

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 29, 2017

**RE: Stream Water Application No. 2007-017**

To Whom It May Concern:

My name is Judy Armstrong

My telephone number is (918) 567-2974

My e-mail address is \_\_\_\_\_

My mailing address is P.O. Box 21

Clayton, Ok. 74536

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

*Recreation / Hunting / Fishing - Loss of Community / Schools  
Wildlife Habitat  
Recreation*

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Judy Armstrong  
Name

3-29-17  
Date

CC: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73112-2881

EXHIBIT G

*Quality Envelopes*  
PO Box 31  
Clayton, Ok  
74536

7015 0440 0007 549 010E  
PAUSE HERE TO OPEN ENVELOPE TO THE RIGHT  
DO NOT REMOVE STICKER



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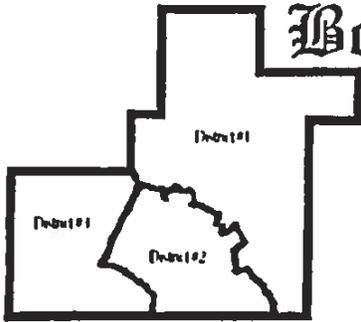


*City of Oklahoma City c/o  
Brian M. Nagelmann, Special Counsel  
Kyley, Carlisle & Applewhite  
1700 Lincoln Street, Suite 3500  
Norman, Ok 80303*

9020384536 0200



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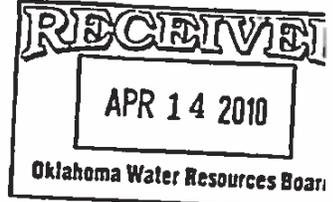


# Board of County Commissioners

ATOKA COUNTY COURTHOUSE  
200 East Court Street, Suite 201W • Atoka, Oklahoma 74525  
(580) 889-2643 • FAX: (580) 889-2608  
atokacommissioners@sbcglobal.net

"I Believe In Oklahoma"

## RESOLUTION



WHEREAS: the Atoka County Board of Commissioners protest the permitting of any further Sardis Lake Water to Oklahoma City; and,

WHEREAS: the Atoka County Board of Commissioners support Water Development and Economic Development for the benefit of the citizens within six counties of the Kiamichi River Basin; and,

WHEREAS: the Atoka County Board of Commissioners hereby protest the permit application by Oklahoma City for any Sardis Lake Water that is now before the Oklahoma Water resources Board,; and,

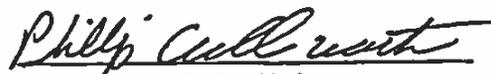
THEREFORE, BE IT RESOLVED, that the Atoka County Board of Commissioners request and demand that the Oklahoma Water Resources Board deny Oklahoma City's water permit application for any further Sardis Lake Water.

NOW THEREFORE, BE IT FURTHER RESLOVED, that the Atoka County Board of Commissioners do officially hereby file this protest with the Oklahoma Resources Board.

OWRB – Permitting Division  
3800 N. Classen BLVD  
Oklahoma City, Ok 73118

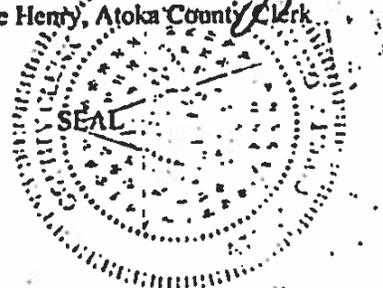
Passed and approved this 12<sup>th</sup> day of April, 2010.

  
Gilbert Wilson, Chairman

  
Phillip Culbreath, Co-Chairman

  
Maryin Dale, Member

Attest:   
Christie Henry, Atoka County Clerk



# Loyd Boren

413425 E. 1870 RD  
Antlers Ok, 74523  
580-298-5360

March 30, 2017

City of Oklahoma City  
c/o Brian M. Nazareus, Special Counsel  
Riley, Carlock, & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver. CO 80203

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

I ask the Oklahoma Water Resources Board ("OWRB") To deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from the Sardis Lake and / or Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

Recreation/Hunting/Fishing  
Endangered Species  
Loss of Water for Drinking/Rural and City  
Loss of Land Due to Damming  
Loss of Community/Schools  
Wildlife Habitat  
Loss of use of land

We ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, we graciously ask the OWRB to postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. As a member of this community, we ask for our due process right to a hearing of our protest.

Thank you for your consideration in this matter.

Sincerely,

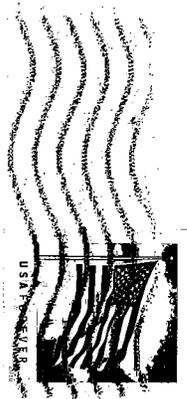


Loyd Boren

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, Ok 73118-2881

  
Mr. Loyd Boren  
413426 E 1870  
Antlers, OK 74523-1335

73USA OK 741  
05 APR 2017 PM 52 L



City of Okla. City  
C/o Brian M. Nagarsen, Special Counsel  
Ryberg, Carlock, & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, Co. 80203

80203#4535



# Patricia Boren

413426 E. 1870 RD  
Antlers Ok, 74523  
580-298-5360

March 30, 2017

City of Oklahoma City  
c/o Brian M. Nazarenus, Special Counsel  
Ryley, Carlock, & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver. CO 80203

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

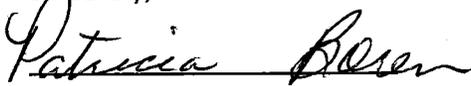
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Loss of Water for Drinking/Rural and City  
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Thank you for your consideration in this matter.

