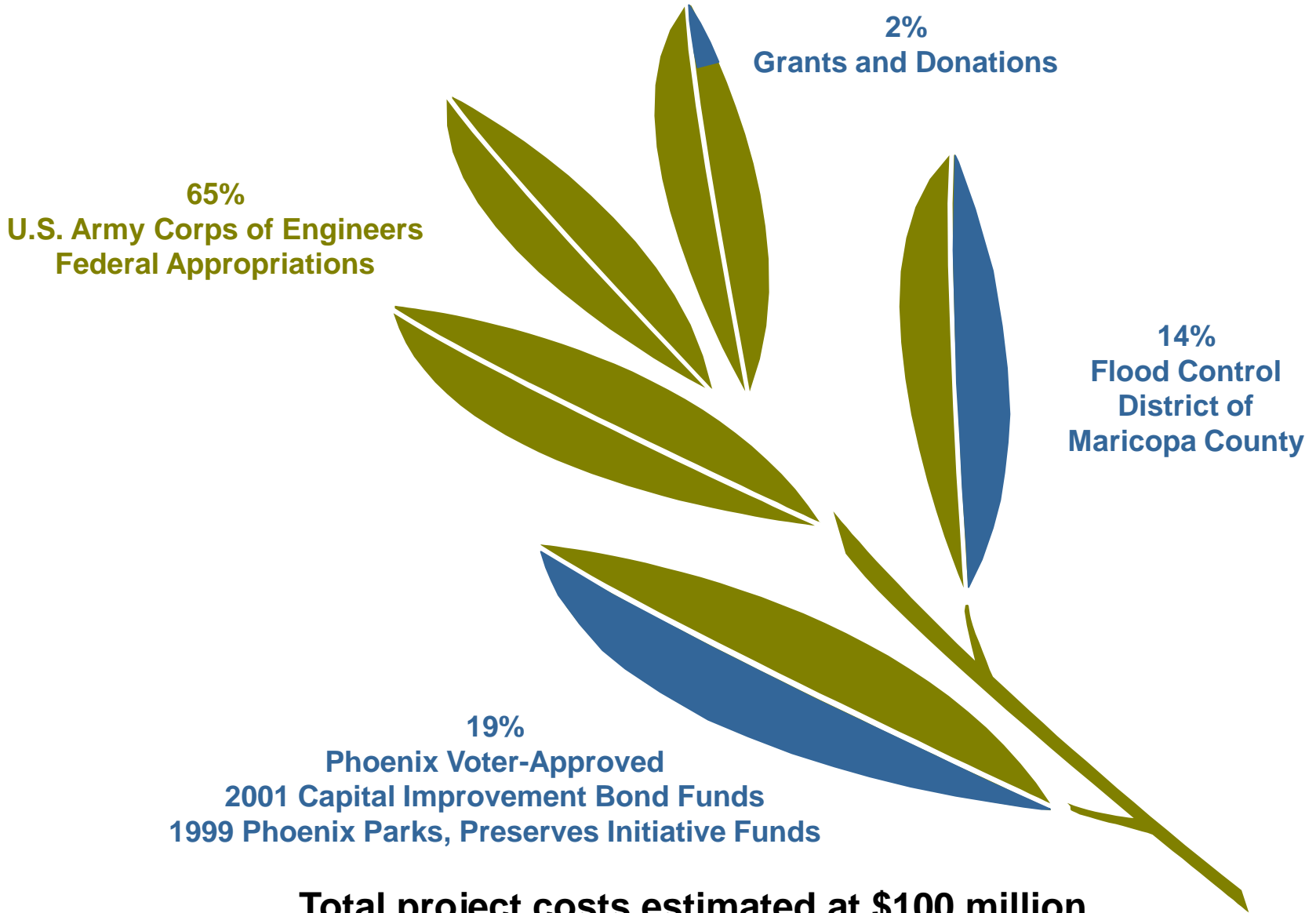
# Private Ownership

- Salt River was privately owned
- Mostly sand & gravel operators



**Over \$8 million for real estate costs.**

# Summary of Funding



**Total project costs estimated at \$100 million.**



# Water



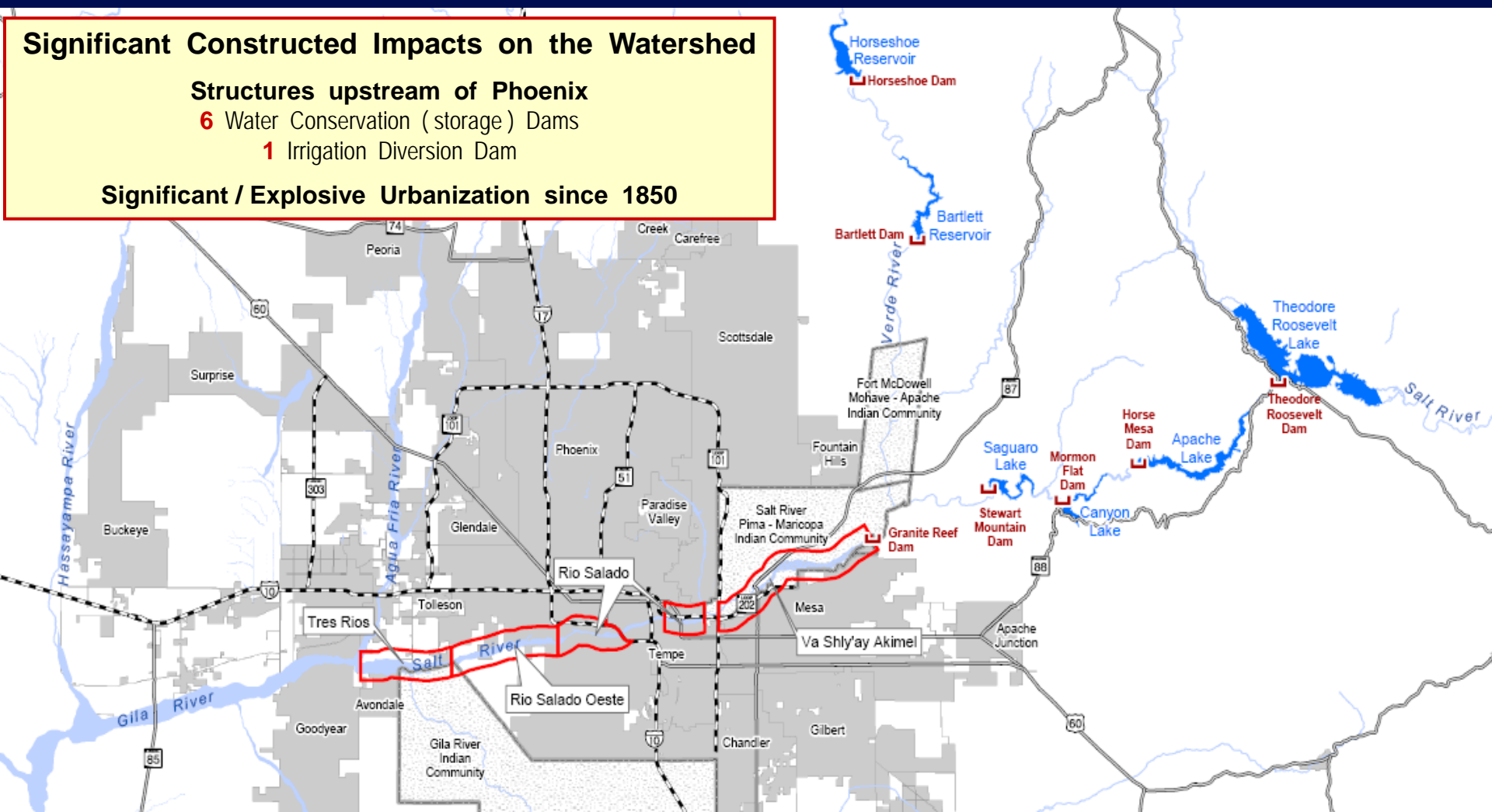


## Significant Constructed Impacts on the Watershed

### Structures upstream of Phoenix

- 6 Water Conservation (storage) Dams
- 1 Irrigation Diversion Dam

**Significant / Explosive Urbanization since 1850**



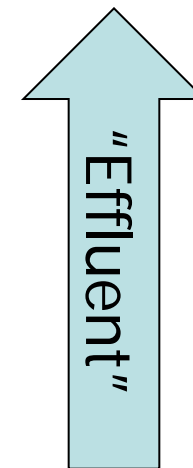
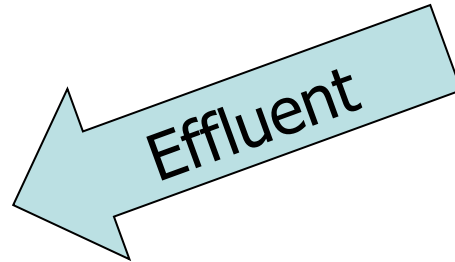
## Greater Phoenix, AZ Metropolitan Area and Salt River Project System



