

IN THE DISTRICT COURT OF OKLAHOMA COUNTY
STATE OF OKLAHOMA

FILED IN DISTRICT COURT
OKLAHOMA COUNTY

SEP -9 2015

TIM RHODES
COURT CLERK

OKLAHOMA FARM BUREAU LEGAL
FOUNDATION, et al.

Petitioners,

v.

OKLAHOMA WATER RESOURCES BOARD,

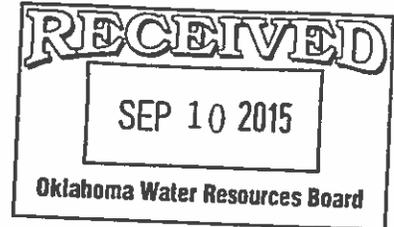
Case No. CV-2013-2414

Respondent,

v.

TISHOMINGO NATIONAL FISH HATCHERY,
et al.,

Other Parties of Record.



PETITIONERS' ORAL ARGUMENT SUBMISSIONS

Petitioners Oklahoma Farm Bureau Legal Foundation, Pontotoc County Farm Bureau, Oklahoma Independent Petroleum Association, Environmental Federation of Oklahoma, Oklahoma Cattlemen's Association, Oklahoma Aggregates Association, Arbuckle-Simpson Aquifer Protection Federation of Oklahoma, Inc. and TXI make the following submissions in support of oral arguments to be held on September 23, 2015.

I. SUMMARY OF ORAL ARGUMENTS

Petitioners summarize their oral arguments as follows:

1. The OWRB was not authorized to make up its own definition of "reduce natural flow". The term has a plain and ordinary meaning as well as established legal meanings, none of which have anything to do with fish habitat. Yet the OWRB decided to define "natural flow" as fish habitat knowing this would restrict groundwater use by the maximum amount possible. The

OWRB ignored the entire purpose of S.B. 288, which is to ensure use of groundwater use for in-basin drinking water, not restrict such use.

2. The OWRB's final MAY determination is not based upon the scientific criteria upon which the OWRB claimed it relied to justify same, and the Final MAY Order expressly says this. At all times in the process the OWRB claimed that the MAY determination was tied back to the fish habitat study, and that, by limiting groundwater withdrawal to an amount that would not reduce the Baseline Low Flow referenced in the fish habitat study by more than 25%, the MAY would ensure the adequate protection of fish habitat. In fact, the MAY is not based upon the Baseline Low Flow nor does it correlate to the fish habitat study. Therefore, the OWRB cannot say whether the final MAY does what it claims it does, *i.e.* provide adequate protection to fish habitat consistent with the fish habitat study.

3. The Hearing Examiner struck Petitioners' evidentiary response to the secret USGS memorandum, thereby violating the Oklahoma Supreme Court's writ of mandamus. By doing so, but by allowing the secret USGS memorandum and CPASA's evidentiary response thereto into the record, once again the Hearing Examiner evidenced the appearance of partiality and bias in favor of the USGS's and OWRB's position which the Oklahoma Supreme Court was trying to correct. When asked by the Board to confirm that the Hearing Examiner had in fact received CPASA's evidentiary response to the USGS memorandum but struck Petitioners' evidentiary response, the OWRB staff misinformed the Board, claiming that Petitioners were not telling the Board the truth about what actually occurred, when in fact the Hearing Examiner did exactly what Petitioners told the Board that she did, *i.e.* received CPASA's entire evidentiary response to the USGS memorandum but struck Petitioners' evidentiary response.

4. The OWRB's decision to equate the "reduce natural flow" language of S.B. 288 to reductions in fish habitat constituted rulemaking in that it represents a policy decision of general applicability and future effect. However, the OWRB failed to follow the rulemaking requirements of 75 O.S. §250, *et. seq.*, including the requirement to obtain approval from the Legislature and Governor, thereby rendering the rule invalid.

5. The OWRB improperly established the MAY for the entire aquifer, *i.e.* all three lobes of the aquifer, based upon a limited study and computer model of the eastern lobe only.

6. The MAY Order effects an impermissible taking of private property for the express purpose of allowing the State to use such groundwater for its desired public purpose of providing fish habitat. The final MAY condemns 11,000,000 AF of privately owned groundwater from any use whatsoever. This constitutes a categorical taking.

II. PETITIONERS' POWERPOINT SLIDES

Petitioners' Exhibits/PowerPoint slides to be used at oral argument are attached hereto as Exhibit "A". A flash drive containing same is also being delivered to the Court per the Court's Scheduling Order. In addition, on rebuttal, Petitioners may use select pages from the various exhibits in the record.

Respectfully Submitted,



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CERTIFICATE OF SERVICE

I hereby certify that on this 9th day of September, 2015, a true and correct copy of the above and foregoing was mailed, by depositing it in the U.S. Mail, postage prepaid to:

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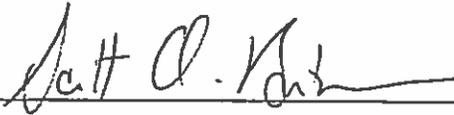
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Oral Argument Presentation of Petitioners

Oklahoma Farm Bureau Legal Foundation
 Pontotoc County Farm Bureau
 Oklahoma Independent Petroleum Association
 Environmental Federation of Oklahoma
 Oklahoma Cattlemen's Association
 Oklahoma Aggregates Association
 Arbuckle-Simpson Aquifer Protection Federation of OK
 TXI

Other Events Leading Up to S.B. 288

- A. "In search of future water supplies, the Central Oklahoma Water Resource Authority, consisting of communities in Canadian County, Oklahoma, proposed in 2002 to purchase water rights for the Arbuckle-Simpson aquifer, drill wells, and build an 88-mile pipeline from the Arbuckle-Simpson aquifer to Canadian County in central Oklahoma."
- B. "In early 2002, the Central Oklahoma Water Authority proposed to pump up to 80,000 acre-feet of water from the aquifer to communities in Canadian County."

Source:
 A. Tab 18, Bates No. 238 (USGS/OWRB Computer Modeling Report)
 B. Tab 36, Bates No. 947 (Instream Flow Assessment)

4

Overview of Petitioners' Arguments

1. The OWRB was not authorized to make up its own definition of "reduce natural flow" – it failed to follow the rules of statutory construction, ignoring the plain and ordinary meaning and prior interpretations of the Oklahoma Supreme Court.
2. The MAY determination is not supported by the scientific criteria upon which the OWRB relied to justify same – and the Final MAY Order expressly says this – no alternative criteria was offered to support the MAY determination.
3. The Hearing Examiner violated the Oklahoma Supreme Court's writ of mandamus by excluding Petitioners' evidence in response to the secret USGS memorandum, while including CPASA's new evidence in response thereto, this again evidencing her prejudice and bias against Petitioners' position.
4. In adopting its definition of S.B. 288's "reduce natural flow" which equates to protecting fish habitat, the OWRB impermissibly conducted rulemaking without following the APA rulemaking requirements.
5. The OWRB improperly based the MAY for the entire aquifer upon a study which was limited to the eastern lobe of the aquifer.
6. The MAY constitutes an unconstitutional taking of private property by taking over 11,000,000 AF of privately owned groundwater for the State's desired public use to protect fish habitat.

S.B. 288 Adopted in 2003

"The Oklahoma Senate, in response to these concerns, passed Senate Bill 288 (2003), which imposed a moratorium on any temporary groundwater permit for municipal or public water-supply use outside any county that overlies a 'sensitive sole source groundwater basin...' Senate Bill 288 (2003) states that the moratorium will remain in effect until the Water Resources Board completes a hydrological study and approves a maximum annual yield...of a sensitive sole source groundwater basin that will ensure that any permit for the removal of water from the groundwater basin will not reduce the natural flow of water from springs or stream emanating from the basin."

Source:
 Tab 18, Bates Nos. 241-242 (USGS/OWRB Computer Modeling Report)
 82 O.S. §§ 1020.5A and 1020.9B

5

1989 – EPA Designates The Eastern Part Of The Arbuckle-Simpson Aquifer As A "Sole Source Aquifer" Under The Safe Drinking Water Act

- Determines that the ASA is the only drinking water source in the area, therefore, it must be protected against contamination to ensure its use.
- No federally funded project in the area can move forward without first determining that it will not contaminate the sole source aquifer.

Source:
 Tab 14, Bates Nos. 114-117 (EPA Sole Source Aquifer Designation)

3

Maximum Annual Yield (MAY) – What is It?

MAY = "the total amount of water that can be withdrawn from a specific groundwater basin in any year."

Source:
 Tab 18, Bates Nos. 241, 317 (USGS/OWRB Computer Modeling Report)

6

Equal Proportionate Share (EPS) – What is it?

EPS = that portion of the MAY that is allocable to each acre of land that overlies the aquifer, *i.e.* the MAY divided by the number of acres that overlie the aquifer.



Source:
Tab 19, Bates No. 342

7

Groundwater Is Owned By The Surface Owner

- A. "The owner of the land owns water...under its surface..."
- B. "In Oklahoma, groundwater is considered to be private property that belongs to the overlying surface owner."

Source:
A. 60 O.S. § 60(A)
B. Tab 18, Bates No. 238 (USGS/OWRB Computer Modeling Report)

10

Maximum Annual Yield

- A. 784,038 AF = default MAY prior to a final MAY determination (392,019 acres overlying aquifer x 2 AF/acre = 784,038 AF)
- B. 732,288 AF = MAY under normal MAY calculations (see Petitioners' Brief-in-Chief, p. 2, fn 1)
- C. 78,404 AF = MAY under the OWRB's interpretation of S.B. 288

D. 90% Reduction

Source:
A. 62 O.S. § 1020.11(B)(2); Tab 170, Bates Nos. 2604-2605, §21
B. Petitioners' Brief-in-Chief, p. 2, fn 1; Tab 170, Bates Nos. 2604-2605, §21, 22 and 25
C. Tab 170, Bates No. 2617, §4
D. Tab 61, Bates No. 1483 (acknowledges 78,404 MAY equates to 1/10th of current permitted amount)

8

Stream Water Belongs To The State

- A. "Water running in a definite stream...may be used by the owner of the land riparian to the stream...but he may not prevent the natural flow of the stream...as such water then becomes public water and is subject to appropriation for the benefit and welfare of the people of the state, as provided by law."
- B. "The stream's *natural flow* is considered public water and subject to appropriation."