Sincerely,

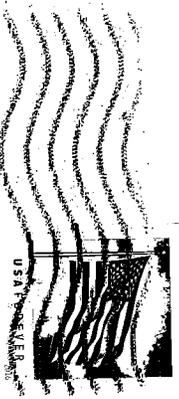


Patricia Boren

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, Ok 73118-2881

  
Mr. Loyd Boren  
413426 E 1870  
Antlers, OK 74523-1335

TULSA OK 744  
05 APR 2017 PM 52 L



City of Okla. City  
C/O Brian M. Nagorski, Special Counsel  
Ryberg, Carlock, & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, Co. 80203

802034535



City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

**RE: Stream Water Application No. 2007-017**

To Whom It May Concern:

My name is Amber Brasfield

My telephone number is (918) 504-0321

My e-mail address is \_\_\_\_\_

My mailing address is P.O. Box 2, Clayton, OK 74536

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

*Endangered Species, Property Values, Wildlife Habitat, Tourism,  
Economic Development, Recreation*

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Amber Brasfield  
Name

1 Apr 2017  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.

CERTIFIED MAIL

Conley  
168704 State Hwy 3  
Clayton, OK. 74536



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City of OKLAHOMA City c/o  
Brian M. Nazarenius, Special Counsel  
Ryley, Carlock + Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO. 80203

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

**RE: Stream Water Application No. 2007-017**

To Whom It May Concern:

My name is Jason Brasfield

My telephone number is (918) 504-20384

My e-mail address is \_\_\_\_\_

My mailing address is P.O. Box 2, Clayton, OK 74536

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

*Endangered Species, Property Values, Recreation / Fishing,  
Recreation, Tourism*

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Jason Brasfield  
Name

1 April 2017  
Date

CC: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.

CERTIFIED MAIL

Conley  
168704 State Hwy 2  
Clayton, OK. 74536



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City of OKLAHOMA City c/o  
Brian M. Nazarenius, Special Counsel  
Ryley, Carlock + Appleshite  
1700 Lincoln Street, Suite 3500  
Denver, CO. 80203

Rickie Briggs

172489 North 4480 Road

Nashoba OK. 74558

April 4, 2017

OKLAHOMA WATER RESOURCE BOARD

I ask that the OWRB deny the permit application submitted by Oklahoma City. (Stream water application number 2007-017) for withdrawal of water from Sardis Lake or the Kiamichi River, approval of this permit will devastate Pushmataha County.

List of effects comprised by Kenneth P. Roberts, PHD University of Tulsa are:

- a. 220 archaeologist Sites
- b. Fish and Wildlife
- c. River cane used by Choctaw Nation for baskets.
- d. Local Well Water Dry up

Also Blue-Green algae will be created by higher water temps that will affect all people in the area.

I would like to know how this will affect the compact we have with Texas, Arkansas and Louisiana.

When will environmental or Geological Studies be done, and when landowners will be notified about the land to be taken for reservoir.

I ask that the OWRB deny permit as Stream Water Application No. 2007-17 for the few reasons stated.

Rickie Briggs



TULSA OK 741

04 APR 2017 PM 52 L



Attn: Brian M. Nazarenius  
Special Counsel for the City of OK City  
Ryley Carlock and Applewhite  
1700 Lincoln St. Ste. 3500  
Denver CO. 80203

Michael Brittingham

P.O. Box 96

Moyers Ok. 74551

April 4, 2017

OKLAHOMA WATER RESOURCE BOARD

I ask that the OWRB deny the permit application submitted by Oklahoma City. (Stream water application number 2007-017) for withdrawal of water from Sardis Lake or the Kiamichi River, approval of this permit will devastate Pushmataha County.

List of effects comprised by Kenneth P. Roberts, PHD University of Tulsa are:

- a. 220 archaeologist Sites
- b. Fish and Wildlife
- c. River cane used by Choctaw Nation for baskets.
- d. Local Well Water Dry up

Also Blue-Green algae will be created by higher water temps that will affect all people in the area.

I would like to know how this will affect the compact we have with Texas, Arkansas and Louisiana.

When will environmental or Geological Studies be done, and when landowners will be notified about the land to be taken for reservoir.

I ask that the OWRB deny permit as Stream Water Application No. 2007-17 for the few reasons stated.

Michael Brittingham

A handwritten signature in black ink, appearing to read "Michael Brittingham". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

TULSA OK 741

OK APR 21 1983



Brian M. Nazareus  
Special Counsel for the City of Ok. City  
Ryley Carlock and Applewhite  
1700 Lincoln St, Ste. 3500  
Denver, CO 80203

BRAD BURGETT

436942 E 1855 LOOP

RATTAN OK 74562

580-513 7866

OKLAHOMA WATER RESOURCE BOARD

I ask that the OWRB deny the permit application submitted by Oklahoma City. (Stream water application number 2007-017) for withdrawal of water from Sardis Lake or the Kiamichi River, approval of this permit will destate Pushmataha County by destroying our Pocket Book Mussels which filter our water.

- A. List of other effects comprised by Kenneth P. Roberts, PHD University of Tulsa are:
- 220 Archaeologist Sites
  - Fish and Wildlife
  - River cane used by Choctaw Nation for baskets.
  - Local Well Water Dry up

Also Blue-Green algae will be created by higher water temps which will effect all people that come to the river.

We have a compact with Arkansas, Louisiana, and Texas.

No environmental or Geological Studies have been notified about the land to be taken for resivoir.

I ask that the OWRB deny permit as Stream Water Application No. 2007-17 for the few reasons stated. In the alternative, I demand the OWRB postpone decision until they have a fully informed decision. I demand my due process right to a hearing of my protest.

Brad Burgett

A handwritten signature in black ink that reads "Brad Burgett". The signature is written in a cursive style with a long horizontal stroke at the end.

BURGETT  
436942 E 1855 Loop  
Battam OK 74562

**CERTIFIED MAIL®**



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74523  
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ATTN: Brian M. Nazareus  
Special Counsel for the City of Okla. City  
Ryley Carlock and Applewhite  
1700 Lincoln St, Ste. 3500  
Denver, CO 80203

8020314535



City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, Co 80203

Certified Mail: 7015 0640 0000 403 6892

April 3, 2017

RE: Stream Water Application No. 2007-017  
(Kiamichi River)

To Whom It May Concern:

My name is Dale Carter  
My telephone number is 580-372-0141  
My mailing address is 424448 E 1835 RD, Finley, OK 74543

I ask the Oklahoma Water Resources Board (ORWB) to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

I have property in Pushmataha County near Big Cedar Creek, a tributary of the Kiamichi River. I hunt and fish along this creek and depend on this creek. Depleting the Kiamichi River will deplete Big Cedar and cause loss of livelihood, property devaluation and loss of fish and game. I do not believe that Oklahoma City should take our water.

