Run 10.1 Summary

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February 17, 2016

Catalysts for Run 10.1

- Reference year for drawdown calculations is the end of 2009. End of 2010 as was used in previous runs.
- All Layer 1 pumping (representing the shallow outcrop portions of the aquifers) was shifted downward into model cells that would not reduce pumping with water level declines.

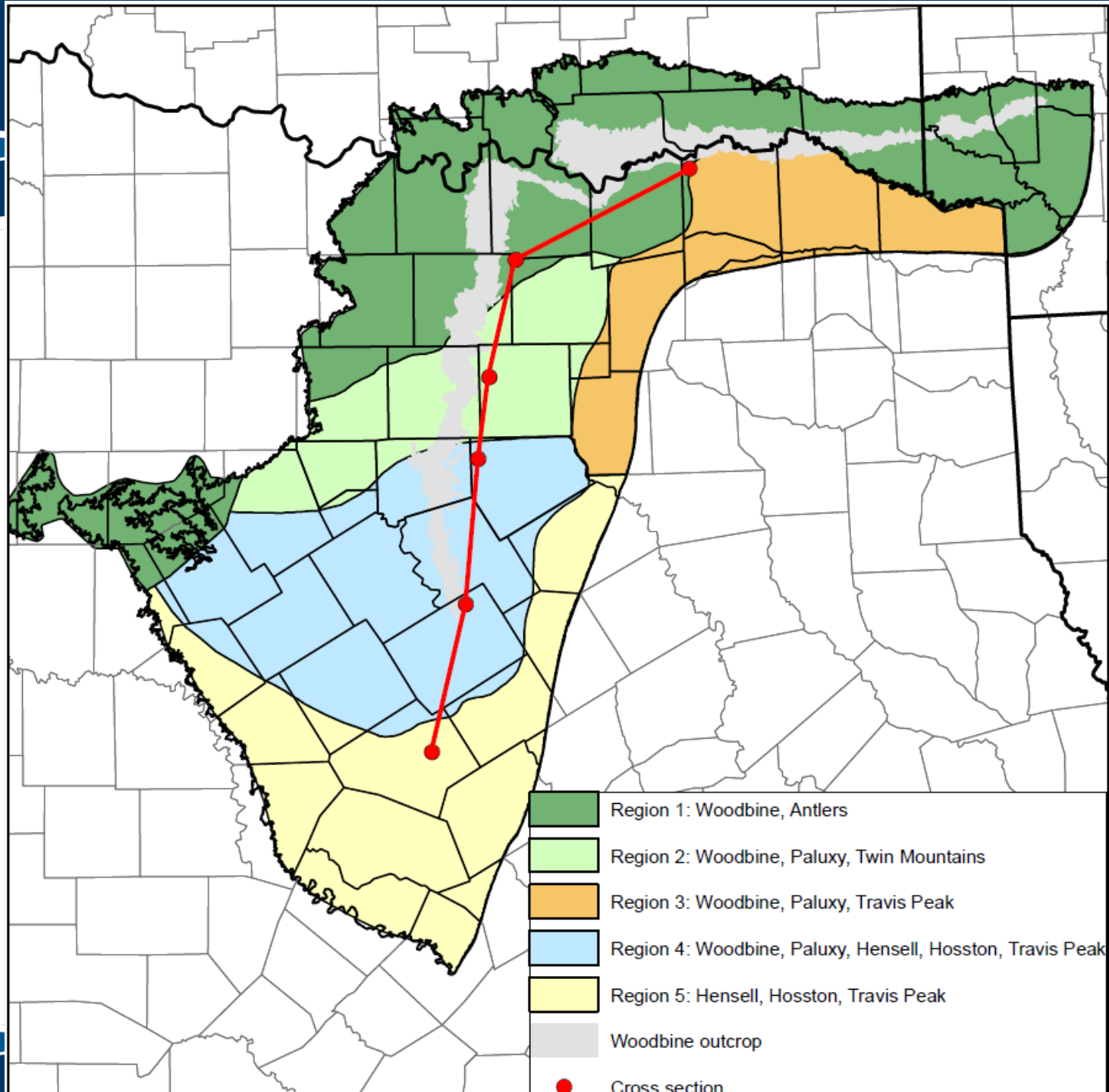
Methods

- Pumping distribution based on original Run 10
  - *i.e. same pumping at each latitude, longitude, and aquifer*
- In outcrop areas of each aquifer, the pumping was redistributed between Layer 1 and the deeper layer representing the same aquifer based on transmissivity.
  - *For example, if an area in the Paluxy outcrop contains 70 percent of the transmissivity in Layer 1 and 30 percent of the transmissivity in Layer 4, then 70 percent of the pumping is assigned to Layer 1 and 30 percent is assigned to Layer 4.*
- Base year of the end of 2010

Results Metrics and Scales

- Results Metrics
  - *Average drawdown between 2010 and 2070*
