I. Verde River & Surrounding Communities

- Yavapai County: pop=220k -> 400k
- Prescott
  - Prescott Valley
  - Chino Valley
- Verde Valley – 7000 exempt wells?
  - Clarkdale
  - Cottonwood
  - Camp Verde
- Salt River Project (SRP) – has SW rights

II. The Plan to Pump - i

- 1980 Groundwater Management Plan
  - Active Management Areas (AMA) – 4
  - Assured Water Supply: 100 yr supply req. for subdivisions outside of designated service areas
  - transfers of GW betw. sub-basins outside of AMA’s
  - legitimized withdrawals from Little Chino
  - 1991 Sec 45-555
    - (A) HIA exception, redirect water from Ag to Muni
    - (E) auth. excess 14 kaf pumping
  - 1999 ADWR determined to be “mining GW” – restricted growth of new developments

II. The Plan to Pump - ii

- Prescott’s Water Supply and the Big Chino ranch proj.
- City of Prescott is only designated water supplier
  - Chino Valley well field: 15 mi @ 8500 af/y
  - Proposed Big Chino Ranch well field @ 12,400 af (E) (20 mi from Verde headwaters), $170 M, 2008: reduced to 8067 af
  - 2006: learned that arsenic levels exceed federal standards
- Chino Valley
  - May 2007, decides to go it alone, growth of 20k homes
  - Proposed CV water ranch well field @ 2893 af (A) (5 mi from Verde headwaters), $ 15 M; on hold; 26 parcels @ $3.5 M
Impact on the Verde

- 2004 USGS report (Wirt & Hjarlmarson) – 86% of the Upper Verde flows come from Big Chino aquifer
  - Predicted first 24 mi would dry by 2099
- Prescott-area Consultant:
  - well isolated by clay plug
  - only 5% of flow at Camp Verde due to headwater springs
- SRP Consultant
  - Drop in flow of 50% of pumping after 1 yr
  - base flow reduced 47% after 10-20 yrs

III. Opposition to the Plan, etc. - i

- SW-GW law
  - SW: Prior Appropriation: first in time – first in right
  - GW: reasonable use; Subflow – appropriable GW
- SRP’s Water Rights
  - 1905, 300 kaf from Verde
  - 1991 wants Prescott to develop monitoring mitigation plan
- 2008 ADWR rules that wells are pumping GW; too far from river
- SRP faces “uphill battle”; Issues: apportionment of damage, on-going adjudication, court ruling on cone of depression capture of subflow

III. Opposition to the Plan, etc. - ii

- 2008 challenges to Big Chino water (E) Water
  - 8067 af (ADWR)= 3861 af (sold to Scottsdale)= 4081 af
  - 45-555(E) applies only to Prescott and thus illegal
- 2008 challenges CV HIA exception
  - withdrawal should occur from each plot, not single well
- Center for Biological Diversity ESA Concerns
  - 2004 intent to sue; 2006 “Save the Verde” campaign
  - Sec.9: Pumping will destroy critical habitat by harming river
  - 9th Cir: habitat modification reasonably certain to injure endangered species is sufficient to warrant a permanent injunction
  - CBD must show “future harm” is “sufficiently likely”
  - Incidental Take permit requires habitat conservation plan
  - Impacts: time, cost, slower growth, less development

IV. Municipalities’ Response to Legal Challenges

- Cost
  - $30 M -> $170 M, 80% new/20% existing
- Working Together
  - Verde River Basin Partnership Act of 2005; Cities won’t join
  - Upper Verde Watershed Protection Coalition; w/ cities
    - “The difficulty the municipalities have had working with local stakeholders to study Verde-related issues reflects poorly on their likely ability to develop a comprehensive mitigation plan, manage a shared pipeline, or implement an HCP”
- Developing Mitigation Plan and HCP
  - Mayor Wilson scoffed at the idea of producing a written plan merely because “we’ve got some eco-nuts telling us to do it.”
- Responses to SRP and CBD
  - Muni’s frame battle as rural vs. urban interests; SRP’s deep pockets

2008 – Wells Family /TNC
412 ac headwater conservation easement
V. Possible Outcomes

- When and how should these conflicts be decided?
- “Many scientists believe that pumping the Big Chino aquifer will affect the Verde’s flow”, at some point.
- Contention that this is subflow would require massive state-wide recalibration of water rights.
- Who is right?
  - SRP?, City of Prescott, Prescott Valley, CBD?

2013 USGS Model Scenarios

- Base flow decreased 4100 af from 1910-2005 @ UV
- base flow dropped 10,000 af @ LV
- Conservative future scenario – only ½ water needs
  - 3200 af (UV); 6900 af (LV) from 2005-2110

- Effects of Past and Future Groundwater Development on the Hydrologic System of Verde Valley, Arizona
  - By Bradley D. Garner and D.R. Pool; USGS FS 2013-3016
Nested Model needed to predict impacts on Verde

✔ Kyle Blasch and Frank Corkhill review of Northern Arizona Ground-water flow model
  - Will not predict impacts on the Verde
✔ Nested model needed to predict impacts
  - Three years to develop
  - $810,000 to develop
  - Plus cost of new wells needed to gather data
  - Plus cost of aquifer tests
  - Extra funding would not speed development