Source:
A. 60 O.S. § 60(A); 62 O.S. §§ 105.1, et seq., Oklahoma's Stream Water Law regarding obtaining appropriation permits from the state
B. *Franco-American Charolais, Ltd. v. DWRB*, 1990 OK 44, 853 P.2d 568, 573 (Readopted, Reissued and Rehearing Denied 04/13/1993; Rehearing Denied 06/14/1993 [emphasis added])

11

Equal Proportionate Share

- A. 2 AF = 24" = Default EPS prior to a final MAY determination
- B. 1.87 AF = 22.44" = EPS under normal MAY calculations
- C. .2 AF = 2.4" = EPS under the OWRB's interpretation of S.B. 288

90% Reduction

Source:
A. 62 O.S. § 1020.11(B)(2); Tab 170, Bates Nos. 2604-2605, §21
B. Tab 170, Bates Nos. 2604-2605, §21, 22 and 25
C. Tab 170, Bates No. 2617, §5

9

S.B. 288 Magic Language

A MAY that "will not reduce the *natural flow*" of ASA springs and streams

Source:
62 O.S. §§ 1020.9A and 1020.9B

12

The Adopted MAY

78,404 AF

Source:
Tab 170, Bates No. 2617 (the final MAY Order)

13

The OWRB Technical Advisory Group Considered Different Ways to Define "Natural Flow"

Arbuckle Simpson Study Surface Water Technical Advisory Group Recommendations

Derek Smithee
Division Chief
Water Quality Programs Division



Source:
Tab 41, Bates No. 1092

18

OWRB Claimed It Didn't Know What "Natural Flow" Meant, So It Decided To Make Up Its Own Definition

Q (by Walker): Now, I understand that you guys got together and you said well, we don't know what "natural flow" means as it is used in SB 288, so let's look at different ways we could try to define natural flow. Correct?

A (by Smithee – OWRB Water Quality Division Chief): Correct.

Source:
Tab 101, Vol. 10, 00:10:02 – 00:10:25 (MAY Hearing Testimony by OWRB's Smithee)

14

The OWRB Technical Advisory Group Considered Different Potential Ways to Define "Natural Flow"

Workgroup Initial Discussion

Surface water work group discussion:

- Recreation
- Water Supply
- Fishing
- Ecological Integrity
- Water Quality
- Spring Flow
- Stream Flow

Work group study recommendations:
 IHA- Nature Conservancy – evaluate historical flows and variability
 IFIM- USGS OSU Coop - assess impacts to spring fauna

Source:
Tab 41, Bates No. 1096

17

The OWRB Claimed "Reduce Natural Flow" Was Undefined and Unclear

"The mandate imposed by Senate Bill 288 is open to interpretation because the Act neither defines 'natural flow' nor states how the reduction of natural flow of water from springs and streams is to be determined."

Source:
Tab 18, Bates No. 317 (USGS/OWRB Computer Modeling Report)

15

Ultimately, the OWRB Technical Advisory Group Selected Fish Habitat as the Definition of Natural Flow

Objectives

1. Field measure quality and quantity of fish habitat
2. Model impacts of different flow scenarios on fish habitat



Source:
Tab 41, Bates No. 1101

16

Natural Flow Has A Plain and Ordinary Meaning

- A. Q (by Walker): And, what do you understand natural flow to mean?
A (by Smithee – OWRB Water Quality Division Chief): ...I would define it as those flows that occur by mother nature without the impact of human induced influences, whether it's irrigation, withdrawals or overland flows, you know, transfers of water from a pipeline...
- B. Q (by Walker): And that really leads me to my question regarding natural flow. You're a hydrologist, tell us what natural flow means.
A (by Jennifer Back – National Park Service Hydrologist): So, in my opinion, what natural flow means, is it's the unaltered flow in a stream, in a stream channel.
Q: So unaltered by man's activities?
A: Correct.

Source:
A. Tab 101, Vol. 10, 00:01:35 – 00:04:13
B. Tab 101, Vol. 3, 01:10:43 – 01:11:22

28

The OWRB Did Not Even Consider The Established Definition of "Natural Flow"

- Q (by Walker): Are you familiar with the *Franco American* decision?
A (by Cunningham – OWRB Planning and Management Division Chief): Yes.
Q: And the Oklahoma Supreme Court has defined in that decision what "natural flow" means as used in this statute (60 O.S. § 60), correct?
A: Yes.
Q: Hasn't the Oklahoma Supreme Court told the Water Resources Board that "natural flow" means that you can make reasonable use of the stream water and that's not considered preventing the natural flow of the water.
A: I prefer not to comment on that.
- ***
- Q: You're not aware of any discussions where it was asked, hey, do we know what the term "natural flow" means from the other laws?
A: Not to my knowledge.

Source:
Tab 101, Vol. 1, 00:50:26 – 00:52:12

29

"Natural Flow" Has Been Used and Understood In Oklahoma Statutes Since Statehood

"Water running in a definite stream...may be used by the owner of the land riparian to the stream...but he may not prevent the natural flow of the stream, or of the spring from which it commences..."

Source:
60 O.S. § 60(A)

28

S.B. 288 Is Premised Upon The EPA's "Sole Source Aquifer" Designation, Which Is Designed To Facilitate The Use Of The Groundwater For Drinking Water – Not Inhibit Its Availability For Such Purpose

- Q (by Walker): And as you mentioned a minute ago, the eastern part of the aquifer has been designated by the EPA as a sole source aquifer, correct?
A (by Cunningham): Correct.
Q: And what is your understanding of a sole source aquifer?
A: The primary drinking water source for an area.
Q: And doesn't that mean that also there are no alternative sources of drinking water?
A: I would think so, yes.
Q: Alright, and the idea of a sole source designation by the EPA is that this is all the water we have got to use, and so let's protect it against contamination so that it can be used, correct?
A: Yes.
Q: A sole source aquifer designation is not intended to restrict or prevent the use of the water, it is designed to protect it so that it can be used, right?
A: I would say so.

Source:
Tab 101, Vol. 1, 00:48:33 – 00:47:28

29

The Oklahoma Supreme Court Has Defined "Reduce Natural Flow"

"The 60 O.S. § 60 language "may not prevent natural flow" nevertheless allows a riparian to take water from the stream "as long as the use is *reasonable* and does not tend to injure or damage other riparian owners.... [T]he accepted rule allows a riparian owner the right to make any use of water beneficial to himself as long as he does not substantially and materially injure those riparian owners downstream who have a corresponding right."

Source:
Franco-American Chronicle v. OWRB, 1990 OK 44, 855 P.2d 568, 575 (Readopted, Reissued and Rehearing denied 04/13/1993; Rehearing denied 06/14/1993)

The Oklahoma Supreme Court Has Held That The Sole Source Aquifer Designation Is To Preserve The Groundwater For Use As Public Drinking Water Since It Is The Only Available Source

"It is undisputed that the source of safe drinking water for in-basin use may be regarded by the transfer of large quantities of water for out-of-basin use. It is also undisputed that public use is one of the largest uses of the Arbuckle-Simpson groundwater.... [W]e conclude that the purpose of the challenged legislation is to conserve the sole source of safe drinking water for use in the area overlying the sensitive sole source groundwater until a hydrological study is completed and a maximum annual yield is determined that ensures the withdrawal of water will not interfere with the in-basin drinking water supply.... The in-basin area relies solely on the aquifer for drinking water. The bases for the EPA designation are that the drinking water in the designated sole source aquifer area is provided by the Arbuckle-Simpson aquifer and that there are no existing alternative drinking water sources nor cost-effective sources capable of supplying the drinking water demands for the designated area.... We conclude that the classification of groundwater basins designated by the EPA as "Sole Source Aquifers" is rationally related to the conservation of safe drinking water for use in the overlying area."

Source:
Jacobs Ranch, L.L.C. v. Smith, 2006 OK 34, 148 P.3d 842, 853-854 (emphasis added)

30

In Determining the Empirical Number, The Technical Advisory Group Unquestionably Relied Upon the IFA "Baseline Low Flow" And The Effect Reductions In That Particular Flow Had Upon Fish Habitat

Q (by Mr. Walker): And so when you are looking at this study (the IFA), you guys (the Technical Advisory Group) were really looking at the Baseline Low Flow, correct?
 A (by Mr. Smithee): Correct. (Tab 101, Vol. 10, 28:45-28:53.)
 Q: Well its critical in the sense that we're looking at in the Instream Flow Assessment is what predicted reductions this Baseline Low Flow condition will cause, correct?
 A: Correct. (id. at 30:12-30:30)
 Q: And we started out with the Baseline and I want to focus on the Low Flow because that's really kind of the critical criteria you guys used, right?
 A: Okay. (id. at 30:52-31:02)
 Q: Then you start going - well what if we start reducing the Baseline Low Flow by different increments and let's see what affect that's going to have on habitat for these fish, correct?
 A: Correct. (id. at 31:24-31:37)
 Q: We've got this Baseline Low Flow condition in the summer when the stream is at its very lowest, how much is that going to affect the fish habitat, right?
 A: Correct. (id. at 31:57-32:11)
 Source:
 See citations above

37

The OWRB Witness Testified That "Base Flow" Is Not The Same As "Baseline Low Flow"

Q (by Mr. Walker): But this report that analyzes fish habitat (the IFA) doesn't tell you what reductions in Base Flow has on fish habitat, right?
 A (by Mr. Smithee): That's correct. That's correct. (Tab 101, Vol. 10, 00:33:14 - 00:33:28)
 Q: Can you show us the study or report where you converted these Baseline Low Flows into these Base Flow numbers that you actually used for your recommendation.
 A: I cannot. (id. at 00:33:47 - 00:34:01)
 Q: So you are now looking at (on the Master Slide) reductions in Base Flow and comparing it to something (the IFA fish habitat Baseline Low Flow) that's not Base Flow, right?
 A: That's correct. (id. at 00:37:42 - 00:37:51)
 Q: Can you give us the conversion factor so we can multiply the conversion from Base Flow - Baseline (Low Flow) to Base Flow?
 A: I cannot. (id. at 01:05:28 - 01:05:37) ***
 Q (by Mr. Walker): Your Committee decided a 25% reduction in Base Flow was the maximum amount your committee was willing to live with, right?
 A (by Mr. Smithee): That's correct. (id. at 01:04:10 - 01:04:23)
 Q: ...as a result of your Committee's meeting, it was communicated to the (computer) modelers - tell us what a 25% reduction in Base Flow means in terms of groundwater withdrawal?
 A: That's right. (id. at 00:44:33 - 00:44:46)
 Source:
 See citations above

40

Baseline Low Flow Is The Lowest Low Flow

Q (by Walker): We've got this Baseline Low Flow condition in the summer when the stream is at its very lowest, how much is that going to affect the fish habitat, right?
 A: Correct. (Tab 101, Vol. 10, 00:31:57 - 00:32:11)
 Q: I thought it said in the (IFA) study it said that Baseline Low Flow occurs in a specific time of the year?
 A: Generally it does, that is correct?
 Q: And so, when was that?
 A: It's almost always during the summer months? (Tab 101, Vol. 10, 00:28:28 - 00:28:44)
 Source:
 See citations above

38

Not All Base Flows Are The Same, i.e. Baseflow ≠ Baseline Low Flow

"Base flows were highest in the winter (January through June) and lowest in the summer (August through October)."
 (Again, Baseline Low Flow is the lowest low flow during the hottest summer months.)
 Source:
 Tab 43, Bates No. 1210 (Indicators of Hydrologic Alteration Analysis)

41

The Technical Advisory Group Determined That A 25% Reduction in Baseflow Was Acceptable – The Empirical Number

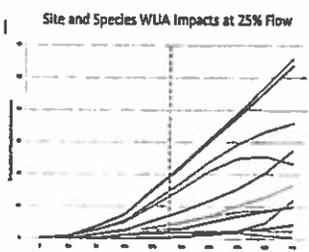
"In Simple Terms

A maximum of 25% reduction in *baseflow* should result in limited impact to spring and stream habitat"

Source:
 Tab 41, Bates No. 1113

39

The "Master Slide" Mixes Apples and Oranges



"(by Smithee) This became kind of the master slide that drove the decision making in that those lines represent...how much important habitat is lost as you lose a certain amount of flow. So reduction in Base Flow. (Tab 101, Vol. 10, 00:23:21 - 00:23:58)
 Source:
 Tab 41, Bates No. 1111

42

The Technical Advisory Group Then Asks The Computer Modelers to Model A 25% Reduction In The 75% Exceedance Flow

"It was generally agreed that no substantial impact would occur if the 75% exceedance of total flow were reduced between 10% and 25% and we have forwarded this to Scott Christenson to input into his groundwater model."