  - *Percent of 2010 available drawdown remaining in 2070*
  - *Well Impacts*
- Results Scales
  - *Aquifer*
    - *Woodbine, Washita/Fredericksberg, Antlers, Paluxy, Glen Rose, Twin Mountains/Travis Peak, Hensel, Hosston*
  - *County*
  - *Groundwater Conservation District*
  - *Outcrop/Subcrop/Total*

Aquifer Regions



Hydrogeology of Aquifer Regions

Model Terminology	Region 1	Region 2	Region 3	Region 4	Region 5
Woodbine Aquifer	Woodbine	Woodbine	Woodbine	Woodbine	Woodbine (no sand)
Washita/ Fredericksburg Groups	Washita/ Fredericksburg	Washita/ Fredericksburg	Washita/ Fredericksburg	Washita/ Fredericksburg	Washita/ Fredericksburg
Paluxy Aquifer	Antlers	Paluxy	Paluxy	Paluxy	Paluxy (no sand)
Glen Rose Formation	Antlers	Glen Rose	Glen Rose	Glen Rose	Glen Rose
Hensell Aquifer	Antlers	Twin Mountains	Travis Peak	Hensell/ Travis Peak	Hensell/ Travis Peak
Pearsall Formation	Antlers	Twin Mountains	Travis Peak	Pearsall/ Sligo	Pearsall/ Sligo
Hosston Aquifer	Antlers	Twin Mountains	Travis Peak	Hosston/ Travis Peak	Hosston/ Travis Peak

