

Restoring Land and Managing Karst to Protect Water Quality and Quantity at Barton Springs, Austin, Texas.



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Wildland Conservation Division
Water Quality Protection Lands





What Do We Do on the Water Quality Protection Lands?

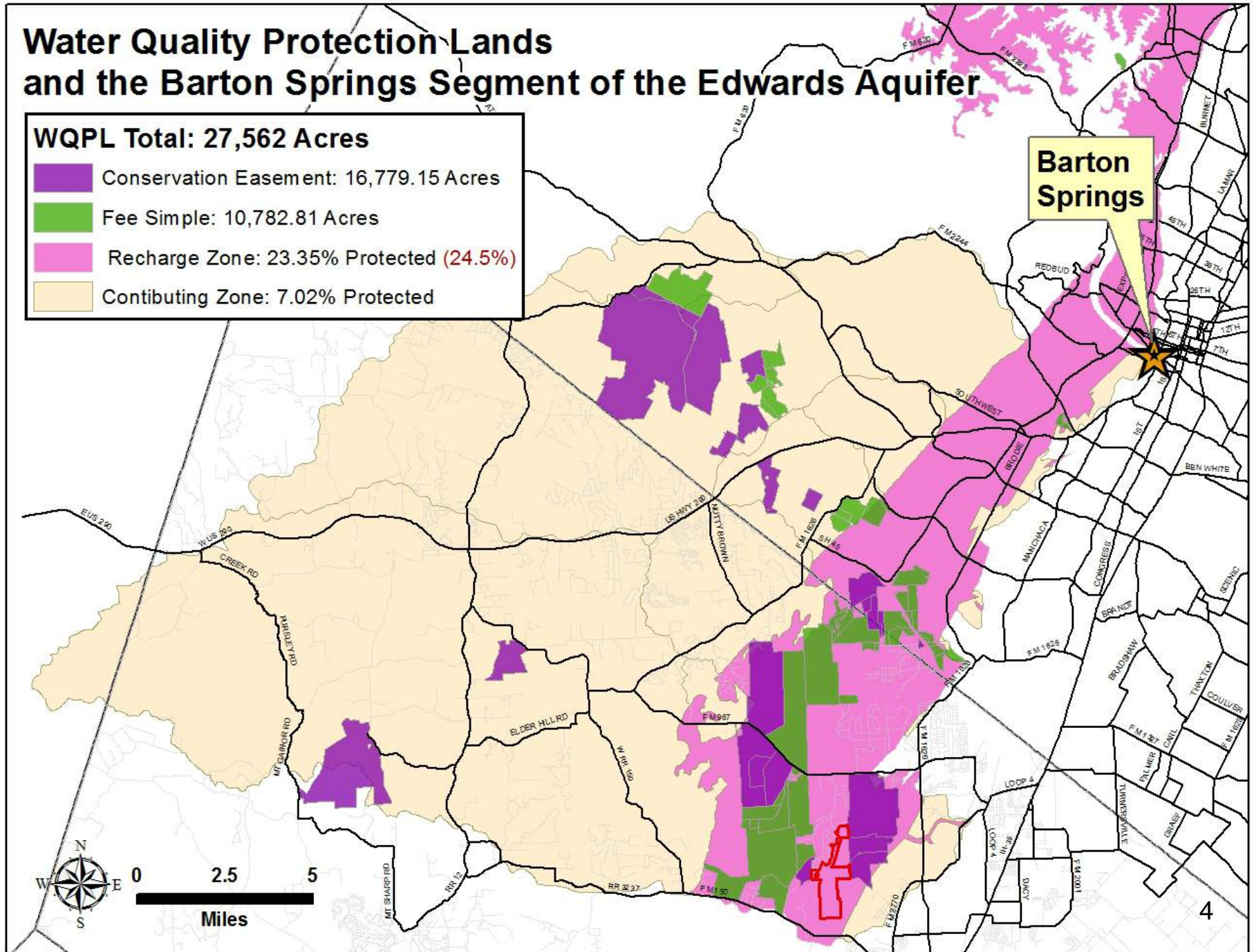
- Optimize quantity of high quality water recharging off of project lands into the Barton Springs segment of the Edwards Aquifer.



