



# Tumacácori National Historical Park



# NR Projects 2010-11

- *E. coli* DNA study & monitoring (UA, FOSCR)
- Emerging Contaminants /Border Environmental Health Initiative (USGS)
- Monitoring Avian Productivity and Survivorship (MAPS)
- Ecosystem restoration plan (NPS contract)
- Water harvesting for new plantings (Sonoran Institute)
- Hackberry dendrochronology study (UA)
- Hummingbird monitoring (NPS, Larry Norris)
- Yellow-billed cuckoo & SW willow flycatcher (ASDM)
- Exotic plant treatments (EPMT)
- Continued bird surveys and nest studies (UA)
- Fence work to exclude cattle (in-house)
- Bat mist netting surveys (ASDM)
- Acoustic bat monitoring, red bat project (AZGFD)
- Stream channel morphology monitoring (SODN)
- Fire effects, vector surveys & vegetation monitoring (SODN)
- Wildlife camera monitoring (in-house)

# Water Quality

Documented levels of heavy metals, ammonia and harmful bacteria that exceed public health standards

Accumulations of trash piles with potentially hazardous waste and debris

Known damage to fish and animal populations due to poor water quality

Water quality has improved after upgrade to NIWTP in 2008



# Fish, Amphibians and Exotics



Longfin dace



Sonoran Desert toad



Gila topminnow



American bullfrog



Mosquitofish



Crawfish

# Bats and white-nosed syndrome



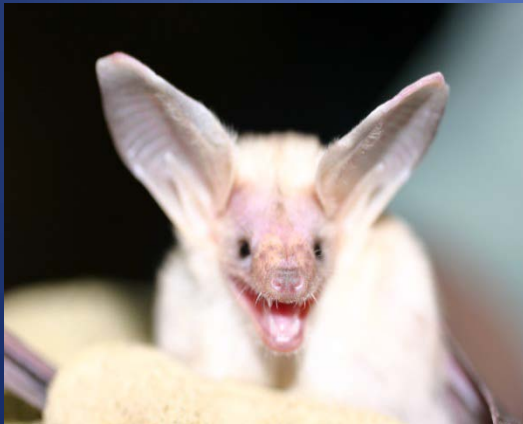
Mexican free tail



Mexican long tongued



Lesser-long nosed



Pallid bat



Cave myotis



Big brown

# Ecosystem Restoration

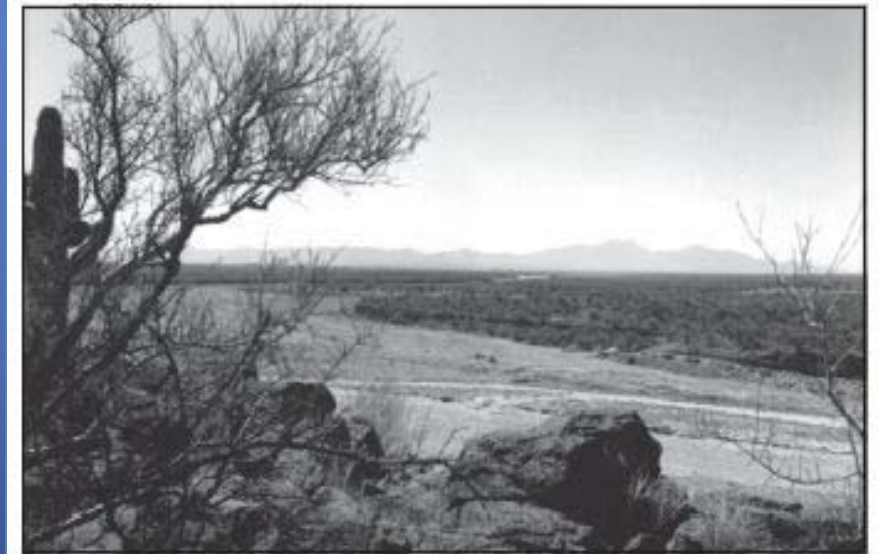
## Goals of the Plan:

Enhance vegetation structure in burn area

Control and monitor poison hemlock

Transition from abandoned agricultural fields to bosque community

**Exclude cattle!**



# The Mission Fire April 4, 2008



# Challenges

- Woody debris and trash
- Trespass cattle and ATV use
- Fence construction and maintenance
- Exotic invasive plants and animals
- Visitor Experience, public perception, and community cooperation



# Questions?