# Rio Salado Water Supply



Phoenix  
23<sup>rd</sup> Avenue  
Wastewater  
Treatment  
Plant



# Stormwater Outfalls



Rio Salado has  
over 30 stormwater  
outfalls



Salt River near 7<sup>th</sup> Avenue July 29, 2011



# Landfills and Dumping

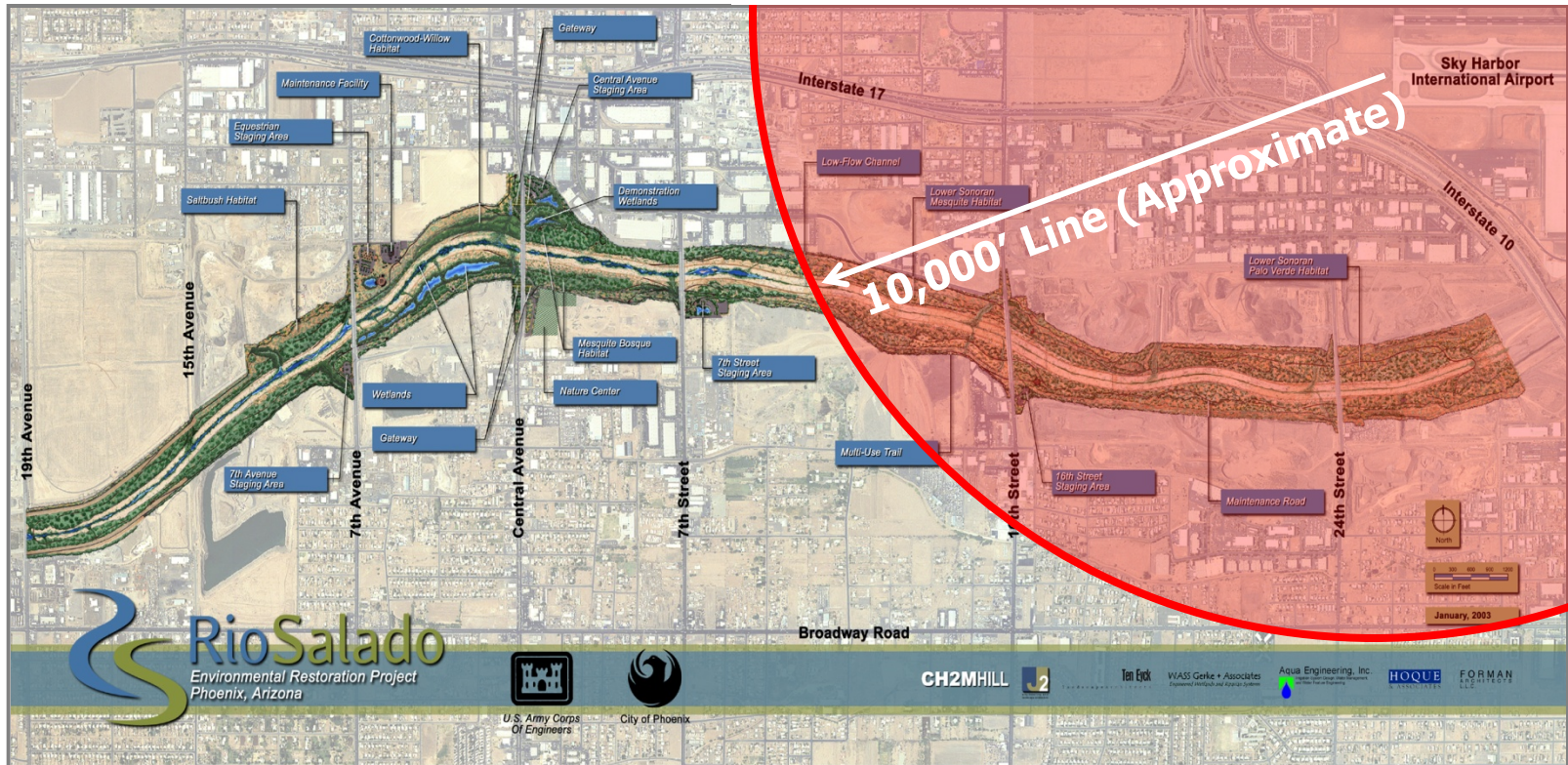
- 13 landfills
- Illegal dumping
- Almost 1200 tons of tires removed



# Theft, Vandalism, & Graffiti







FAA Advisory Circular 150/5200-33B "Hazardous Wildlife Attractants On or Near Airports" identifies a separation distance of 10,000' between wildlife attractants and the end of runways.

# Easy Access







# Audubon ARIZONA

RIO SALADO  
AUDUBON CENTER



# If you build it, they will come: Endangered Species

- Welcome endangered species into the habitat, BUT
- Other purposes for these projects
  - Passive recreation
  - Water treatment
- And still need to maintain and manage
- Solution: **SAFE HARBOR AGREEMENT!**





# Endangered Fish at Nina Mason Pulliam Rio Salado Audubon Center

Central Avenue & Salt River (SE corner)  
3131 South Central Avenue  
Phoenix AZ 85040  
(602) 468-6470  
[az.audubon.org](http://az.audubon.org)









# Questions



Pelicans in Rio Salado  
January 4, 2005