Water Quality Protection Lands and the Barton Springs Segment of the Edwards Aquifer

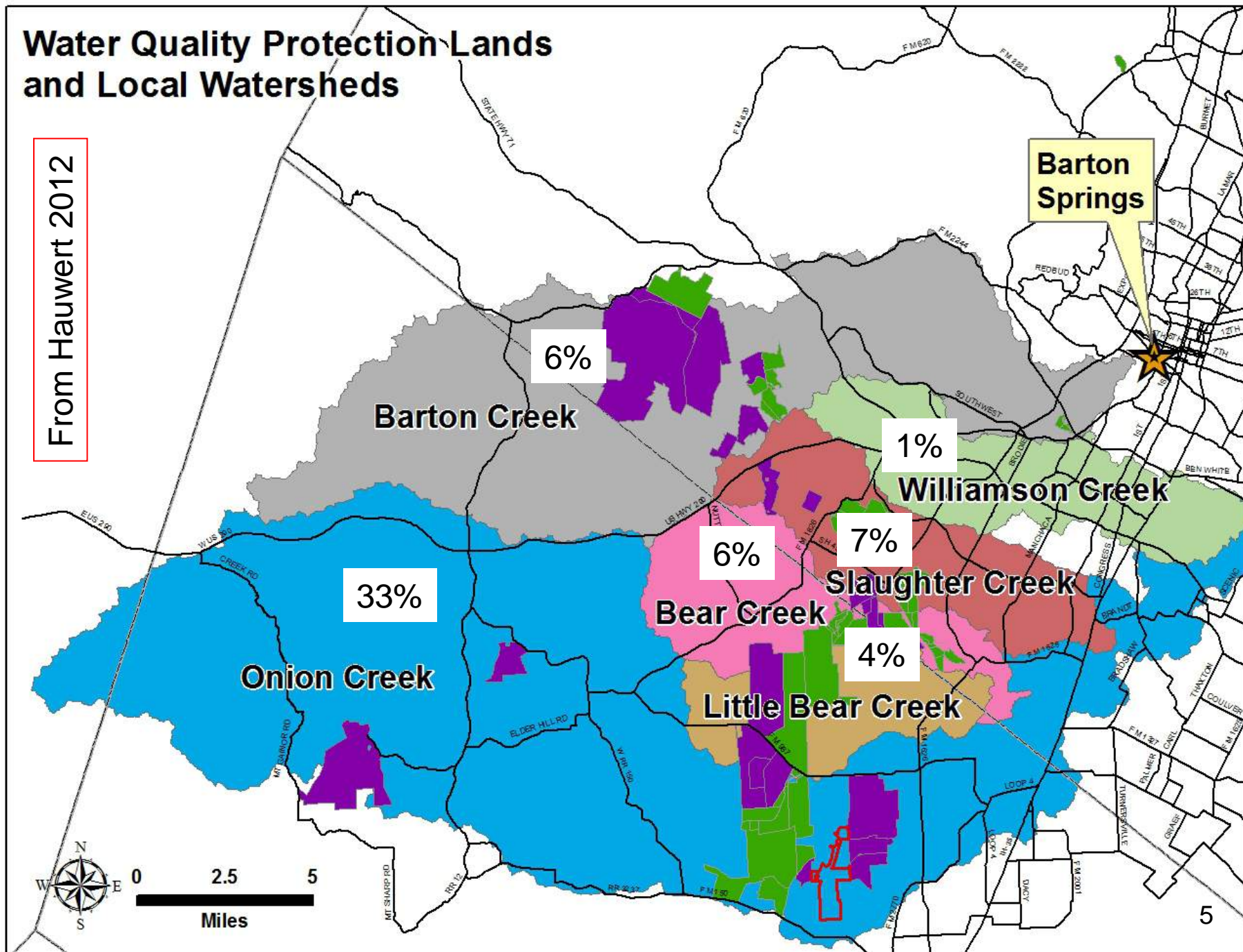
WQPL Total: 27,562 Acres

-  Conservation Easement: 16,779.15 Acres
-  Fee Simple: 10,782.81 Acres
-  Recharge Zone: 23.35% Protected (24.5%)
-  Contributing Zone: 7.02% Protected