Source:
Tab 91 (Derek Smithee 11/06/2008 E-mail Regarding Technical Advisory Group Update) 43

The Computer Modeler Did Not Calibrate Or Optimize The Model To The 75% Exceedance Flow – Instead The Model Was Calibrated/Optimized To Yet Another Different Flow – The 5-Year Average Flow

- A. "The eastern Arbuckle-Simpson MODFLOW model was calibrated to transient conditions, in this case for the 5-year period...corresponding to water years 2004 through 2008."
- B. Q (by Walker): And Mr. Smithee said that was the critical criteria, the 75% exceedance.
A (by Christenson): My target was 5-year average stream flow.
Q: Well that's not what he (Smithee) said his committee came up with and told you to model.
A: That's not how...well...that's not how I was calibrating the model because I was assuming we were basing it on a 5-year stream flow...it was optimized for the 5-Year Average Flow."

Source:
A. Tab 18, Bates No. 306 (USGS/OWRB Computer Modeling Report)
B. Tab 101, Vol. 13, 00:28:41 – 00:24:31 46

There Is A "Big Difference" Between the IFA Baseline Low Flow And The 75% Exceedance Flow

Q (by Mr. Walker): So when we see Baseline Low (Flow) on this chart (in the IFA), that is the Base Flow that we're going to be talking about?

A (by Mr. Smithee): No. That is the Baseline Low Flow on this chart, but that's not Base Flow.

Q: Okay. What is Base Flow then?

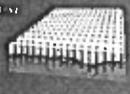
A: Base Flow is that -- that flow that occurs at that location the majority of the time. At least 75% of the time (i.e. the 75% Exceedance Flow according to the OWRB and CPASA). The Low Flow (Baseline Low Flow) is the lowest measured flow at any time. *There's a big difference.*

Source:
Tab 101, Vol. 10, 00:28:54 – 00:29:38 (Smithee Testimony at the MAY Hearing) 44

The Final MAY Was Based Upon The 5-Year Average Base Flow – Not The 75% Exceedance Flow

Senate Bill 288 MAY Limitation

- Pumping simulations for various TDS cases at 125 dpm (192 of a day) at 2400m locations show a reduction in avg. stream flow of 18.5% and Base flow of 21.8%
- Assumed pumping of all TDS over 100% of land area
- Assumes no mining/drainage (based on 2011)
- Current Day Equipment:
 - Avg. permeable reported as 4.170 dpm (15.4 to 24.0)
 - 100% permeable over 250000
 - 100% public water supply



Source:
Tab 61, Bates No. 1482 (02/13/2012 OWRB Staff Presentation to Board Recommending the 78,404 AF Tentative MAY) 47

The MAY Order Holds That Baseline Low Flow And The 75% Exceedance Flow Are Materially Different And There Is No Evidence As To How The 75% Exceedance Flow Relates To The Fish Habitat Study (IFA)

16. **Presenters' final argument relates to the Working Group's instruction to the USGS.** The Working Group was to produce a baseline streamflow flow reduction to the USGS for modeling purposes. It assigns the Working Group direction that a 25% reduction in streamflow was to be modeled in the largest canal, average at the lowest model for the most severe streamflow reduction. To set up the USGS to consider whether the impact of pumping would reduce the 75% exceedance flow by 15-25% (Per. Est. 17, 540,000 Tpd, 100 in 02.23.08 - 1A.01) Indeed, the USGS modeled the 5-year average streamflow, the 5-year average base flow, the 75-percent exceedance, and depletion of the 10-watersheds.

17. The record offers no evidence for the claim. There is no evidence how a 25% reduction in the 75 percent exceedance to base flow is a 25% reduction. There is no record of the USGS's modeling. The USGS modeled the 25 percent exceedance or all base flows and the model results -- not in there any, as you seem to use -- that the 75 percent is a 25% reduction.

Source:
Tab 170, Bates No. 2508 (Final MAY Order) 45

The Final MAY Was Based Upon The 5-Year Average Base Flow – Not The 75% Exceedance Flow

Table 1. Results of Pumping Simulations for Various TDS Cases at 125 dpm (192 of a Day) at 2400m Locations

Case	Streamflow (AF)	Base Flow (AF)	75% Exceedance (AF)	10% Exceedance (AF)	5% Exceedance (AF)	1% Exceedance (AF)
Baseline	1000	200	400	100	50	20
Case 1	825	155	330	85	42	16
Case 2	650	110	260	65	32	12
Case 3	475	65	190	47	23	9

Table 2. Results of Pumping Simulations for Various TDS Cases at 125 dpm (192 of a Day) at 2400m Locations

Case	Streamflow (AF)	Base Flow (AF)	75% Exceedance (AF)	10% Exceedance (AF)	5% Exceedance (AF)	1% Exceedance (AF)
Baseline	1000	200	400	100	50	20
Case 1	825	155	330	85	42	16
Case 2	650	110	260	65	32	12
Case 3	475	65	190	47	23	9

Source:
Tab 18, Bates No. 523 (USGS/OWRB Computer Modeling Report) 48

The OWRB Admits The Final MAY Was Based Upon The 5-Year Average Base Flow – Not The 75% Exceedance Flow

Excerpt from Table 24 of the Modeling Study

Simulation	Total Depletion (5-Year Avg. Base Flow)
EPS = 0.125	21.8 %
EPS = 0.200	67.3 %

“Based in part upon the results reported in the Modeling study, the OWRB determined that the proper Equal Proportionate Share (EPS) was 0.20 acre-feet per acre, which is within the two simulation results displayed above.”

Source:
OWRB's Response Brief, p.32

The Computer Modeler Admitted That, If The 75% Exceedance Flow Had Been Used, It Would Have Made A Substantial Difference

Q (By Walker): And Mr. Smithee said that was the critical criteria, the 75% exceedance.
 A (By Christensen): My target was the 5 year average stream flow.
 Q: Well that's not what he said they initially came up with and told you to model.
 A: That's now flow... well...that's not how I was calibrating the model because I was assuming we were basing it on a 5 year stream flow.
 Q: And that's...
 A: Average flow
 Q: We're trying, you know, its always seemed to me our goal here was we're trying to do this scientifically, have the instream flow guys come up with a target which was the 75% exceedance and say that's good science and transmit that on to the modeler and get the modeler to predict that number that they came up with. Doesn't that make sense to you?
 A: It makes sense.
 Q: But that's not what was done here, was it?
 A: It was optimized for the 5 year average flow.
 Q: Instead of what Mr. Smithee's committee told you to do.
 A: I was on the committee and that's not my memory of how...the direction of the model was to take.
 Q: So you disagree with what Mr. Smithee said?
 A: No, No.
 Q: Would you agree that if the 75% exceedance was the proper measure here, that a 5 times difference in the stream flow simply by treating this as an unconfined zone and using a good storage coefficient for that. Do you agree that that's a significant and substantial difference when we're trying to come up with very important policy decision?
 A: As you stipulated, yes.

Source:
Tab 101, Vol. 18, 00:23:41 – 00:25:30

The Computer Modeling Report Explains That There Is A Difference Between The 5-Year Average Base Flow and the 75% Exceedance Flow

Because, even though both are calculated from the same MODFLOW model simulations, the 5-Year Average Base Flow includes high flows whereas the 75% Exceedance does not.

Source:
Tab 18, Bates Nos. 318-320 (USGS/OWRB Computer Modeling Report)

A 25% Reduction In The 5-Year Average Base Flow Equates To A .125 EPS

Source:
Tab 18, Bates No. 319 (USGS/OWRB Computer Modeling Report)

The Computer Modeling Results For The 5-Year Average Base Flow And The 75% Exceedance Flow Are Significantly Different – They Are Not The Same Or Substantially Equivalent

Source:
Tab 18, Bates No. 323 (USGS/OWRB Computer Modeling Report)

The OWRB Then Applies Some Unexplained Voodoo To Conclude That A 25% Reduction In The 5-Year Average Base Flow Equals .20 EPS (Instead Of What The Model Showed)

Senate Bill 288 MAY Limitation

- Reduction Stream: 25% of the 5-year average base flow (5-year average base flow is 0.400 acre-feet per acre)
- Equals to one-tenth of the current 2.000 acre-feet per acre LPS

Source:
Tab 61, Bates No. 1483 (02/13/2012 OWRB Staff Presentation to Board Regarding Proposed Tentative MAY)

The OWRB Was Unable To Explain The Science Underlying This 60% Change From The .125 AF Modeled Result To The .20 AF

Q (by Walker): And you say here on your slide that those (model) simulations generated base flow reductions of 24% to 81%, correct?
 A (by Cunningham): Correct.
 Q: So that means essentially .125 acre feet, an eighth of an acre foot, was determined to correspond to a 24% reduction in base flow, right?
 A: Correct.
 Q: But that is not the number that the Board has proposed as the Maximum Annual Yield, correct?
 A: Correct. (Tab 101, Vol. 1, 01:01:53 - 01:01:44)
 Q: But my only point is the model gave you an answer of .125 acre feet and you rejected that number, correct?
 A: No... I wouldn't say that.
 Q: Okay. And so the number that's being proposed today is .2 acre feet, correct?
 A: Correct. (Tab 101, Vol. 1, 01:04:10 - 01:04:26)
 Q: And again my question is can you point me to a document that explains to all of us so we can understand the science and thinking behind it, how exactly the Board came up with this .2 acre feet?
 A: It's a tentative maximum annual yield determination.
 Q: So you can't point me to something that says, well, we thought that the margins of error in the model were this, so we felt it was fair to adjust the model results by X amount (i.e. from .125 EPS to .2 EPS)?
 A: No.
 Q: And it says considering model variability, can you tell us what the model variability was that you discussed to adjust the model results to this .2 acre feet?
 A: I think that's just a general statement and I'll have to have our scientist explain or - scientist explain all of the different variables that go into a model... I'm not qualified to say. (Tab 101, Vol. 1, 01:05:57 - 01:07:58)

Source:
See citations above

According To The Computer Modeler, The Final MAY Equates To A 70% Reduction in "Baseflow"

Q (by Walker): Okay, What does your chart here show that a 78,000 acre-feet maximum annual yield equates to in terms of reduction in base flows...
 A (by Christenson): Looks like it comes up around 70% for the two base flow numbers...
 Q: Has the Board set a maximum annual yield that is going to reduce base flow by 70% according to your model?
 A: The model...the calculation would tend to indicate that, yes.