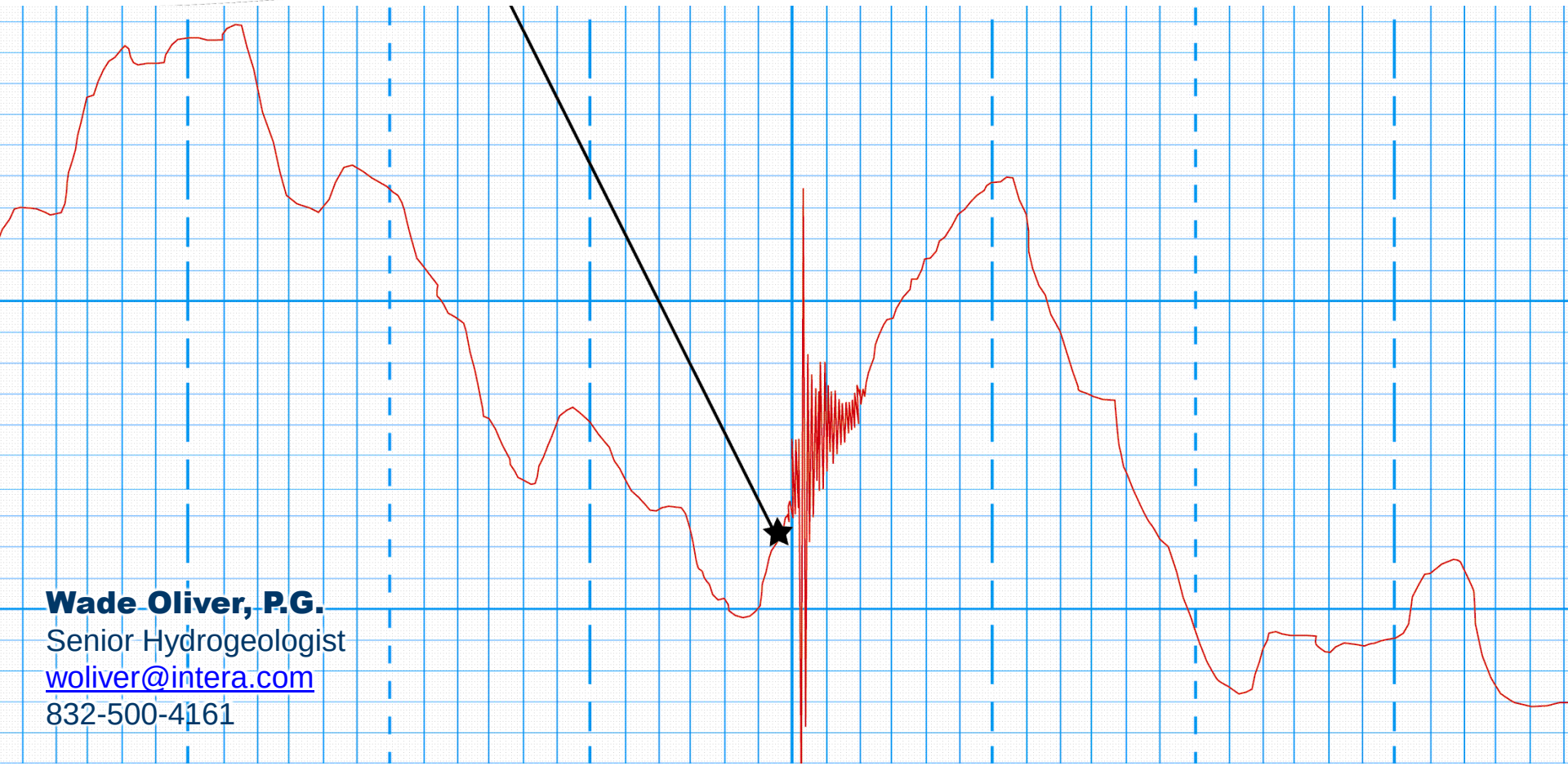
Results

- Drawdowns
  - *Generally close between Run 10 and Run 10.1*
  - *Run 10.1 drawdown typically within 5 feet or 5 percent of the drawdowns reported in Run 10*
- Pumping
  - *Water level declines in shallow outcrop (Layer 1) lead to reduced pumping in some areas*
  - *Total pumping reduction up to 14,146 acre-feet per year in 2070. This represents:*
    - *14% decline in outcrop pumping in GMA 8*
    - *4% decline in total pumping in GMA 8*

Pumping Differences

County	Run 10.0	Run 10.1	Difference
Bell	15,708	14,964	744
Bosque	10,428	10,347	80
Bowie	0	0	0
Brown	1,414	1,331	83
Burnet	3,693	3,426	268
Callahan	1,726	1,622	104
Collin	10,051	10,051	0
Comanche	11,957	10,310	1,647
Cooke	12,795	12,546	249
Coryell	5,721	5,227	493
Dallas	6,722	6,722	0
Delta	56	56	0
Denton	35,346	35,065	280
Eastland	5,736	4,938	797
Ellis	7,899	7,899	0
Erath	20,317	18,274	2,042
Falls	1,435	1,435	0
Fannin	7,173	7,172	2
Franklin	0	0	0
Grayson	21,104	20,769	335
Hamilton	2,494	2,398	96
Hill	4,808	4,808	0
Hood	12,433	12,230	203
Hopkins	0	0	0
Hunt	766	766	0
Johnson	13,934	13,694	240
Kaufman	0	0	0
Lamar	58	58	0
Lampasas	1,638	1,601	36
Limestone	0	0	0
McLennan	20,649	20,649	0
Milam	0	0	0
Mills	2,348	2,173	175
Montague	3,878	3,877	0
Navarro	68	68	0
Parker	11,872	10,574	1,298
Red River	179	179	0
Rockwall	0	0	0
Somervell	3,150	3,119	31
Tarrant	20,399	19,959	440
Taylor	13	13	1
Travis	15,777	15,411	367
Williamson	24,191	20,736	3,455
Wise	10,344	9,665	679
Total	328,279	314,133	14,146

Questions?