Water Quality Protection Lands and Local Watersheds

From Hauwert 2012



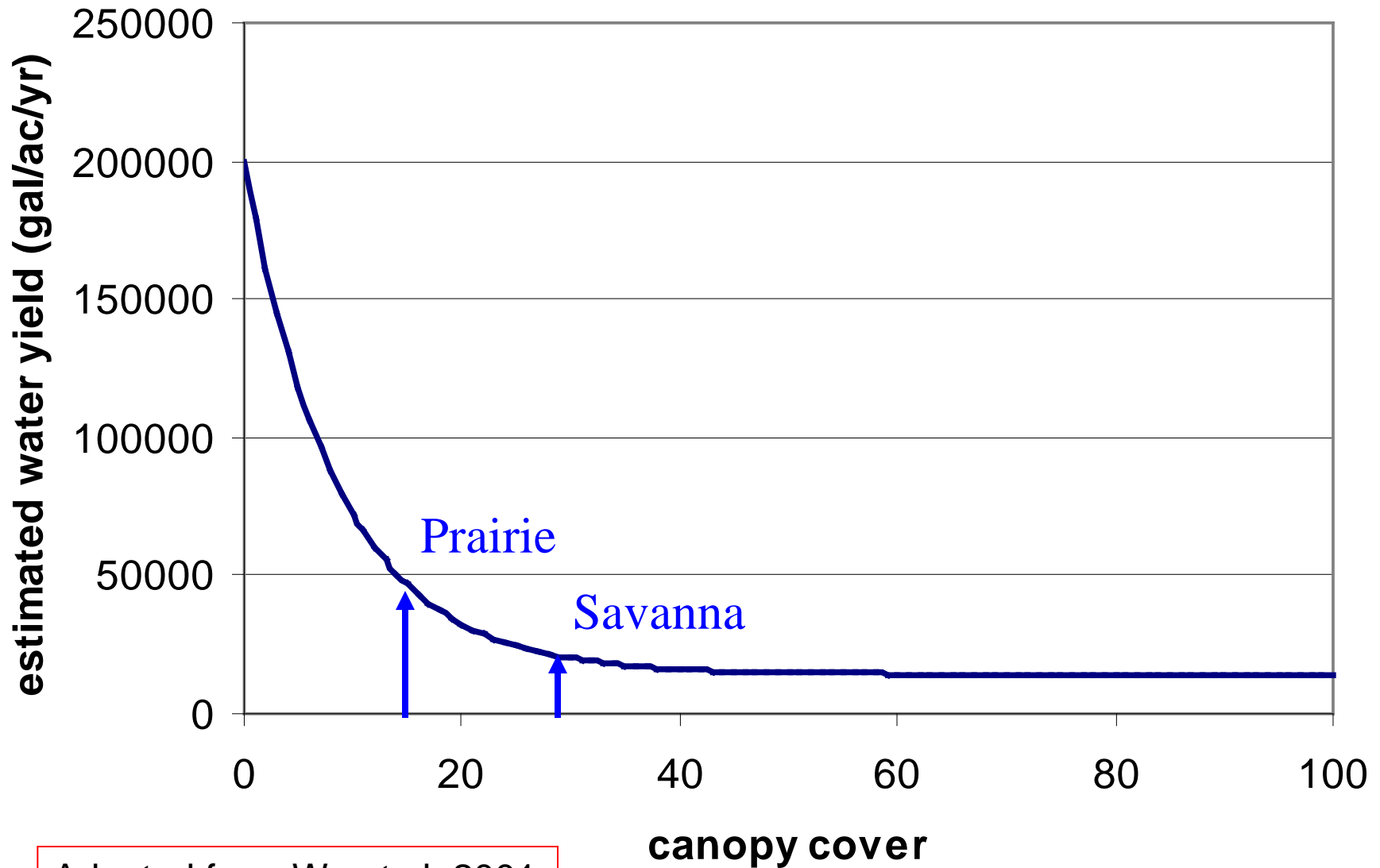
Summary of Groundwater Trace Injections (1996-2002)

Figure 5: Whirlpool at Cripple Crawfish Cave (site S). This recharge feature is located within Onion Creek and was injected with Eosine dye on August 6, 2002. The dye arrived at Barton Springs, 17.5 miles away, in less than 3 days. Photograph taken by David Johns.