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons state above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

*Dale Carter*

Cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

Davis Carter  
424448 E 1835 RD  
FINLEY OK 74543

**CERTIFIED MAIL®**



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TULSA OK 74133



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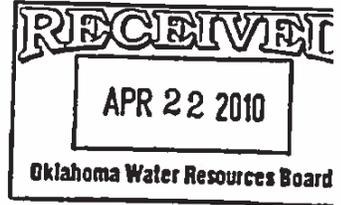
ATTN: Brian M. Nazareus  
Special Counsel for the City of Okla. City  
Ryley, Carlock and Applewhite  
1700 Lincoln St, Ste. 3500  
Denver, CO 80203

DANNY ANTWINE, Member  
Dist. 1, Boswell

RANDY ROBERTSON, Member  
Dist. 2 Hugo

ROGER VANDEVER, Member  
Dist. 3 Ft. Towson

pm



**BOARD OF COUNTY COMMISSIONERS**

CHOCTAW COUNTY  
300 EAST DUKE HUGO, OKLAHOMA 74743  
Phone: 580 / 326-5331 FAX: 580 / 326-8052

RESOLUTION # 10-36

WHEREAS, the Choctaw County Board of Commissioners protests the permitting of any further Sardis Lake Water to Oklahoma City; and.

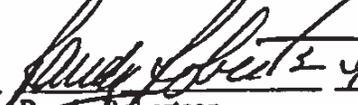
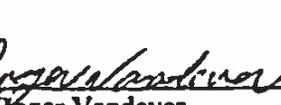
WHEREAS, the Choctaw County Board of Commissioners support Water Development and Economic Development for the benefit of the citizens within the six counties of the Kiamichi River Basin.

NOW THEREFORE, BE IT RESOLVED: that the Choctaw County Board of County Commissioners protests the permit application by Oklahoma City for any Sardis Lake Water that is now before the Oklahoma Water Resources Board and do hereby file this protest with the Oklahoma Water Resources Board.

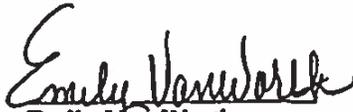
OWRB-Permitting Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118

Passed and approved this 19th day of April, 2010.

Board of County Commissioners, Choctaw County, Oklahoma

		
Danny Antwine Chairman	Randy Robertson Member	Roger Vandever Member

ATTEST:

  
Emily Van Worth  
County Clerk



City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is Austin Conley

My telephone number is (918) 415-4208

My e-mail address is \_\_\_\_\_

My mailing address is P.O. Box 971, Clayton, OK 74536

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

*Endangered Species, Recreation (Fishing), Tourism, Economic Development*

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Name \_\_\_\_\_

Date 1 April 2017

CC: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.

CERTIFIED MAIL

Conley  
168704 State Hwy 2  
Clayton, OK. 74536



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City of OKLAHOMA City c/o  
Brian M. Nazarenius, Special Counsel  
Ryley, Carlock + Appleshite  
1700 Lincoln Street, Suite 3500  
Denver, CO. 80203

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is Kenneth Conley  
My telephone number is (918) 470-9291  
My e-mail address is conconley@yahoo.com  
My mailing address is 16870 4 State Hwy 2, Clayton, OK 74538

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

Endangered Species, Property Values, Recreation/Hunting/  
Fishing, Wild Life Habitat, Tourism, loss of Land to use

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Name

Kenneth Conley

Date

1 Apr 2017

CC: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.

CERTIFIED MAIL

Conley  
168704 State Hwy 2  
Clayton, OK. 74536



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R2305H127518-01

City of OKLAHOMA City c/o  
Brian M. Nazarenius, Special Counsel  
Ryley, Carlock + Appleshite  
1700 Lincoln Street, Suite 3500  
Denver, CO. 80203

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

RE: **Stream Water Application No. 2007-017**

To Whom It May Concern:

My name is

Kimberly Conley

My telephone number is

(405) 580-419-2483

My e-mail address is

580-419-2483

My mailing address is

P.O. Box 971, Clayton, OK 74536

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

Property Values, Tourism, Recreation, Wildlife Habitat

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Name

Kimberly Conley

Date

1 Apr 2017

CC: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.

CERTIFIED MAIL®

Conley  
168704 State Hwy 2  
Clayton, OK. 74536



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CLAYTON, OK  
74536  
APR 05, 17  
AMOUNT

**\$7.29**

R2305H127518-01

City of OKLAHOMA City c/o  
Brian M. Nazarenius, Special Counsel  
Ryley, Carlock + Appleshite  
1700 Lincoln Street, Suite 3500  
Denver, CO. 80203

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Riley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is Noema Conley  
My telephone number is (918) 916-52656  
My e-mail address is ncjconley@gmail.com  
My mailing address is 168704 State Hwy 2, Clayton, OK 74536

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

*Endangered Species, Property Values, Recreation, Wildlife Habitat, Tourism, Economic Development, Recreation Loss of Tributaries*

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Name

*Noema Conley*

Date

1 Apr 2017

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.

REGISTERED MAIL

Conley  
168704 State Hwy 3  
Clayton, OK. 74536



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City of OKLAHOMA City c/o  
Brian M. Nazarems, Special Counsel  
Ryley, Carlock + Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO. 80203

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31<sup>st</sup>, 2017

**RE: Stream Water Application No. 2007-017**

To Whom It May Concern:

My name is Robert D. Conley  
My telephone number is (918) 415-4775  
My e-mail address is bugobble@yahoo.com  
My mailing address is 168324<sup>th</sup> Faith 4290 Rd  
Clayton, OK 74536

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

*Endangered Species will be endangered even more.  
Hunting and Fishing will also be affected.  
Wild life Habitat will be disrupted.*

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Robert D. Conley  
Name

3-31-17  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is Shannon Conley  
My telephone number is (918) 470-0052  
My e-mail address is Shannon?Conley@yahoo.com  
My mailing address is P.O. Box 628, Clayton, OK 74536

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

Endangered Species, Property Values, Recreation, Tourism

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Shannon Conley  
Name

1 Apr 2017  
Date

CC: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.