Source:
Tab 101, Vol. 7, 00:27:58 - 00:28:56

In Fact, The Final MAY Equates To A 42% Reduction In The 5-Year Average Base Flow

Source:
Tab 18, Bates No. 320 (USGS/OWRB Computer Modeling Report)

The Final MAY Does Not Correlate Back To The Fish Habitat Study Upon Which It Was Allegedly Based

Timeline

- June 2008: Fish Habitat Study (FHA) Baseline Low Flow used to determine 25% maximum reduction (per Smithee)
- November 2008: Technical Advisory Group tells Computer Modeler to model 25% reduction in 75% Exceedance Flow
- February 2012: Cunningham incorrectly tells the Board Technical Advisory Group said no more than 25% reduction in 5-Year Average Base Flow was acceptable
- October 23, 2013: Final MAY Order says MAY was based on 75% Exceedance Flow (Q38)
- August 2009: Smithee says 25% reduction in Baseflow acceptable (Ada public meeting presentation)

Additional notes: per Smithee "big difference" testimony and Final MAY Order Q36-37; model results show that 5-Year Average Flow and 75% Exceedance are materially different; computer modeler testified to same; no correlation between final MAY and Fish Habitat Study.

In Fact, The Final MAY Equates To A 58% Reduction In The 75% Exceedance Stream Flow

Source:
Tab 18, Bates No. 321 (USGS/OWRB Computer Modeling Report)

An Agency Decision Must Be Set Aside If...

1. It is made in violation of constitutional provisions.
2. It is made upon unlawful procedure.
3. It is clearly erroneous in light of the evidence.
4. It is arbitrary or capricious.

Source:
75 C.S. §322

MAY Determination Process

MAY Determination Process

- OWRB conducts hydrologic survey and investigation
- OWRB make tentative determination of MAY
- Call and hold hearing in basins - 30 days notice - evidence presented
- Proposed final determination submitted to OWRB
- OWRB to hear arguments on proposed findings, conclusions, and order
- Aggrieved persons can appeal to District Court

Source:
Tab 61, Bates No. 1472 (02/13/2012 OWRB Staff Presentation to Board Regarding Proposed Tentative MAY)
OZ O.S. §§ 1020.4, 1020.5 and 1020.6

The Technical Advisory Group's Presentation by Derek Smithee At The August 18, 2009 Public Meeting in Ada To Present The Study Findings

Surface water working group

<ul style="list-style-type: none"> Barry Bolton - oowc Scott Christenson - USGS Kim Winton - usgs Ken Collins - usfw Jon Craig - ooeq Bill Fisher - osu Dick Scaif Ellen Tejan - TNC Bill Clark - Land Owner 	<ul style="list-style-type: none"> Jack Keeley - owrB (Board Member) Sue Braumiller - nps Hayley Dikeman - usfws Darryl Carter - CPASA Paul Mauck - oowc Collin Balcombe - son Noel Osborn - owrB Phil Moershel - owrB Derek Smithee - owrB
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Source:
Tab 41, Bates No. 1093

OWRB Public Meeting On August 18, 2009 Explains The Criteria to Measure Reduction in Natural Flow

“On August 18, 2009, OWRB held an informal public meeting in Ada to present the findings of the Study...”

Source:
Tab 31, Bates No. 765 (OWRB Report to U.S. Bureau of Reclamation)

The Technical Advisory Group's Presentation by Derek Smithee At The August 18, 2009 Public Meeting in Ada To Present The Study Findings

Charge to working group...

Determine what is:

- not likely to degrade or interfere with springs or streams.
- will not reduce the natural flow of water from springs or streams emanating from said basin or subbasin.

Source:
Tab 41, Bates No. 1094

The Technical Advisory Group's Presentation by Derek Smithee At The August 18, 2009 Public Meeting in Ada To Present The Study Findings

Arbuckle Simpson Study Surface Water Technical Advisory Group Recommendations

Derek Smithee
Division Chief
Water Quality Programs Division



Source:
Tab 41, Bates No. 1092

The Technical Advisory Group's Presentation by Derek Smithee At The August 18, 2009 Public Meeting in Ada To Present The Study Findings

Workgroup Initial Discussion

Surface water work group discussion:

- Recreation
- Water Quality
- Water Supply
- Spring Flow
- Fishing
- Stream Flow
- Ecological Integrity

Work group study recommendations:
IHA - Nature Conservancy - evaluate historical flows and variability
IFIM - USGS OSU Coop - assess impacts to spring fauna

Source:
Tab 41, Bates No. 1096

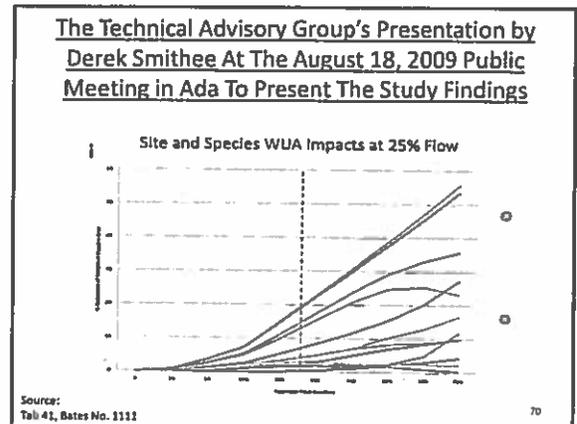
The Technical Advisory Group's Presentation by Derek Smithee At The August 18, 2009 Public Meeting in Ada To Present The Study Findings

INSTREAM FLOW ASSESSMENT OF STREAMS DRAINING THE ARBUCKLE-SIMPSON AQUIFER

William L. Fisher,
Titus S. Sellhelmer
U. S. Geological Survey
Oklahoma Cooperative Fish and Wildlife Research Unit

Available for review at:
http://www.swrp.usgs.gov/office/oklahoma/arbuckle_streams/instream_flow/instream_flow.asp

Source:
Tab 41, Bates No. 1100 67



The Technical Advisory Group's Presentation by Derek Smithee At The August 18, 2009 Public Meeting in Ada To Present The Study Findings

Objectives

1. Field measure quality and quantity of fish habitat
2. Model impacts of different flow scenarios on fish habitat

Source:
Tab 41, Bates No. 1101 68

The Technical Advisory Group's Presentation by Derek Smithee At The August 18, 2009 Public Meeting in Ada To Present The Study Findings

In Simple Terms

A maximum of 25% reduction in baseflow should result in limited impact to spring and stream habitat

Source:
Tab 41, Bates No. 1113 71

The Technical Advisory Group's Presentation by Derek Smithee At The August 18, 2009 Public Meeting in Ada To Present The Study Findings

Spring Fish Species Selection

Source:
Tab 41, Bates No. 1103 69

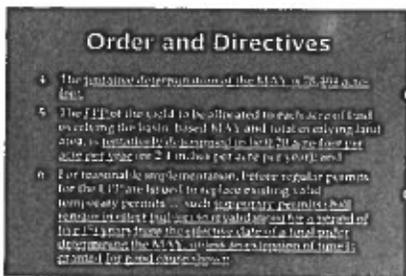
The Computer Modeler's (Scott Christenson) Presentation At The August 18, 2009 Public Meeting in Ada To Present The Study Findings

Hydrogeology and Simulation of Groundwater Flow in the Eastern Arbuckle-Simpson Aquifer

- Presentation intended for general public
- Some more technical material
- Preliminary results, subject to revision

Source:
Tab 27, Bates No. 629 (Scott Christenson's 08/18/2009 PowerPoint Presentation in Ada) 72

**02/13/2012 OWRB Staff (Julie Cunningham)
Presentation to the Board Recommending the
78,404 AF Tentative MAY**



Source:
Tab 8, Bates No. 1488 (02/13/2012 OWRB Staff Presentation to Board
Recommending the 78,404 AF Tentative MAY)

79

03/13/2012 Tentative MAY Order

c. By using the words "natural flow" in Senate Bill 286, the Board tentatively concludes that the Oklahoma Legislature intended to protect the water flow that constitutes an essential component of the natural habitat of area streams, and while the opening of springs may support other species of plants and animals, protecting the flow of springs is an integral component of the primary intent to protect area stream flows. Accordingly, an analysis of the effect of potential pumping of groundwater on the habitat of the area's flowing streams is a reasonable approach and consideration for a determination of the maximum annual yield of a sensitive sole source groundwater basin.

Source:
Tab 8, Bates No. 79 (03/13/2012 Tentative MAY Order)

82

03/13/2012 Tentative MAY Order

ORDER OF THE OKLAHOMA WATER RESOURCES BOARD
FOR PERMIT

TO THE APPLICANT(S) FOR PERMIT:
[Name of Applicant(s)]
[Address]

WHEREAS the Oklahoma Water Resources Board has received an application for a permit to pump groundwater from the [Basin Name] aquifer;

AND WHEREAS the Oklahoma Water Resources Board has determined that the proposed pumping is in the public interest and that the applicant(s) has/have met the requirements of the Oklahoma Water Resources Board's rules and regulations;

IT IS HEREBY ORDERED that the Oklahoma Water Resources Board grants the applicant(s) a permit to pump groundwater from the [Basin Name] aquifer in accordance with the following terms and conditions:

1. The applicant(s) shall comply with all applicable rules and regulations of the Oklahoma Water Resources Board, including but not limited to the rules and regulations regarding the maximum annual yield of the aquifer, the allocation of the maximum annual yield to the applicant(s), and the requirements for the applicant(s) to submit a report to the Oklahoma Water Resources Board regarding the results of the monitoring wells installed on the property.

2. The applicant(s) shall install and maintain monitoring wells in accordance with the requirements of the Oklahoma Water Resources Board's rules and regulations, and shall submit a report to the Oklahoma Water Resources Board regarding the results of the monitoring wells.

3. The applicant(s) shall not pump groundwater from the [Basin Name] aquifer in excess of the maximum annual yield allocated to the applicant(s) by the Oklahoma Water Resources Board.

Source:
Tab 8, Bates No. 66 (03/13/2012 Tentative MAY Order)

80

03/13/2012 Tentative MAY Order

f. Accordingly, the Board tentatively concludes that assessing in-stream flows and determining ranges of impacts to selected species that are indicators of the condition of the stream habitat is a reasonable exercise to calculate the extent of flow necessary to maintain natural conditions of area streams.

Source:
Tab 8, Bates No. 74 (03/13/2012 Tentative MAY Order)

83

03/13/2012 Tentative MAY Order

12. **INSTREAM FLOW ASSESSMENTS** – To consider the potential effects of groundwater withdrawals (by pumping) on the natural flow of springs and streams in the aquifer areas, in-stream flow assessments were conducted.

a. Two species of minnow and two species of darters found in the Blue River and Pennington Creek were selected as representative species to assess the effects of changes to the flow of water on habitat. The Surface Water Technical Advisory Group recommended that if the five-year base flow calculated for area streams is not reduced by more than 25%, such a decrease should result in an acceptable maintenance of the representative fish species in the Blue River and Pennington Creek.