Legend:

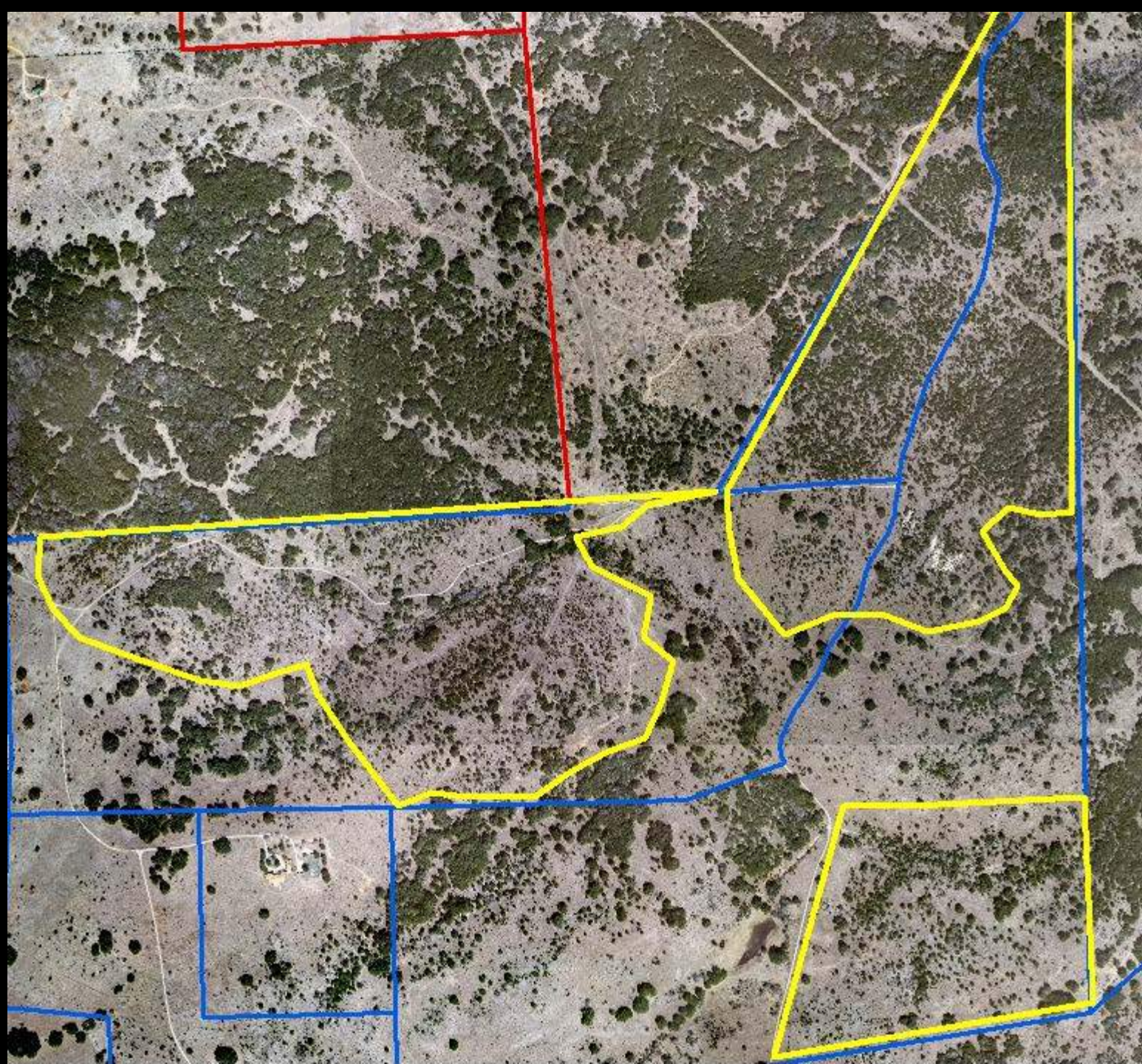
- A** Injection Sites
- Tracer Detected, Wells*
- Tracer Detected, Springs*
- Estimated Flow Paths
- Inferred Flow Paths
- Recharge Zone
- Major Creeks
- County Boundary
- Major Roads