CERTIFIED MAIL

Conley  
168 704 State Hwy 2  
Clayton, OK. 74536



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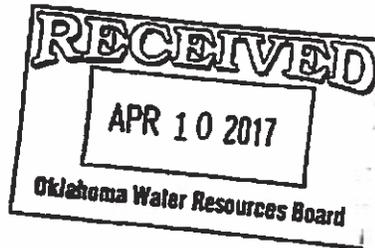
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City of OKLAHOMA City c/o  
Brian M. Nazarenius, Special Counsel  
Ryley, Carlock + Appleshite  
1700 Lincoln Street, Suite 3500  
Denver, CO. 80203



City of Oklahoma City c/o  
Brian M. Nazarems, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900

March 10, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is George R. Crimshaw

My telephone number is (479) 597-9271

My e-mail address is gpc@repositlife@yahoo.com

My mailing address is P.O. Box 77

Albion OK 74521

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

George R. Crimshaw  
Name

Mar-10-2017  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.

## Hunter Davis

413430 E. 1870 RD  
Antlers Ok, 74523  
580-982-7054 (Cell)

March 30, 2017

City of Oklahoma City  
c/o Brian M. Nazareus, Special Counsel  
Ryley, Carlock, & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver. CO 80203

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

I ask the Oklahoma Water Resources Board ("OWRB") To deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from the Sardis Lake and / or Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

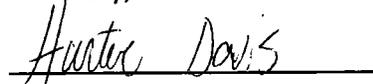
Recreation/Hunting/Fishing  
Loss of Water for Drinking/Rural and City  
Loss of Land Due to Damming

Endangered Species  
Wildlife Habitat  
Loss of Community/Schools

We ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, we graciously ask the OWRB to postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. As a member of this community, we ask for our due process right to a hearing of our protest.

Thank you for your consideration in this matter.

Sincerely,



Hunter Davis

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, Ok 73118-2881

YOUR ADDRESS, FOLD AT DOTTED LINE  
**CERTIFIED MAIL**

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City of OKC  
Brian Bergavemus Special Cons  
Ryler, Contact + Appointments  
1700 Lincoln St Sta. 350

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**Jerry Davis**  
413430 E. 1870 RD  
Antlers Ok, 74523  
580-982-7054 (Cell)

March 30, 2017

City of Oklahoma City  
c/o Brian M. Nazareus, Special Counsel  
Ryley, Carlock, & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver. CO 80203

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

I ask the Oklahoma Water Resources Board ("OWRB") To deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from the Sardis Lake and / or Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

Recreation/Hunting/Fishing  
Loss of Water for Drinking/Rural and City  
Loss of Land Due to Damming

Endangered Species  
Wildlife Habitat  
Loss of Community/Schools

We ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, we graciously ask the OWRB to postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. As a member of this community, we ask for our due process right to a hearing of our protest.

Thank you for your consideration in this matter.

Sincerely,



**Jerry Davis**

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, Ok 73118-2881

Davis  
413430 E 1870RD  
Antlers Ok 74522

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT  
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City of OKC  
Brian Nagarems -pc Cons  
Ryler Carlock x Applewhite  
1700 Lincoln St ST 3500

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8020344536

# Melissa Davis

413430 E. 1870 RD  
Antlers Ok, 74523  
580-982-7054 (Cell)

March 30, 2017

City of Oklahoma City  
c/o Brian M. Nazarenus, Special Counsel  
Ryley, Carlock, & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

I ask the Oklahoma Water Resources Board ("OWRB") To deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from the Sardis Lake and / or Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

Recreation/Hunting/Fishing

Loss of Water for Drinking/Rural and City

Loss of Land Due to Damming

Endangered Species

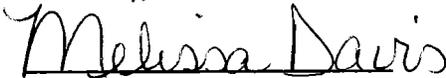
Wildlife Habitat

Loss of Community/Schools

We ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, we graciously ask the OWRB to postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. As a member of this community, we ask for our due process right to a hearing of our protest.

Thank you for your consideration in this matter.

Sincerely,



Melissa Davis

cc: Oklahoma Water Resources Board

Planning & Management Division

3800 N. Classen Blvd.

Oklahoma City, Ok 73118-2881

Davis  
413430 E 1870 RD  
Anadarko OK 74523

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City of OKC  
Brian Nagarems fcc Cons  
Ryder Carlock & Applewhite  
1700 Lincoln St ST 3500

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Denmark, OK  
v

Nicole Davis

413430 E. 1870 RD  
Antlers Ok, 74523  
580-982-7054 (Cell)

March 30, 2017

City of Oklahoma City  
c/o Brian M. Nazareus, Special Counsel  
Ryley, Carlock, & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver. CO 80203

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

I ask the Oklahoma Water Resources Board ("OWRB") To deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from the Sardis Lake and / or Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

Recreation/Hunting/Fishing

Endangered Species

Loss of Water for Drinking/Rural and City

Wildlife Habitat

Loss of Land Due to Damming

Loss of Community/Schools

We ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, we graciously ask the OWRB to postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. As a member of this community, we ask for our due process right to a hearing of our protest.

Thank you for your consideration in this matter.