Source:
Tab 8, Bates No. 69 (03/13/2012 Tentative MAY Order)

81

03/13/2012 Tentative MAY Order

13. **MAXIMUM ANNUAL YIELD AND EQUAL PROPORTIONATE PART TO BE ALLOCATED BY REGULAR PERMIT** –

a. Considering the hydrologic surveys and investigations, information in Tentative Findings Nos. 8 through 12 above and the declared policy of the Oklahoma Groundwater Law for reasonable regulation for the allocation for reasonable use of the groundwater, the maximum annual yield of the Arbuckle-Simpson aquifer is tentatively determined to be 78,404 acre-feet per year (equivalent to over 25.5 billion gallons of groundwater per year), and the equal proportionate part of the maximum annual yield to be allocated by regular permit to each acre of land overlying the aquifer areas tentatively determined to be 0.20 acre-foot per year (equivalent to 2.4 inches per acre per year).

Source:
Tab 8, Bates No. 70 (03/13/2012 Tentative MAY Order)

84

The Final MAY Order First Claims It Is Based Upon the Fish Habitat Study (IFA)

28. Natural Flow, Habitat, and Modified Flow. Senate Bill 288 imposes a moratorium on issuing temporary permits to withdraw ground water from a sensitive sole source groundwater basin until such time as the OWRB conducts and completes a hydrologic survey and approves a maximum annual yield that will ensure that any permit for any removal of water from a sensitive sole source groundwater basin or subbasin pursuant to a permit "will not reduce the natural flow of water from basin area springs or streams." See § 1020.9A(B)(7)(emphasis added).

29. For reasons discussed under Conclusions of Law 9 - 14, the Board constructs the phrase "natural flow" to refer to the seasonal response of the natural habitat of a river stream. Accordingly, to develop the MAY the Board undertook an analysis of the effect of ground water withdrawals on the area's flowing stream's ability to provide habitat.

Source:
Tab 170, Bates No. 2606 (OWRB Final MAY Order)

85

The Final MAY Order Then Claims The MAY Is Based Upon The 75% Exceedance – But It Is Not – It Is Based Upon The 5 Year Average Base Flow

38. Even without relying on the 25% baseline flow reduction, however, the Board concludes that the modeling approach—which examined the impact of pumping at different depths on different types of flow—is reasonable given the language of Senate Bill 288. As described in more detail in the Conclusions of Law below, nothing in the statute requires the linkage of "natural flow" to fish population or habitat. Natural flow could just as reasonably be interpreted as relating to the 75-percent exceedance: this approach accounts for the relationship of pumping to streamflow as envisioned by the statute, and it achieves more but not less much reduction in streamflow, which harmonizes the "will not reduce" language with the overall Groundwater Law's policy of permitting groundwater use.

Source:
Tab 170, Bates No. 2608 (OWRB Final MAY Order)

88

The Final MAY Order First Claims It Is Based Upon the Fish Habitat Study (IFA)

30. To operationalize its interpretation of the statutory mandate, the Board convened a Carbon Water Treatment Advisory Group. The Group identified appropriate species—two species of minnows and two species of darters found in the Blue River and Paragonia Creek—to monitor what level of withdrawals would constitute an acceptable reduction of the species habitat.

31. The Blue River and Paragonia Creek carry water discharged from the Eastern Aquifer area and each stream has a galvanized water-flow weevil from USGS gauges; these weevils were used to the baseline flow measurements. Mill Creek also carries water discharged from the Eastern Aquifer area and some water discharged from the Central Aquifer area. Oil Creek carries water discharged from the Central Aquifer Area, and Honey Creek (in which Turner Falls is located) carries water discharged from the Western Aquifer area. Thus, the Board determined that the species of minnows and darters and effects of flow reduction on such species in Mill Creek, Oil Creek and Honey Creek would be representative of those expected for the Blue River and Paragonia Creek, and accordingly, a reduction in base flow of those streams of not more than 25% should also be acceptable.

32. The Board finds that the selection of indicator fish species was reasonable and is supported by the record.

Source:
Tab 170, Bates No. 2607 (OWRB Final MAY Order)

86

The Order's Statement That The MAY Is Based Upon The 75% Exceedance – When It Is Not – Reveals That It Is Arbitrary and Capricious

- A. The Court must review the reasons given by the agency to determine "whether the decision of the agency is so irrational as to render the decision arbitrary and capricious".
- B. An agency decision is arbitrary and capricious under 75 O.S. § 322 if it is "unreasonable...in disregard of facts and circumstances" or "unreasonable without consideration or in disregard of facts or without determining principle".

Source:
A. *Umholtz v. City of Tulsa*, 1877 OK 98, 565 P.2d 13, 23
B. *State v. ex rel. Bd. of Trustees of Teachers Retirement System of Oklahoma v. Garrett*, 1993 OK CIV APP 29, 848 P.2d 1182, 1183

89

The Final MAY Order Then Admits It Is Not Based Upon The Fish Habitat Baseline Low Flow As Claimed

32. Finally, Petitioners point out that although the Working Group determined that a 25% reduction in baseline low flow would be the maximum allowable reduction, it asked the USGS to consider a different flow regime in its modeling efforts, without offering any explanation for the change.

36. Petitioners' final argument relates to the Working Group's instructions to the USGS. The Working Group was to conduct a maximum allowable flow reduction to the USGS for modeling purposes. Although the Working Group determined that a 25% reduction in baseline low flow (which is the lowest annual average at that location) would be the maximum allowable reduction, it asked the USGS to consider whether the impact of pumping would reduce the 75% exceedance of total flow by 10-25%. (Proc. Book 12, Exhibit Tab (14) at 9028.00 - 13421.) Indeed, the USGS modeled the 5-year average streamflow, the 5-year average base flow, the 75-percent exceedance, and depletion of the 75-percent exceedance.

37. The record offers no rationale for this change. There is no indication how a reduction from the 75-percent exceedance to baseline low flow would result, how it would impact fish habitat, or how using the baseline low flow instead of the 75-percent exceedance would have impacted the model results—or if there are any circumstances in which the difference would be immaterial.

Source:
Tab 170, Bates No. 2607 and 2608 (OWRB Final MAY Order)

87

The Board's MAY Determination Is Not Based Upon The Scientific Criteria Upon Which It Claimed To Have Relied – Petitioners Successfully Proved This At the MAY Hearing - And The Order Explicitly Finds This To Be The Case

- And Yet The OWRB Still Found The MAY To Be The Exact Same Number – 78,404 AF
- No Articulated Principle To Support 78,404 AF – Except The Finding That It Could Have Been Based On The 75% Exceedance Flow, Which It Was Not

90

Even Though the Final MAY Order Finds That OWRB Staff's Proposed Criteria Does Not Support The MAY Determination, The Board Went Along With Staff's Recommendation Anyway

"I do believe in the Staff of the Water Resources Board, I believe in our Hearing Examiner...I believe in the people, the scientists that have put forth the information, I believe in our staff, I believe in our legal counsel, and I move approval of the maximum annual yield as recommended by the staff."

Source:
Tab 168, Bates No. 2594, 01:51:22 – 01:52:05 (10/23/2013 Board Meeting to Approve the Final MAY Order – Motion to Approve by Board Member Linda Lambert)

The OWRB And CPASA Now Claim That The Hearing Examiner And Board Were Confused And Did Not Understand The Underlying Scientific Information

- "Because of Petitioners' efforts in confusion, the Hearing Examiner failed to understand that 75% exceedance flow, 25th percentile flow, baseline low flow and base flow are functionally equivalent."
- But the Board's Order finds that flows are materially different and no one is appealing that ruling, nor could the OWRB since it is its own order.
- CPASA argued that the flows were "similar enough" below but lost on that argument (Tab 131, Bates No. 1999).

Source:
CPASA Response Brief, p. 25

Because There Is No Correlation Between The Flow Regime Upon Which The MAY Was Based (5-Year Average Base Flow) And The Baseline Low Flow In The Fish Habitat Study (IFA) Upon Which The 25% Reduction Was Based, No One Can Say How Many Fish Or How Much Fish Habitat Is or It Not Protected

- Only The Baseline Low Flow Correlates To The Reduction In Fish Habitat Measured By The Fish Habitat Study (IFA)

57

The Hearing Examiner Violated The Supreme Court's Writ Of Mandamus When She Struck Petitioners' Evidence In Response To The Secret USGS Report

58

On Appeal The OWRB And CPASA Now Argue

1. All of the flow regimes are the same or "functionally equivalent"
Response:
 - No evidence to support same
 - Testimony refutes same
 - The MAY Order refutes same
 - CPASA argued this below and lost (Tab 131, Bates No. 1999)
2. The MAY Determination is nevertheless based upon the OWRB's "expertise and judgment"
Response:
 - This is no criteria at all = *ipse dixit*
 - This is without a determining principle as required by *State v. Garrett, supra*
 - Can't after the fact change the criteria that was relied upon and tried at the MAY Hearing (*ASAPF v. OWRB, supra* at 1271, "the (MAY) hearing gives the OWRB with an opportunity to defend its decision from challenges")

The Secret USGS Report

- A. Over 4 months after the MAY Hearing, the OWRB's General Counsel forwarded to the Hearing Examiner a memorandum prepared by the USGS's Scott Christenson and Noel Osborn responding to Petitioners' Post-Hearing Brief.
- B. Scott Christenson and Noel Osborn were testifying witnesses at the MAY Hearing, and they both testified as rebuttal witnesses against Petitioners' position.
- C. The USGS memorandum was addressed to Jerry Barnett, the OWRB Staff Attorney who put on the OWRB's case at the MAY Hearing.
- D. New "testimony" was contained in the memorandum.

Source:
A. Tab 141, Bates Nos. 2124-2127
B. Tab 101, Vol. 13, 00:00:42 – 00:50:50
C. Tab 141, Bates No. 2125
D. *Archie Simpson Aquifer Protection Foundation, Inc. v. OWRB ("ASAPF")*, 2013 OK 29, 341 P.3d 1266, 1272 (Tab 154)

Petitioners' Open Records Act Request

- A. On August 30, 2012, Petitioners' counsel submitted an Open Records Act request seeking all documents submitted to the OWRB after the date of the MAY Hearing.
- B. The secret USGS memorandum was discovered solely as a result of this request. Prior to its discovery, the Hearing Examiner had not advised any of the parties that she had received the secret memorandum or given the parties an opportunity to respond thereto as required by 75 O.S. § 310.

Source:

- A. Tab 141, Bates Nos. 2120-2121
B. ASAFF v. OWRB, *supra* at 1270-1271

87

The Oklahoma Supreme Court's Writ of Mandamus

Arbuckle Simpson Aquifer Protection Federation of Oklahoma, Inc. v. OWRB,
2013 OK 29, 343 P.3d 1266

100

The Motion To Recuse/Disqualify The Hearing Examiner

- A. The Motion was based solely upon improper *ex parte* communications in violation of 75 O.S. § 313.
- B. The secret USGS memorandum was identified as the main *ex parte* communication.

Source:

- A. Tab 141, Bates Nos. 2106-2108
B. Tab 141, Bates Nos. 2118-2119, 2124-2127

98

The Oklahoma Supreme Court's Holdings

#1 - The secret USGS memorandum constitutes an impermissible *ex parte* communication prohibited by 70 O.S. § 310.