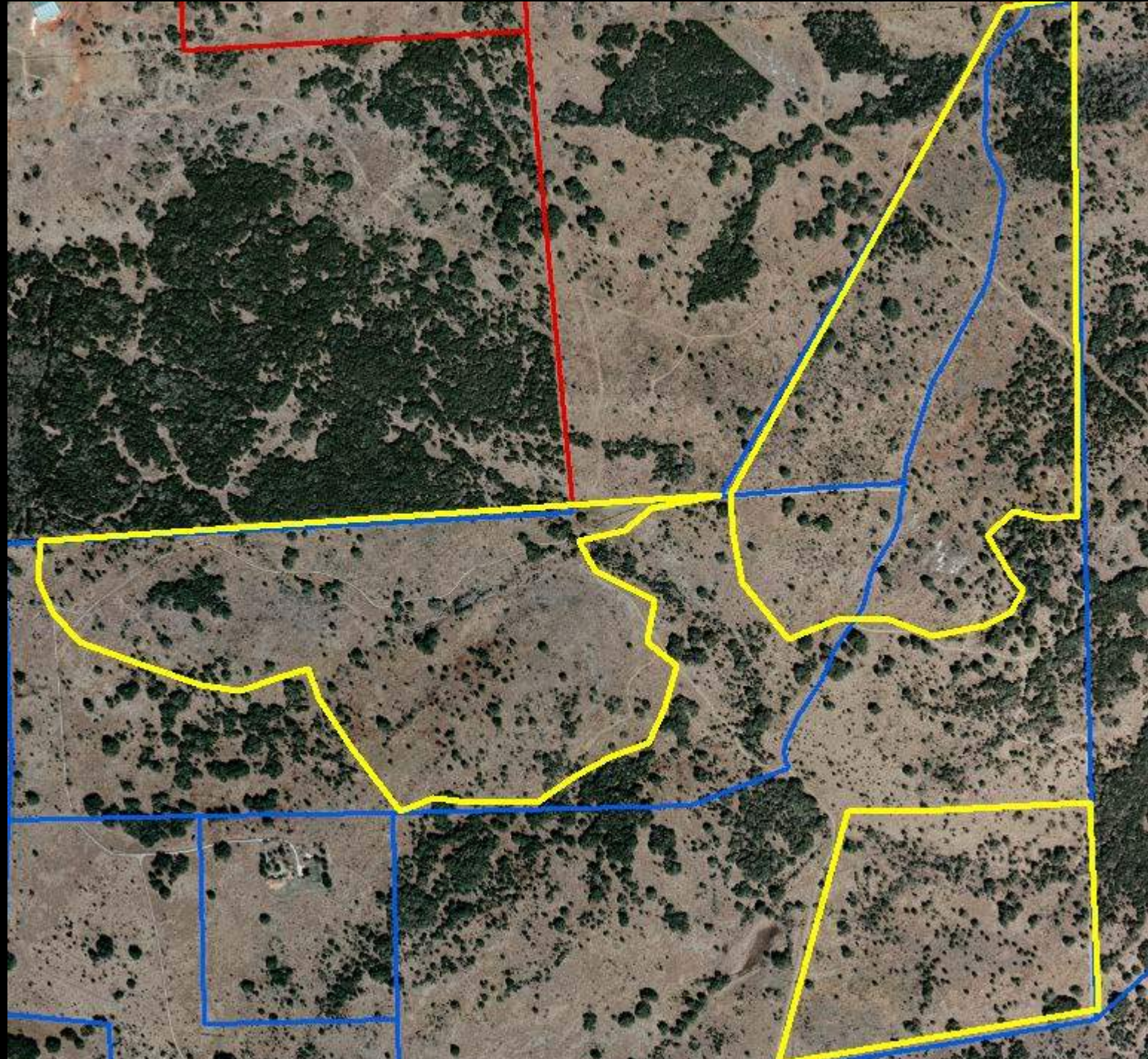
From Hunt et al. 2006



Adapted from Wu et al. 2001

Water yield (gal/ac/yr) as a function of canopy cover. Model equation based on Austin historic rainfall: water yield = $100 - (98.54 - 18.97e^{-0.116(\text{canopy cover})}) / 100 * 977553 \text{ gal/ac/yr}$.

