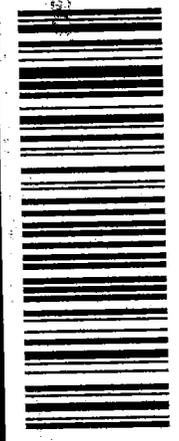
Sincerely,

  
\_\_\_\_\_

Nicole Davis

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, Ok 73118-2881

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Davis  
413430 01870  
ANTHRS-OK 74523

City of OKC  
Brian Hargarems Special Cons  
Ryler, Carlett Applewhite  
1700 Lincoln St Ste. 3500



1X

To: City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 2500  
Denver, CO 80203

April 3, 2017

From: Donald Dawson  
HC 66 Box 235  
Moyers, OK 74557  
Telephone number: (817) 455-9695

Subject: Protest to Stream Water Application No. 2007-017

Dear Sir or Madam,

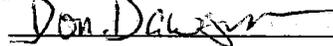
My name is Donald Dawson, and I am a landowner on the Kiamichi River, for which a water diversion permit is being requested by Oklahoma City to the Oklahoma Water Resources Board (Stream Water Application No. 2007-017). I request that the Oklahoma Water Resources Board deny the permit for diversion from Sardis Lake and the Kiamichi River as this diversion project will result in direct damage to my legally protected interests that include but are not limited to the following:

1. Property value loss from alternation in stream flow
2. Loss of land due to potential damming
3. Loss of Land use from flooding
4. Potential loss of underground water reserves that supply my drinking water.
5. Loss of economic development
6. Loss of recreation abilities for myself, my kids, and my grandkids.
7. Loss of tributaries that feed the Kiamichi River
8. Loss of hunting and fishing capabilities due to the negative impacts of such a diversion
9. Loss of critical wildlife habitat for the endangered species that exist on the Kiamichi River.
10. Lack of environmental and economic impact studies.

These are just a few of the many reasons why I implore the Oklahoma Water Resources Board to deny the permit. Moreover, I urgently request that the Oklahoma Water Resources Board postpone any decision on the aforementioned permit until all the scientific and economic studies be conducted, and all residents along the Kiamichi River have been adequately informed. I demand my due process right to a hearing on the matter so that my protest can be part of the public record.

Sincerely,

Donald Dawson



Name

4/3/2017

Date

Cc: Oklahoma Water Resources Board  
Planning and Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

Don Dawson  
H & W Box 235  
Meyers, OK 74557



TULSA OK 741

City of Oklahoma City 610  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock + Applegate  
1700 Lincoln Street Ste 2500  
Denver, CO 80203

80203#4525

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

**RE: Stream Water Application No. 2007-017**

To Whom It May Concern:

My name is Charles R. Deweese

My telephone number is (580) 298-3994

My e-mail address is \_\_\_\_\_

My mailing address is P.O. Box 862  
Antlers, OK 74523

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

*Endangered Species, Endangered Archeological Sites*

*Recreation - Fishing*

*Loss of Water for Drinking, Town & Rural*

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Charles R. Deweese  
Name

3-31-2017  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division

Mr. Charles DeWesse  
PO Box 862  
Antlers, OK 74523

**CERTIFIED MAIL**



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City of Oklahoma City c/o

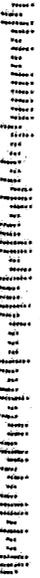
Brian M. Nazarenius, Special Counsel

Ryley, Carlock & Applewhite

1700 Lincoln Street, Suite 3500

Denver, Co. 80203

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April 10<sup>th</sup>, 2017

SENT VIA ELECTRONIC MAIL, FAX, AND US FIRST CLASS MAIL, RETURN RECEIPT

## **A PROTEST TO AMENDED APPLICATION NO. 2007-0017**

To Whom It May Concern,

I humbly submit herein a protest to Oklahoma City's amended application for a permit for surface water. As a scientist, I must express my deep concern and dissatisfaction with the behind-the-scenes 'science' that has been used to justify such a transfer of water. Real science doesn't happen in a box. Real science is peer reviewed and published. As an Oklahoman, I must express my disgust at the willingness to turn Oklahoma's most pristine and endangered ecosystems into a cash cow for a metropolitan utilities trust at the expense rural people's economic base and culture.

The State of Oklahoma, Choctaw Nation of Oklahoma, Chickasaw Nation, City of Oklahoma City Water Settlement will hereafter be referred to as the *settlement agreement*.

1. **The Kiamichi Basin Hydrologic Model has not been made available, contrary to the directive of the settlement agreement.** I have asked both JD Strong and Julie Cunningham for a copy of the Kiamichi Basin Hydrologic Model as defined on page 6 of the water settlement between the Choctaw and Chickasaw Nations of Oklahoma and the State of Oklahoma. In the agreement, this model is said to be available at OWRB offices (Sections 1.34 and 4.1.7). However, this model has not been available at OWRB offices and I've been denied access to the model. Please see attached correspondence.
2. **The current agreement and water model appear to jeopardize Sardis Lake Water Authority's ability to supply drinking water to the community and threaten habitat for endangered species of the Kiamichi Basin:**
  - a. Of particular concern is that Barney Austin, a former Texas Water Board employee who was tasked with reviewing the water model, told me that **the Kiamichi River was a gaining stream, which it is not**: "During these days, there were no releases from Sardis Dam or in the case of Antlers, releases did not convey all the way to Antlers due to the lower Kiamichi River being a losing stream during extended droughts in the post-Sardis Dam hydrologic regime," (Vaughn and Julian 2013, p8). That is why it took almost 1 month for water released from Sardis during the 2011-2012 drought to reach the Antlers gauge station (Vaughn and Julian 2013, 9). I'm seriously concerned that the Kiamichi was improperly modeled, which could lead to an environmental catastrophe and jeopardize my community's drinking water supply.

The managed daily water releases of 0.59 cms (21 cfs ) from Sardis Dam beginning on August 2, 2011 did not increase discharge at the Antlers site until August 27, 2011 (25 days later). The likely reason for this lack of conveyance is that the water table was considerably lower than the stream bed at the end of July 2011, and thus all water released by Sardis Dam was quickly lost to the subsurface until the local water table rose high enough to intersect the channel bed, which occurred on August 27, 2011. Note that there were three small rainfall events (> 1 cm) during this period that also helped to raise the water table. What all of these data mean is that the Kiamichi River is a losing stream (i.e. discharge is lost to the subsurface due to the water table being lower than the stream bed) during extended periods of drought, particularly when 25% of its watershed runoff is held behind Sardis Dam without daily releases.