Source:

ASAFF v. OWRB, *supra* at 1270 (Tab 154)

101

The OWRB Denies The Motion To Recuse

Source:

Tab 146, Bates Nos. 2230-2233

89

The Oklahoma Supreme Court's Holdings

#2 - The secret USGS memorandum constituted new testimony:

"It is readily apparent that the OWRB's hearing officer *received communications and information relating to factual matters* from employees of the USGS, who had appeared as witnesses for the OWRB in the proceedings.... To then have the OWRB...acting as a conduit for favorable witnesses to present *further unchallenged testimony* to the hearing examiner without notice to the other parties allows on to question the hearing examiner's impartiality."

Source:

ASAFF v. OWRB, *supra* at 1272 (Tab 154) (emphasis added)

103

The Oklahoma Supreme Court's Holdings

#3 - The secret USGS memorandum created the appearance of partiality and bias:

"These communications give rise to questions about the hearing officer's neutrality in the underlying proceeding."

"Her unsolicited *ex parte* communications with other agencies favoring one interpretation of the evidence lend the proceedings the appearance of not being as fair and impartial as they should be..."

"A writ of mandamus...will remedy the appearance that the hearing examiner is giving undue weight to the desires of the USGS and OWRB."

Source:
ASAFF v. OWRB, supra at 1271-1272 (Tab 154)

103

On Remand, The Hearing Examiner Made The USGS Memorandum Part Of The Record And Gave All Parties 15 Days To "File Any Responses That They May Have To The Material Discussed In The Memorandum"

Source:
Tab 156, Bates Nos. 2321-2324

108

The Oklahoma Supreme Court's Holdings

#4 - The appearance of partiality or bias normally requires recusal or disqualification:

"When circumstances and conditions surrounding litigation are of such a nature that they might cast doubt and question as to the impartiality of any judgment the trial judge may pronounce, said judge should certify disqualification."

"Even though a judge personally believes themselves to be unprejudiced, unbiased and impartial, they should nevertheless certify their disqualification when there are circumstances of such a nature to cause doubt as to their partiality, bias or prejudice."

Source:
ASAFF v. OWRB, supra at 1271 (Tab 154)

104

CPASA Files Its Response And Includes New Evidence Not Submitted At The MAY Hearing Pertaining To The Peer Review Issue Raised In The Secret USGS Memorandum

USGS
1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]
6. [illegible]
7. [illegible]
8. [illegible]
9. [illegible]
10. [illegible]
11. [illegible]
12. [illegible]
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Source:
Tab 160, Bates Nos. 2479-2484

107

The Oklahoma Supreme Court's Holdings

#5 - To remedy the appearance of partiality, a writ of mandamus was issued compelling the Hearing Examiner to (a) provide notice of the *ex parte* communications to all parties, (b) disclose the contents of the *ex parte* communications to all parties, (c) make the *ex parte* communications a part of the record, and (d) receive and make part of the record all responses thereto by any party.

Source:
ASAFF v. OWRB, supra at 1272 (Tab 154) (emphasis added)

108

Petitioners File Their Response And Include Evidence Responding To The Peer Review And Other Factual Issues Raised In The Secret USGS Memorandum

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Source:
Tab 157, Bates Nos. 2339-2371

108

CPASA Moves To Strike Petitioners' Evidence Claiming, Without The Ability To Cross-Examine, It Was Denied Due Process

Source:
Tab 161, Bates Nos. 2489-2502

100

Why The Stricken Evidence Was So Important

- Dr. Poeter vs. Scott Christenson regarding modeling errors – a credibility issue
- The USGS memorandum responds to Poeter's claims of Christenson modeling errors with new testimony:
"The USGS Arbuckle-Simpson groundwater model and report (SIR 2011-5029) were subjected to rigorous report and technical review processes before being approved."

Source:
Tab 156, Bates No. 2323

102

The Hearing Examiner Strikes Petitioners' Responsive Evidence

"Protestants attempt to introduce new evidence, in the form of an Affidavit by Dr. Poeter (who was a witness at the Hearing)...Protestants make no showing why this Affidavit should be admitted in the record...Nor is the fact of peer review sufficient to justify additional evidence, given that peer review was raised at the Hearing and could have been explored there. In sum, Protestants have failed to make any showing to support re-opening the record to add yet more evidence."

Source:
Tab 164, Bates No. 2548 (Hearing Examiner's 10/03/2013 Order on Evidentiary Matters After Remand)

The Hearing Examiner Believes Christenson Over Poeter Because Of The Rigorous Peer Review Alleged In The USGS Memorandum

"The USGS Study underwent *strict peer review* that should have identified any modeling problems that were present."

Source:
Tab 148, Bates No. 2245, 941 (Hearing Examiner's 12/27/2012 Proposed Order Approving The Final May Order)

113

The OWRB Executive Director Incorrectly Advises The Board That The Hearing Examiner Struck Some Of Both CPASA's and Petitioners' Evidence In Response To The USGS Memorandum

"[I]t is absolutely untrue that she [the Hearing Examiner] allowed the responses from CPASA and the supporting parties and rejected all the responses of the Protestants, that is not true...You heard Mr. Walker talk about the fact that CPASA even had some additional testimony, additional evidence that they were trying to get into the record, she did not allow portions of their responses (i.e. CPASA's response to the USGS Memorandum) to be included into the record either."

Source:
Tab 168, 01:41:27 – 01:42:24 (Audio of 10/23/2013 Board Meeting To Approve The Final MAY)

111

Christenson Modeling Errors: Christenson Models The Unconfined Portion Of The Aquifer As A Confined Zone

Even though it is unconfined, Christenson admits he modeled the upper layer of the aquifer as confined.

Source:
Tab 101, Vol 13, 00:11:06 – 00:15:19

114

Mr. Christenson's "Expertise" In Modeling An Unconfined Zone As A Confined Zone

Q (by Walker): You say that you're talking about using a confined zone for Layer 1 which is really an unconfined zone, correct?

A (by Christenson): I simulated it as confined when there in fact is a...unconfined layer at the top of the aquifer.

Q: And what I really want to know is are you an expert on that. Are you an expert on what to do when you're going to run as a confined layer something that is really unconfined. Are you an expert on that?

A: I have some experience with it.

Q: Okay, and is that from reading MODFLOW Instructions?

A: Yes.

Q: Okay, what do the MODFLOW Instructions say when you're going to treat an unconfined layer as a confined layer?

A: I don't recall seeing that in the instructions.

Q: Okay, so you can't tell us whether what you did was right or wrong according to the MODFLOW Instructions, right?

A: Not according to MODFLOW itself.

Source:
Tab 101, Vol. 13, 00:14:14 - 00:15:12

118

Dr. Reely Similarly Testified That It Is Necessary To Divide By The Zone Thickness When An Unconfined Zone Is Modeled As A Confined Zone And That All Modelers Know This

Source:
Tab 101, Vol. 12, 00:54:22 - 00:55:08

118

Dr. Poeter Explains Why Improperly Modeling The Unconfined Layer As Confined Cause The Model To Overstate The Impact Of Groundwater Withdrawal On Stream Low Flow

- "Using confined MODFLOW layers is acceptable as long as storage in the top layer represents drainage of water from the pores (by dividing the specific yield of the unconfined zone by the thickness of the unconfined zone), but this was not done in the USGS model, so the streams were too sensitive to pumping."
- This caused the value for the unconfined zone entered into the model to be in error by a factor of 50 times.
- Because of this and other errors, Dr. Poeter concluded that, "the model is not ready for use in making policy decisions".

Source:
Tab 68; Tab 157, Bates Nos. 2344-2345

118

Back To The Secret USGS Memorandum And CPASA's Response

A. "The USGS Arbuckle-Simpson groundwater flow model and report (SIR 2011-5029) were subjected to rigorous report and technical review processes before being approved."

B. "The USGS published a set of written standards by which all USGS scientific and technical information, including the groundwater flow modeling done on the Arbuckle-Simpson Aquifer, must undergo. See Exh. 1 (U.S. Geological Survey Manual - 502.3 - Fundamental Science Practices: Peer Review)."

Source:
A. Tab 156, Bates No. 2323
B. Tab 160, Bates Nos. 2464, 2479

118

Dr. Poeter's Credentials

- Named 2006 Darcy Lecturer by the National Groundwater Association - Lectured on Groundwater Modeling
- Professor at Colorado School of Mines for 24 years (1987-2011), and Assistant Professor at Washington State University for 3 years (1984-1987) - Taught undergraduate and graduate level hydrology and groundwater modeling courses, including MODFLOW modeling
- Director of International Groundwater Modeling Center from 1997-2011
- Ph.D. in Engineering Science (1980)
- Has developed numerous modeling softwares (UCODE, MMA, SimAdjust, JUPITER)
- She taught hydrology and/or modeling to two of the seven hydrologists who testified at the MAY Hearing (Dr. Todd Murray, Oklahoma Geological Survey; Jennifer Back, National Park Service)

Source:
Tab 87; Tab 101, Vol. 8, 00:09:05 - 00:10:30

117

Petitioners' Response To The USGS Memorandum - Dr. Poeter's Affidavit

- Points out that the USGS Modeling Report (SIR 2011-5029) does not describe what, if any, peer review conducted.
- When a peer review is done, the reviewers do not normally open the model files, which is the only way to discover the error - this is how Dr. Poeter discovered it here.
- MODFLOW Instructions, including those for the MODFLOW Layer - Property Flow Package that Christenson ran, are clear that the specific yield must be divided by zone thickness when an unconfined zone is modeled as a confined zone.
- The USGS had developed an option to make it easier to properly model an unconfined zone as confined, but Christenson did not utilize this option.
- In teaching MODFLOW modeling courses for 26 years, she has always taught that specific yield must be divided by zone thickness when modeling an unconfined zone as confined; it is not optional.

Source:
Tab 157, Bates Nos. 2339-2341

120

Petitioners' Response To The USGS Memorandum – Dr. Poeter's Affidavit

- She confirmed with Dr. Stanley Leake, Dr. Leonard Konikow and Dr. Mary Hill, all modelers with the USGS, as well as Dr. Mary Anderson and Dr. William Woessner (co-authors of the seminal text on groundwater modeling – Applied Groundwater Modeling), that it is necessary to divide the specific yield by layer thickness to properly model an unconfined zone as confined.
- Dr. Poeter responded to the claims in the secret USGS memorandum that "multiple regional methods" were used to determine storage coefficients.
- Dr. Poeter responded to the claims in the secret USGS memorandum that the model was properly calibrated.
- Dr. Poeter responded to the claims in the secret USGS memorandum that Dr. Blaine Reely testified that the model calibration was almost a perfect match, "his point being that it was too good to be true, indicating a "forced" calibration rather than a good match.

Source:
Tab 157, Bates Nos. 2339-2348

121

OWRB's adoption of a new definition for "natural flow of springs and streams" is a rule adopted without statutorily required rulemaking.

124

Bottom Line: The Hearing Examiner Struck Petitioners' Response To The USGS Memorandum And Thereby Violated The Oklahoma Supreme Court's Writ Of Mandamus

122

82 O. S. 1020.9A

- Establishes a moratorium on municipal or public water supply use of groundwater from the Arbuckle Simpson outside of any county that overlays in whole or in part the Arbuckle Simpson.
- Rationale is that Arbuckle Simpson is a "Sole Source Aquifer" as designated by the USEPA pursuant to the Safe Drinking Water Act.