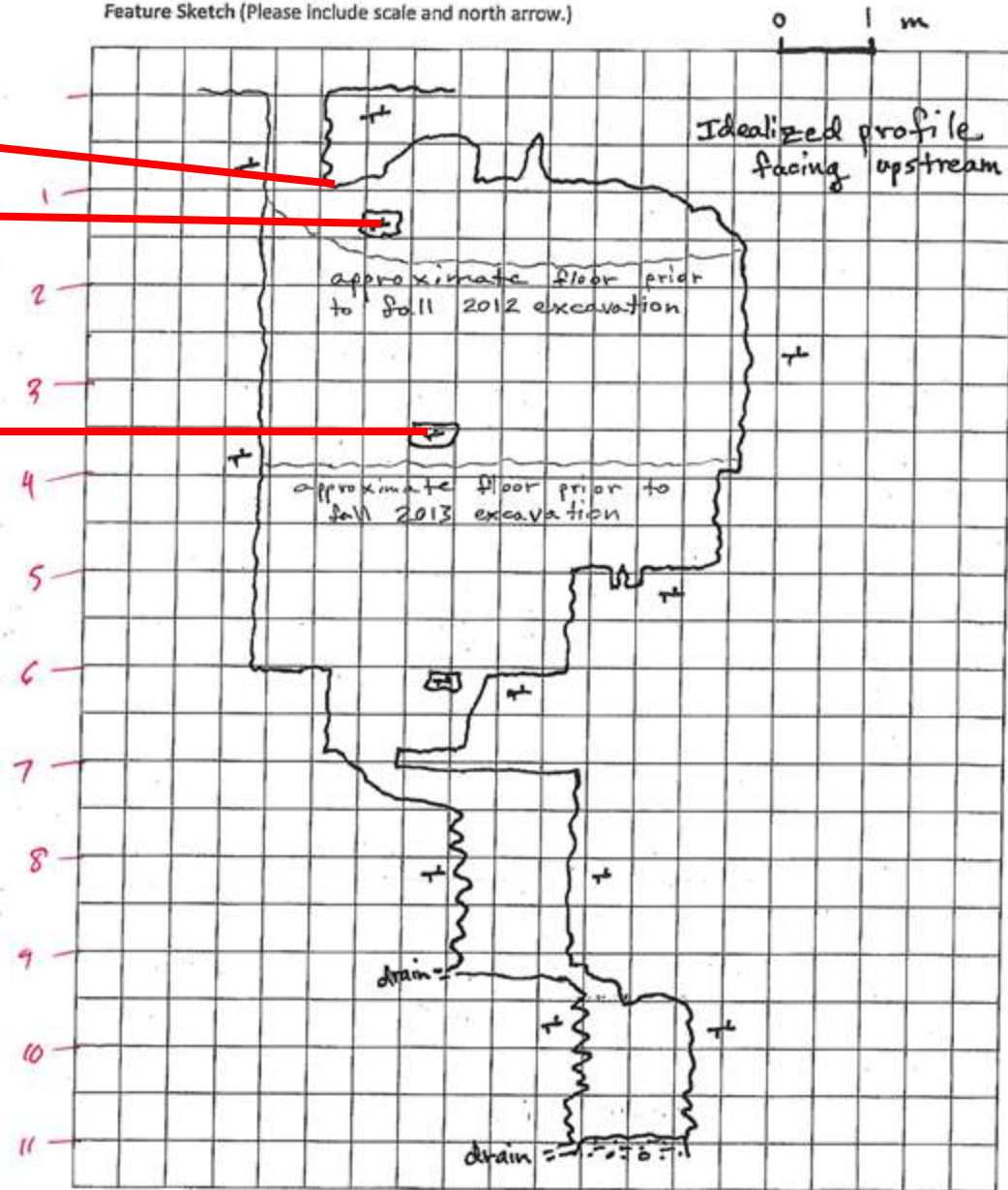




Crooked Oak Cave 10 Oct 2013

Feature Sketch (Please include scale and north arrow.)

sketch by
Saj Zappitello
Zara Environment



How much removed?

53 cubic yards

About 4 dump trucks full

And after 12 years of work...

SUCCESS!







Video of un-grated swallet

Video of un-grated swallet, less flow

Annual Accomplishments for 2014 (report in packet)

- Acres Added 1,705
- Acres Burned 1,470
- Acres Thinned 239
- Acres Seeded 75
- Acres Surveyed ES 4,252

- Volunteer Events ~75
- Volunteer Hours 1,350*

Thank You!



End of event at Crooked Oak