- b. The meter that measures the proposed release of 116,616 ac/ft/yr must be placed at the point of release, Sardis Dam spillway, and not at the point of diversion near Moyers.** The permit clearly requests a right to release 116,616 ac/ft/yr from Sardis Reservoir, not the right to withdraw that amount of water from the Kiamichi River, "...Oklahoma City shall have the right to...116,616 acre-feet for releases for municipal supply," (Section 5.b.ii.). If OKC wants to withdraw 116,616 ac/ft/yr from the Kiamichi River, than they would need to release much more water than that from Sardis Reservoir, which would threaten our drinking water supply and water reserved for recreational activity, on which our economy relies. Such releases during a drought would be especially damaging to our water levels and makes impossible the intermittent releases of water for endangered species that are needed in drought. Further, "The City shall bear any and all conveyance losses from the Sardis Lake outlet structure to the Point of Diversion," (Section 6.4.1). If the City is bearing the losses from Sardis to Moyers, than shouldn't the meter be at the spillway and not Moyers?
  - c. The agreement fails to guarantee that there will be 50cfs for environmental flows south of Moyers, which is critical habitat for several endangered species.** The agreement calls for 50cfs at the point of diversion and not at the Antlers gauge, between which are many mussel beds containing endangered species. (Section 1.15 and Section 6.1.5.2). Further, the hydrologic model used simulates this flow requirement at the point of diversion, "The model includes a user - defined bypass flow requirement at a simulated point of withdrawal from the basin," (Exhibit 3).
  - d. The agreement fails to guarantee that there will be 50cfs for environmental flows in the Kiamichi River when Oklahoma City is not actively pumping water from the Kiamichi River.**
- 3. Oklahoma City did not file their permit within the allotted timeframe as directed under the settlement agreement.** The agreement states that the amended application must be filed by OKC no later than 120 days after the date of execution, "The City will file with the OWRB within one hundred twenty (120) days after the Execution Date the Amended Permit Application," (Section 6.1). The date of execution is defined as August 17<sup>th</sup>, 2016 (Section 1.30). Therefore, 120 days after the date of execution is December

15<sup>th</sup>, 2106. The amended permit was received by the OWRB on January 11<sup>th</sup>, 2017, which is nearly a full month after the deadline.

4. **I would like evidence that the OWRB staff issued to OKC a notice for publication 30 days after the enactment date.** "No later than thirty (30) days from the Enactment Date, the OWRB staff shall issue to the City a notice for publication ("Notice") of the Amended Permit Application, which the City shall cause to be published..." (Section 6.2.2.1). The Enactment Date is the date it becomes federal law (Section 1.28).

5. **The amended permit requests more water (116,616 ac/ft/yr) than what was agreed upon in the settlement agreement (115,000 ac/ft/yr).**

6.1.2 Amount of Appropriation – that the permit provide a right to appropriate one hundred fifteen thousand (115,000) AFY and specify that water bypassed in accord with Section 6.1.5.2 shall not be counted against the City's one hundred fifteen thousand (115,000) AFY appropriation; provided, that the City's compliance with the Bypass Requirement of Section 6.1.5.2 shall not be grounds for finding any forfeiture of such appropriation.

6. **No analysis has been conducted to see how such large transfers out of the Kiamichi Basin during drought will impact Oklahoma's obligations under the Red River Compact and downstream communities.** "SECTION 2.05 Each Signatory State shall have the right to: (c) Construct reservoir storage capacity for the purposes of flood and sediment control as well as storage of water which is either imported or is to be exported if such storage does not adversely affect the delivery of water apportioned to any other Signatory State."

7. **No analysis has been conducted to see how such large transfers out of the Kiamichi River during drought will impact Hugo Reservoir.** If there are minimum lake levels or other protections mandated for Hugo Reservoir, than I can't find them.

8. **The original Sardis Contract between the State of Oklahoma and the federal government has not been amended, as agreed to in that contract, to update the reduced storage capacity of Sardis Lake due to sedimentation.** Article 8 (c) states, "Following the same principle, such reallocation of reservoir storage capacity may be further adjusted from time to time as the result of sedimentation resurveys to reflect actual rates of sedimentation and the exhibit revised to show the revised storage space allocated to municipal and industrial water supply." Exhibit A of the Sardis Contract has never been revised, despite sedimentation studies being done (supposedly). JD Strong told me, "There isn't that much sedimentation." That statement isn't reassuring, and any reduction in the storage capacity is of concern to people who drink water from such a shallow water source. How much sediment has accumulated in Sardis Reservoir and where? Can I see all materials related to the study?

9. **I don't believe the average depth of Sardis Lake to be 17 feet as claimed in the amended permit.** This number was pulled from Wikipedia. I've seen average depths of 12ft and 14ft published previously. Has the OWRB, USGS, USACE, or some other scientific entity published the average depth as 17ft? Have they published an average depth of other than 17ft?
  
10. **Does the agreement, and the amended permit if approved, have the authority to suspend the domestic riparian rights of Oklahomans that live along Jackfork and Kiamichi?** "Water released from City Sardis Storage for delivery to the Point of Diversion will not be considered or administered as part of the natural flow of Jack Fork Creek or the Kiamichi River subject to or available for diversion or appropriation by others," (Section 6.4.1). How can the State of Oklahoma and other entities collude to take away the rights of other individuals as provided to them by law?
  
11. **Will local residents of the Kiamichi Basin have a water supply if levels drop below 589ft?** It is my understanding that the bottom intake at Sardis Lake Water Authority no longer functions due to sedimentation, and that the lowest intake we have is at 589ft. In extreme drought, OKC will be able to draw our lake down to this level, thereby jeopardizing our entire water system. Can you verify that these facts are true?

Sincerely,



Russell Doughty  
Kiamichi Basin land owner and Sardis Lake rural water customer  
10197 SE Hwy 63  
Talihina, OK 74571  
918-699-9215

#### Bibliography

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**Title:** Incorporating Ecological Costs and Benefits into Environmental Flow Recommendations For Oklahoma Rivers: Phase 1, Southeastern Oklahoma.