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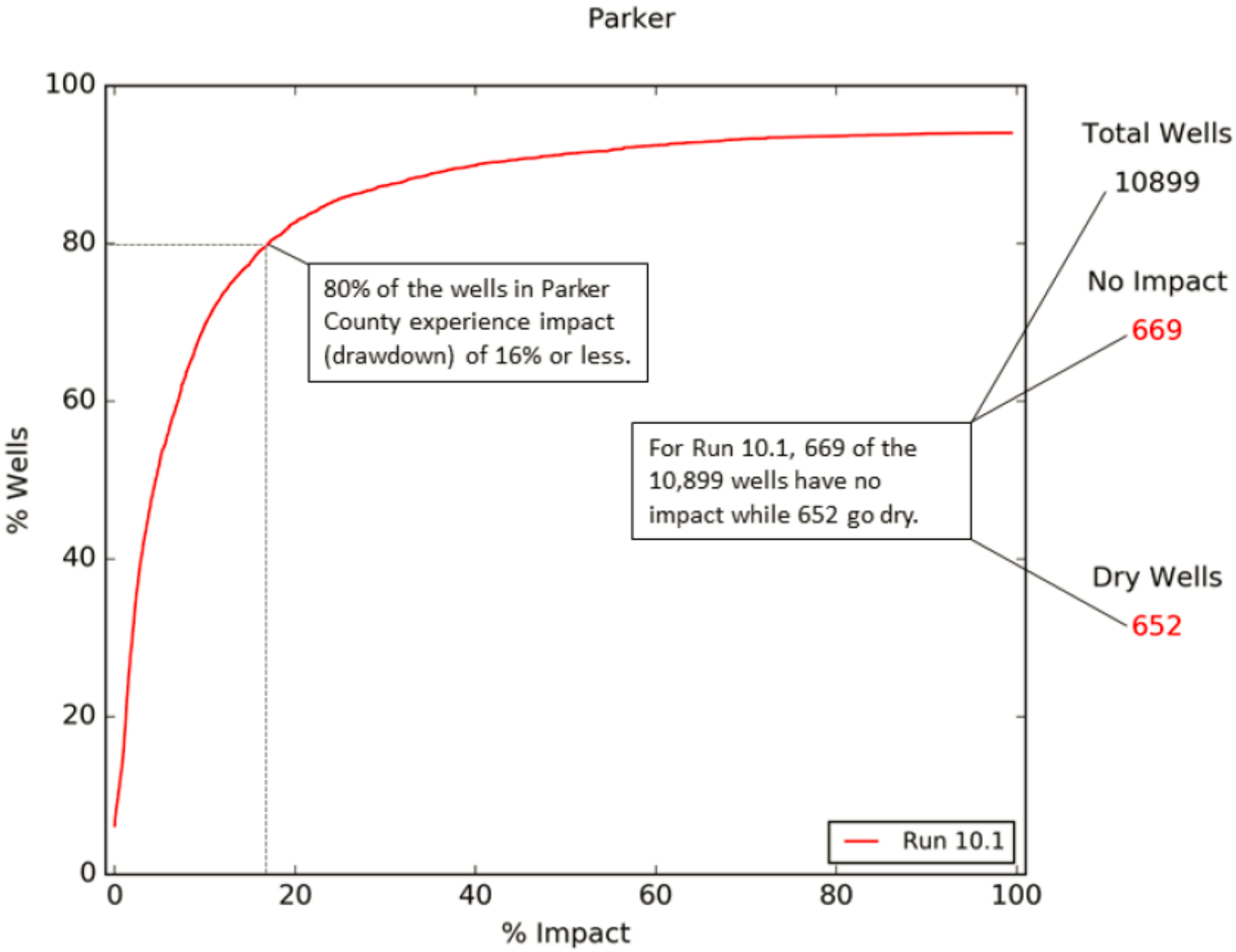
Parker
100
80
60
40
20
0
% Wells
0
20
40
60
80
100
% Impact
80% of the wells in Parker County experience impact (drawdown) of 16% or less.
For Run 10.1, 669 of the 10,899 wells have no impact while 652 go dry.
Total Wells
10899
No Impact
669
Dry Wells
652
Run 10.1