125

Petitioners' Motion To Strike CPASA's References To Testimony Outside The Record In Its Post-Hearing Brief Had Nothing To Do With The Secret USGS Memorandum

A. In its Post-Hearing Brief, CPASA quoted extensively from the testimony of Mr. Bert Smith in an entirely unrelated proceeding – i.e. from Meridian Aggregates Groundwater Permit Proceeding held December 15, 2005. Mr. Smith did not even testify at the MAY proceeding.

B. Petitioners moved to strike this testimony in June 2012, before the secret USGS memorandum was discovered. The Hearing Examiner ignored this motion for 13 months until Petitioners renewed the motion in July 2013.

Source:
A. Tab 131, Bates Nos. 2000-2002
B. Tab 140; Tab 158

123

EPA Sole Source Aquifer

- Federal SDWA sole source aquifer program: Section 1424(e) of the Safe Drinking Water Act of 1974—Only applies to underground sources of drinking water
- If the EPA determines that an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, then...
- There can be no federal financial assistance for any project which the EPA determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health

126

Purpose of EPA Sole Source Aquifer Designation

- The sole source aquifer statute and program are to protect groundwater for use as drinking water.
- Its purpose is to prevent pollution of such water, not to restrict or limit its use for such purpose.

127

... and it did so without rulemaking

- Oklahoma law requires statutory interpretation to be done by formal rulemaking meeting all the requirements of the APA.
- 75 O. S. 250.3/17. "Rule" means any agency statement ... that implements, interprets or prescribes law or policy ...
- The term "rule" ... does not include "press releases or 'agency news releases', provided such releases are not for the purpose of interpreting, implementing or prescribing law or agency policy.
- Therefore, even a press release is a rule if it interprets law or prescribes agency policy.

130

The State Moratorium on Out-of-Basin Use Reflects the Same Purpose

- *Jacobs Ranch* found Title 82 O. S. 1020A and 1020B to be constitutional because:
 " ...the purpose of the challenged legislation is to conserve the sole source of safe drinking water for use in the area overlying the sensitive sole source groundwater until a hydrological study is completed and a maximum annual yield is determined that ensures the withdrawal of water will not interfere with the in-basin drinking water supply."
- Thus the legislative purpose is to make water available for public water supplies, not to prevent its use as drinking water

128

The OWRB's Fish Habitat Policy is not an Order of the Agency

- The term "rule" also does not include an "order" issued by an agency.
- Because its policy choice to protect fish habitat and minimize drinking water use ended up being imbedded in its final order, OWRB maintains that its policy is itself a final order.
- But an agency of the State cannot make a rulemaking into an order simply by calling it one.
- The OWRB fish habitat protection policy possesses all the attributes of an agency rule, not an order.

131

OWRB Staff Re-Defined "Natural Flow of Springs and Streams" to Suit Its Own Policy Choices

- Self-appointed "technical advisory group" led by OWRB staff
- Decided the definition should mean whatever protects certain fish habitat, without reference to any other uses
- Fish habitat would then be substituted for drinking water use as the standard to define 'natural flow'
- Why? Because it would be the most restrictive of the use of water from the Arbuckle Simpson

129

The OWRB's Fish Habitat Policy is not an Order of the Agency

- An order is a decision against named respondents
- A rule is of future effect and general applicability
- "This eliminates any inference that otherwise might be proposed that the broad terms of the definition of 'order' embrace retrospective rule making. Thus we avoid the argument that the act gives a left-handed blessing to retroactive rules." [Oklahoma's New Administrative Procedure Act, Maurice H. Merrill, 17 Okla. Law Review 1, 11.]

132

The OWRB's Fish Habitat Policy is not an Order of the Agency

- Respondents are entitled to formal notice of what the agency rules are *before* they enter into individual adjudicative proceedings implementing agency rules.
- Therefore, a State agency cannot attempt to adopt a rule without prior APA notice and rulemaking through an individual evidentiary proceeding process.
- If an agency could adopt a new policy every time it convenes an individual proceeding, the practical result would be an *ex post facto* law.

133

The OWRB Fish Habitat Definition is a Rule Under the APA

- It is a policy of future effect:
The agency's policy decision to define natural flow as fish habitat was made *prior* to the issuance of its final order and even *prior* to the conclusion of the maximum annual yield study itself.
The agency's policy decision to define natural flow as fish habitat was decisive in the conduct of the *subsequent* OWRB contracted study.
It was the policy choice that the Board used to justify its tentative and final maximum annual yield orders, issued *months and years after the fish habitat rule was adopted*.

138

The OWRB's Fish Habitat Policy is not an Order of the Agency

- The Legislature and Governor are entitled to formal notice and publication of the proposed rule so they can either approve or reject it under the specific procedures set out in the Oklahoma APA. 75 O. S. 307.1, 308
- There is no process for doing this in the course of an individual proceeding resulting in an agency order.
- The Legislature therefore never received the prescribed notice of the OWRB fish habitat definition of "natural flows", never could implement its lawfully specified review process.
- These are not optional requirements that an agency can choose to comply with or ignore under State law.

134

The OWRB Fish Habitat Definition is a Statement that Prescribes Agency Policy

- It is a policy choice of the OWRB:
The agency's decision to define natural flow as protecting fish habitat was made without reference to any standard of legislative interpretation.
It is based on the agency's express policy to choose the most restrictive means of limiting use of water for drinking water and other uses.
It does not comport with the *Jacobs Ranch* court's express rationale of protecting the use of groundwater as drinking water.
It is referenced nowhere in the State or federal statutes applicable to sole source aquifer protection.

137

The OWRB Fish Habitat Definition is a Rule Under the APA

- It is a policy of general applicability:
The term "natural flow" in the statute applies to all present or future "sensitive sole source aquifers" under *Jacobs Ranch*:
"The challenged legislation is framed in general language to apply to the whole class of major groundwater basins designated by the Administrator of the EPA to be sole source aquifers." *Jacobs Ranch*, par. 45.
Further, though a rule can be of general applicability while only applying to one person at any given time, *this one applies to potentially thousands of future applicants for water use rights, many of whom have not even yet applied for groundwater use permits in the Arbuckle Simpson.*

135

The Adoption of the OWRB Fish Habitat Definition is Void without APA Rulemaking

- "No agency rule is valid or effective against any person or party, or may be invoked by the agency for any purpose, until it has been promulgated as required in the Administrative Procedures Act." Title 75 O. S. 308.2

Having no basis for the protection of "natural flow" in a lawfully promulgated agency rule, nor in any statute or case law, the OWRB maximum annual yield order must be reversed.

136

The Board Ignored the Only Probative Evidence of the Differences Among the Three Aquifers

Its conclusion that the three aquifers are "a single groundwater basin" is clearly erroneous.

138

Board Findings are Unsupported by Competent Evidence

- But the USGS, the hearing examiner, and the Board did not explain any relevance of any of these claims
- Once again, they just imply "trust us"
- They admit the three aquifers are different one from the other
- Not spending money to get their conclusions right is no excuse for taking groundwater rights away

139

The Study Only Focused on the Eastern Aquifer to the Exclusion of the Others

- Why? (Order paragraphs 15-17)
 - The agency didn't have enough data for the western and central aquifers to run the model
 - The one aquifer it studied is the biggest
 - In 2011 the studied aquifer had the most withdrawals of groundwater
 - The studied aquifer had the most streams
 - Unspecified "evidences" of studying the whole aquifer system

140

The Board Admits the "Model Itself" Only was Run on the Eastern Aquifer

- But the Board claims that "the model itself" is what caused it to limit groundwater rights to only 10% of previously available water. Then why not gather enough data to apply the model to each of the three aquifers?
 - The USGS concluded that "tree ring analysis" indicated all three aquifers were in the same climate
 - It claims it took "synoptic" stream flow measurements and "a geochemistry study" without explaining how that matters or led to the conclusion that all three are the same
 - It said it "examined" wells, sinkholes, and made "extensive literature reviews" but did nothing to indicate what they found that they then used to make this conclusion
 - Essentially they looked at the *surface* above the other two aquifers and then applied the model of the Eastern one to all three

143

The Study Only Focused on the Eastern Aquifer to the Exclusion of the Others

- These claims do not go to describe why the three aquifers should be treated the same
- They are, if anything, indications on why the Board needed to direct funds in the study to actually conduct field tests so that the model could be applied to each of the three
- They include, essentially, statements of the *differences* in the three aquifers, not similarities
- They are basically saying, "The data on the other two aquifers wasn't readily available so we just punted."

141

The Only Competent Evidence on the Differences Among the Three Aquifers was Provided by the Oklahoma Geological Survey

- The order admits that Dr. Murray found physical differences in the three aquifers
- It admits that the two non-modeled aquifers have more "folding and faulting" than the single modeled aquifer
- It admits therefore that the other two aquifers are geologically different than the single one they modeled
- They gave no explanation as to why the geological differences don't matter to them; but Dr. Murray testified they do matter and could lead to different groundwater recharge rates in the other two

144

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- It admits that the two non-modeled aquifers have more "folding and faulting" than the single modeled aquifer
- It admits therefore that the other two aquifers are geologically different than the single one they modeled
- The order gives no explanation as to why the geological differences don't matter to OWRB; but Dr. Murray testified they *do* matter and could lead to different groundwater recharge rates in the two non-modeled aquifers

145

The Board's Order effects an unconstitutional taking because it prohibits any use of private groundwater and converts it to public stream water without compensation.

146

Board Findings are Unsupported by Competent Evidence

- The Board order admits that "an understanding of the *entire* aquifer" is necessary to understand the Eastern one
- The Board order admits that OWRB had treated different aquifer sub-basins differently with respect to development of MAY's in the past, but gave no explanation for not doing separate sub-basin studies in this case
- With respect to the Oklahoma Geological Survey conclusion that the three aquifers must be separately studied and modeled, the order simply says the USGS "also acknowledged these differences", again admitting the three aquifers are indeed different geologically
- The Board order admits that only the Eastern aquifer was modeled; claims that the model results are what led to the groundwater taking; and that the model was not run on the other two aquifers

146

"While scholars have offered various justifications for this regime, we have emphasized its role in barring Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole."

Lingle v. Chevron U.S.A. Inc., 544 U.S. 528, 537, 125 S. CL 2074, 2080 (2005) (quotation and citations omitted).

148

Board Findings are Unsupported by Competent Evidence

- With all these admissions by the Board in its order, it still took 90% of the groundwater use rights from the landowners over the central and western aquifers
- It refused to gather the data needed to run a groundwater recharge model on each of the three, even though it had specified different MAY's for sub-basins elsewhere in the past
- It took the groundwater away from its owners in the western and central aquifers without competent evidence to justify it

147

"[A] plaintiff seeking to challenge a government regulation as an uncompensated taking of private property may proceed ... by alleging [1.] a 'physical' taking, [2.] a *Lucas*-type 'total regulatory taking,' [or 3.] a *Penn Central* taking."

Lingle, 544 U.S. at 548, 125 S. CL at 2087.