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### **Problem and Research Objectives:**

Providing a safe and sustainable water supply to the growing Oklahoma population while also providing for economic growth and maintaining natural ecosystems is the most serious challenge facing Oklahoma policy makers in the coming decades. Accomplishing this will require consideration of both the economic and ecological costs and benefits of different water allocation and management strategies (Arthington et al. 2006, Richter 2010). Multiple approaches have been used to attempt to quantify the amount of water needed by natural water bodies in Oklahoma. In-stream flows (ISFs) quantify the amount of water that needs to be left in a stream to maintain non-consumptive uses such as fisheries or riparian areas (OWRB 2009). Currently, there are over 200 methods for determining ISFs, ranging from designation of minimum flows to those that mimic natural flow regimes (Turton et al. 2009).

Rivers in the Ouachita and Gulf Coastal Plains ecoregions of southeastern Oklahoma provide an excellent test system for examining the ecological costs and benefits of different environmental flows/in-stream flow recommendations. These rivers are known for their relatively abundant and pristine water and harbor the highest aquatic biological diversity in the state (Matthews et al. 2005). However, the water in these rivers also is in high demand to meet regional, human water needs (<http://www.owrb.ok.gov/supply/ocwp/ocwp.php>). In particular, the Kiamichi River is at the center of intense conflict over water use and governance between Oklahoma City, the State of Oklahoma, the Tarrant County Water District (Fort Worth, TX), and the Choctaw and Chickasaw nations. The source of conflict is over who gets to use water from a storage reservoir. Sardis Lake is an impoundment on a tributary to the Kiamichi. The Corps of Engineers built this reservoir in 1982 for flood control, water supply and recreation. However, Oklahoma owed money to the federal government for constructing the reservoir, and in 2011 90% of the water storage rights to Sardis Lake were sold to Oklahoma City. The Tarrant County Water District disputes this ownership. Under the 1978 Red River Compact (<http://www.oscn.net/applications/oscn/deliverdocument.asp?id=97778&hits=>), they claim to have rights to 25% of the water from Sardis Lake, and they want Oklahoma to sell it to them.

They have sued the state to get access to the water and the U.S. Supreme Court is reviewing this case this spring (US Supreme Court 2013). Finally, both the Choctaw and Chickasaw nations also claim to own the water in the Kiamichi watershed, including that in Sardis Lake. The river flows through the jurisdictional Choctaw Nation in southeastern Oklahoma, and the historical Choctaw Nation capital abuts the banks of the Kiamichi in the town of Tuskahoma. Together, Sardis and Hugo (a reservoir at the most downstream end of the Kiamichi) lakes are the water supply for people in 29 Oklahoma counties. Current and planned inter-basin water transfers will extract hundreds of thousands of acre-feet of freshwater per year out of southeastern Oklahoma, with 220,000 acre-feet/year going to Oklahoma City alone by 2050 via the Atoka Pipeline (OWRB 2008). In addition to the Supreme Court case, there are multiple, ongoing and pending lawsuits over who gets to use and sell the water from Sardis Lake.

Missing from the above dispute are the needs of the fish and wildlife that live in and around the Kiamichi River. The Kiamichi River is known for its high aquatic biodiversity (Vaughn 2000, Matthews et al. 2005). It is home to over 86 species of fish and 30 species of freshwater mussels, including 3 federally listed endangered mussel species (Vaughn et al. 1996, Pyron et al. 1998, Matthews et al. 2005, Galbraith et al. 2008). In 1998 the river was selected by The Nature Conservancy, arguably the most influential conservation organization globally, as one of the most critical rivers in the U.S. for preserving biodiversity (Master et al. 1998). The water now impounded by Sardis Lake historically provided 30% of the water flowing into the lower Kiamichi River. However, in recent drought years the organisms in the lower river have suffered because water has been held in Sardis Lake rather than being released to flow down stream. This has occurred during hot summer months and has led to drying of the lower river (Figure 1), high water temperatures (in some cases exceeding 100° F because of the extremely shallow water), massive mussel and fish mortality (Galbraith et al. 2010; W.J. Matthews personal communication), and record low lake levels downstream in Hugo Reservoir (USACE 2012). This has occurred because Sardis Lake has no designated “non-consumptive” uses and Oklahoma has no in-stream flow regulations, which means that water managers are not required to release water for mussels, fish and other river organisms during droughts. While periodic heat waves and drought are normal in this region (Stambaugh et al. 2011), the last two summers have been the hottest on record and most of this area is entering an unprecedented 3<sup>rd</sup> year of extreme to exceptional drought that is predicted to persist for the foreseeable future.

Freshwater mussels are large, long-lived bivalve mollusks. Mussels are very sensitive to changes in flow regimes and temperature (Strayer et al. 2004, Pandolfo et al. 2010, 2012, Galbraith et al. 2012). Adult mussels are highly sedentary; they move very slowly and only short distances if they move at all (Allen and Vaughn 2009). Thus, unlike fish, mussels cannot move to new habitat, such as the bottom of a pool, when flows are inappropriate, and in-stream flow models developed for fish and other mobile organisms typically do not work well for mussel populations (Layzer and Madison 1995, Gore et al. 2001). Establishing environmental flows that safeguard mussel populations will protect the three endangered mussel species and hopefully prevent future litigation related to these species. In addition, because mussels provided important habitat and other services for other river organisms such as insects and fish, protecting mussels also protects these other groups (Vaughn and Spooner 2006, Aldridge et al. 2007).

Ecosystem services describe the benefits that humans derive from natural ecosystems. These include *provisioning services* obtained directly from the ecosystem such as water, food and timber, *regulating services* such as water purification, climate control, carbon storage and

pollination, and *cultural services*, which are the benefits that people obtain through tourism, aesthetic experiences or spiritual enrichment (Daily and Matson 2008, Perrings et al. 2011, Wainger and Mazzotta 2011). Rivers and the organisms that inhabit them provide many important ecosystem services to people such as provisioning of freshwater, nutrient processing and water filtration, and recreation and ecotourism (Brauman et al. 2007). Freshwater mussels are filter feeders that move large amounts of water over their gills (Vaughn et al. 2004) resulting in multiple ecosystem services including biofiltration, nutrient cycling and storage (Vaughn and Hakenkamp 2001, Vaughn 2010). This “pre-filtration” or biofiltration by mussels means that water extracted for human uses from rivers with healthy mussel populations should require less treatment than water from rivers without mussels, saving money (Kreeger and Bushek 2008).