150

Takings By Regulation:

1. **“Physical” Taking** ← Categorical
 • *Loretto v. Manhattan CATV Corp.*
 • *Horne v. Dep’t of Agric.*

2. **Total Regulatory Taking**
 • *Lucas v. S. Car. Coastal Council*
 • *Franco-Am. Charolaise v. Smith*

3. **Penn Central Taking** ← “Partial” taking are conditional.
 • *Penn Cent. Transp. Co. v. City of New York*

131

“A permanent physical invasion, however minimal the economic cost it entails, eviscerates the owner's right to exclude others from entering and using her property—perhaps the most fundamental of all property interests.”

Lingle, 544 U.S. at 539, 125 S. Ct. at 2082.

134

“[T]hese three inquiries (reflected in *Loretto*, *Lucas*, and *Penn Central*) share a common touchstone. Each aims to identify regulatory actions that are functionally equivalent to the classic taking in which government directly appropriates private property or ousts the owner from his domain.”

Lingle v. Chevron U.S.A., Inc., 544 U.S. at 539, 125 S. Ct. 2074, 2087 (2005).

132

“Physical” Takings eviscerate the owner’s fundamental right to control the property’s use by directing it to a specified public use.

Horne v. Dep’t of Agric.
 — U.S. —, 135 S. Ct. 2419 (2015)

133

“Physical” Takings eviscerate the owner’s fundamental right to control the property’s use by directing it to a specified public use.

Loretto v. Manhattan CATV Corp.
 458 U.S. 419, 102 S. Ct. 3164 (1982)

135

“Raisin growers subject to the reserve requirement thus lose the entire ‘bundle’ of property rights in the appropriated raisins — the rights to possess, use and dispose of’ them....”

Horne, 135 S. Ct. at 2428 (quoting *Loretto*, 458 U.S. at 435, 102 S.Ct. at 3164).

136

Total Regulatory Takings
eviscerate the owner's
fundamental right to control
the property's use by
prohibiting the owner from
making any use.

Lucas v. S. Car. Coastal Council
505 U.S. 1003, 112 S. Ct. 2886 (1992)

187

"The OWRB argues the 1963
amendments are a permissible
exercise of the police power just as a
zoning ordinance would be. That
contention is inapposite when, as
here, the use of stream water is *not*
just restricted but is taken for public
use."

Franco-Am. Charolaise, Ltd. v. Oklahoma Water Res. Bd., 1990 OK 44,
855 P.2d 568, 577 (emphasis in original).

188

"[I]n the extraordinary circumstance
when *no* productive or economically
beneficial use of land is permitted, it is
less realistic to indulge our usual
assumption that the legislature is simply
'adjusting the benefits and burdens of
economic life,' in a manner that secures
an 'average reciprocity of advantage' to
everyone concerned."

Lucas, 505 U.S. at 1017-18, 112 S. Ct. 2886 (quoting *Penn Central*, 438
U.S. at 124, 98 S.Ct. at 2659, and *Pennsylvania Coal Co. v. Mahon*, 260
U.S. at 415, 43 S.Ct. at 180)

134

A "State, by *ipse dixit*,
may not transform
private property into
public property without
compensation...."

Lucas, 505 U.S. at 1031, 112 S. Ct. 2886 (quoting *Webb's Fabulous*
Pharmacies, Inc. v. Beckwith, 449 U.S. 155, 164, 101 S.Ct. 446, 452, 68
L.Ed.2d 358 (1980)).

161

Total Regulatory Takings
eviscerate the owner's
fundamental right to control
the property's use by
prohibiting the owner from
making any use.

Franco-Am. Charolaise v. OWRB
1990 OK 44, 855 P.2d 568

139

"[R]egulations that leave the owner of
land without economically beneficial or
productive options for its use—typically,
as here, by requiring land to be left
substantially in its natural state—carry
with them a heightened risk that private
property is being pressed into some form
of public service under the guise of
mitigating serious public harm."

Lucas, 505 U.S. at 1018, 112 S. Ct. at 2886.

182

Total Regulatory Takings are presumed to be "Physical" Takings where preventing the owner from making any use is thought to be sufficient to direct the property to the desired public use.

183

The Board's Order effects an unconstitutional taking because it prohibits any use of private groundwater and converts it to public stream water without compensation.

186

Regulations that eviscerate the owner's right to control property's use — whether by explicitly directing the property to a public use or by prohibiting the owner from using it — categorically require compensation for the affected property.

"regardless of whether the interest that is taken constitutes an entire parcel or merely a part thereof." *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency*, 535 U.S. 302, 322, 122 S. Ct. 1465, 1478 (2002) (citations omitted).

187

Ownership of Water

60 O.S. § 60

"The owner of the land owns water standing thereon, or flowing over or under its surface but not forming a definite stream....Water running in a definite stream, formed by nature over or under the surface, may be used by the owner of the land riparian to the stream for domestic uses..., but he may not prevent the natural flow of the stream, or of the natural spring from which it commences ... as such water then becomes public water..."

188

A regulation that prohibits certain uses while leaving other uses available may nonetheless effect a Partial Regulatory Taking of an individual owners' property if it substantially impairs the property's usefulness to its owner.

Penn Cent. Transp. Co. v. City of New York
438 U.S. 104, 98 S. Ct. 2646 (1978)

189

Ownership of Water

60 O.S. § 60

"[G]roundwater in Oklahoma is indisputably a property right"

OWRB Response Br. at 49

190

**Arbuckle-Simpson MAY
Groundwater in Storage**

11,000,000 AF

Without Accounting For Recharge

TAB 170, Bates 2605 (Finding of Fact ¶ 22).

**Arbuckle-Simpson MAY
Groundwater in Storage**

11,000,000 AF

Cannot be used for any purpose.

TAB 170, Bates 2605 (Finding of Fact ¶ 22).

**Arbuckle-Simpson MAY
Groundwater in Storage**

11,000,000 AF
÷ 392,019 Acres

28.1 AF/Acre

Without Accounting For Recharge

TAB 170, Bates 2604-05 (Findings of Fact ¶¶ 21-22).

Unlike any prior MAY
determination, the use
prohibition imposed in this
case is not reciprocal.

**Arbuckle-Simpson MAY
Expected Annual Recharge**

182,300 AF
– 78,404 AF

103,896 AF

**Under the Order, the amount in
storage is never subject to use.**

TAB 170, Bates 2605 (Finding of Fact ¶ 24) and Bates 2617 (Order and
Directive ¶ 4.1)

**Arbuckle-Simpson MAY
Authorized Groundwater Usage**

78,404 AF
÷ 392,019 Acres

0.2 AF/Acre

Arbuckle-Simpson MAY
Groundwater in Storage

11,000,000 AF
÷ 392,019 Acres

28.1 AF/Acre

Cannot be used for any purpose.

TAB 170, Bates 2604-05 (Findings of Fact ¶¶ 21-22).

175

Ownership of Water

60 O.S. § 60

"[G]roundwater in Oklahoma is indisputably a property right"

OWRB Response Br. at 40

"The stream's natural flow is considered public water and subject to appropriation."

Franco-Am., 1990 OK 44, 855 P.2d at 573 and 586 (Lavender, J. dissenting) 178

"[I]n the extraordinary circumstance when *no* productive or economically beneficial use of land is permitted, it is less realistic to indulge our usual assumption that the legislature is simply 'adjusting the benefits and burdens of economic life,' in a manner that secures an 'average reciprocity of advantage' to everyone concerned."

Lucas, 505 U.S. at 1017-18, 112 S. Ct. 2886 (quoting *Penn Central*, 438 U.S. at 124, 98 S. Ct. at 2659, and *Pennsylvania Coal Co. v. Mahon*, 260 U.S. at 415, 43 S. Ct. at 160)

176

Tishomingo National Fish Hatchery & Wildlife Refuge

Q: Do you have an opinion on whether the adoption of [the 0.2 acre-foot] proposal would be useful for the hatchery?

A: I do have an opinion. I do think that it would be useful.

Q: Would .125 be even more useful?

A: I — I do believe that. Yes.

TAB 101, Vol. 4, 00:06:57-00:07:29 (MAY Hearing Testimony of Kerry G. Graves, Manager Tishomingo National Fish Hatchery, on direct by Alan Woodcock) 179

Moreover, the Order overtly prohibits owners from using groundwater in order to convert it to public ownership and a public use.

177

Tishomingo National Fish Hatchery & Wildlife Refuge

A: I would prefer that as little water as possible be taken out of the aquifer and that would preserve the streams that feed Pennington Creek.

TAB 101, Vol. 4, 00:08:15-00:08:42 (MAY Hearing Testimony of Kerry G. Graves, Manager Tishomingo National Fish Hatchery, on cross by Mark Walker) 180

Tishomingo National Fish Hatchery & Wildlife Refuge

Q: Do you have an opinion on whether the Maximum Annual Yield of 0.2 would be beneficial to the refuge?

A: I understand that 0.2 would be beneficial to the refuge. It's a reduction from the 2.0. it would allow us to maintain riparian habitat on the refuge.

Q: Would .125 listed in the USGS report be better than 0.2?

A: I understand that it would be.

TAB 101, Vol. 4, 00:16:30-00:17:01 (MAY Hearing Testimony of Kristopher K. Patton, Manager Tishomingo National Refuge, on direct by 181 Alan Woodcock)

Tishomingo National Fish Hatchery & Wildlife Refuge

Q: And if I understand your concern, you want to restrict groundwater use so we can preserve the stream flow so you can take it all, right?

A: We just want to maintain the flow that's coming to the refuge now -- to keep it coming to the refuge.

Q: But if you appropriate 11,000 acre-feet appropriation that will you give you priority to take that water over everyone else, right?

A: That doesn't have a permit before us.

TAB 101, Vol. 4, 00:18:55-00:19:39 (MAY Hearing Testimony of Kristopher K. Patton, Manager Tishomingo National Refuge, on cross by 184 Mark Walker)

Tishomingo National Fish Hatchery & Wildlife Refuge

Q: You've applied for a water permit ... Is that correct?

A: That is correct. Out of Pennington Creek.

Q: How much have you applied for?

A: We applied for about 24,000 Acre-Feet, but that was determined to be more than was actually available out of Pennington Creek.

Q: So, is the present application is for around 11,000 Acre-feet.

A: That is correct.

TAB 101, Vol. 4, 00:14:29-00:15:05 (MAY Hearing Testimony of Kristopher K. Patton, Manager Tishomingo National Refuge, on direct by 182 Alan Woodcock)

The Board's Order eviscerates owners' rights to control groundwater's use both by prohibiting its owner from using it and by overtly directing the property to a public use.

Thus, the Order effects a categorical a taking for which compensation is required.

Tishomingo National Fish Hatchery & Wildlife Refuge

Q: You're asking to appropriate all of the appropriate-able water out of Pennington Creek then, right?

A: That'd be correct.

TAB 101, Vol. 4, 00:18:55-00:19:39 (MAY Hearing Testimony of Kristopher K. Patton, Manager Tishomingo National Refuge, on cross by 183 Mark Walker)

Jacobs Ranch was an equal protection — special law — challenge to S.B. 288.

Jacobs Ranch, L.L.C. v. Smith
2006 OK 34, 148 P.3d 842