Like most invertebrates, mussels are ectotherms whose physiological processes are governed by external, environmental temperatures. Vaughn’s laboratory has discovered that different mussel species prefer different environmental temperatures and perform ecosystem services differently at these different temperatures (Spooner and Vaughn 2008). Because of these differences in thermal preferences and performance, the amount of water filtered by mussels and nutrient cycling rates differ with the species makeup of mussel communities, water volume, and water temperature (Vaughn et al. 2008, Vaughn 2010).

Water temperatures in rivers are influenced by numerous factors, including quantity of groundwater inputs, volume of surface water, watershed snow coverage, incoming solar radiation, air temperature, and wind speed (Allan and Castillo 2007). The direct absorption of solar radiation is the main heat input into large rivers, while convective warming by the air is more influential in small streams. Indeed, many stream studies have found strong linear relationships between air and water temperature (Wetzel 2001). Anthropogenic inputs/outputs can also affect water temperatures in rivers. Man-made reservoirs, in particular, have the potential to warm downstream waters (via greater absorption of solar radiation from increased water surface area, and longer water residence times) or cool downstream waters (via cool-water releases from the bottom of the reservoir) (Stanford et al. 1996, Allan and Castillo 2007). Because of the various unobservable pathways and interactions of water throughout a watershed, it is practically impossible to derive a numerical model that accounts for all water-heat fluxes. A much more practical strategy of predicting river water temperatures is the use of an empirical model, one that takes into account the dominant control on water temperature for that size of stream.

We need to determine the appropriate volume and timing of water diversions from the Kiamichi and other rivers to meet human needs while maintaining natural ecological function. In this project we combined information on discharge and water temperature under various stream flows with information on how mussel communities perform the ecosystem services of water filtration, nutrient cycling and nutrient storage under those conditions to determine how different stream flows influence the ecosystem services provided by mussels. We focused on the Kiamichi River because we already have rigorous data on mussel communities (Galbraith et al. 2005) and the physical characteristics of river reaches where these communities occur (Jones and Fisher 2005), and because this river is under the most pressure for regional water diversions as described above. From previous work by Vaughn’s laboratory, we already had strong data on the ecosystem services performed by various mussel species under different temperature regimes (Vaughn and Spooner 2008). We added to this dataset by obtaining additional thermal preference/performance data for a wider variety of mussel species. We also gathered data on

how water temperature in the Kiamichi River is dictated by atmospheric and flow (regulated vs. unregulated) conditions. Finally, we used these data to produce multivariate models that predict water temperature from air temperature and water depth, and in turn allow us to determine the amount of water required to be released from Sardis Reservoir to maintain target stream temperatures. We then compare these targeted stream temperatures with mussel success and ecosystem services.

### Objectives:

1. Conduct laboratory experiments to measure mussel thermal preference and performance (respiration rates, filtration rate, and nitrogen and phosphorus recycling rates and storage) for species of freshwater mussels from southeastern Oklahoma. Combine these data with mussel community biomass data to estimate ecosystem services.
2. Place automatic recording level loggers in river reaches/mussel beds in the Kiamichi River to obtain daily information on flow discharge and water temperature across seasons.
3. Create a GIS-based model that quantifies (i) incoming solar radiation to the Kiamichi watershed (using Oklahoma Mesonet data); (ii) water-surface reflection and topographic and riparian shading (using methods from Julian et al. 2008b); and (iii) water budgets (using flow and hydrographic data). This GIS-based model will be combined with empirical data from Objective 2 to develop predictive relationships of water temperature based on variable flow and atmospheric conditions.
4. Compare model results with various in-stream flow scenarios to make environmental flow recommendations that protect mussel populations and system-wide ecological function.

## **METHODS**

**Objective 1:** *Conduct laboratory experiments to measure mussel thermal preference and performance (respiration rates, filtration rate, and nitrogen and phosphorus recycling rates and storage) for species of freshwater mussels from southeastern Oklahoma. Combine these data with mussel community biomass data to estimate ecosystem services.*

Spooner and Vaughn (2008) measured respiration rates, algal clearance rates, and nitrogen and phosphorus recycling rates for eight species of mussels from southeastern Oklahoma at 15, 25, and 35 °C. We added to this dataset by measuring the above rates for six additional species of mussels across the three temperatures. Mussels were acclimated to experimental temperatures for two weeks in 500-L Frigid Unit Living Streams®. Mussels were fed cultured algae during acclimation, and then starved for 24 hours before conducting the experiments (Vaughn et al. 2004). Measurements on individual mussels were conducted in continuously stirred, covered glass beakers (500 ml or 1500 ml, depending on mussel size) housed in 1.8 m<sup>3</sup> temperature-controlled chambers. Following Spooner and Vaughn (2008) we added an aliquot of cultured algae to each beaker, allowed mussels to filter for 1.5 hours, and measure filtration rate as the mass-specific change in chlorophyll concentration. Each mussel was then placed in a second beaker with pre-filtered water for an additional 1.5 hours where we measured respiration rate as the change in oxygen concentration and collect water samples to determine excretion (NH<sub>3</sub>, PO<sub>4</sub>) rates. At the end of the experiment, mussels were measured for shell dimensions and weighed. All rate were expressed on a gram dry weight basis.

On July 31, 2011 and June 10, 2012, we quantitatively sampled mussels at the Paine's site on the Kiamichi River. This is a long-term mussel-monitoring site established in 1991 (Site 7 from Vaughn and Pyron 1995; Site KM11 Hobo logger). We divided the site into three sections; the upstream pool, the downstream riffle that had water (hereafter "riffle"), and the most downstream riffle that was completely dry (hereafter "dry riffle")(Figure 1). In the pool and riffle sections, we excavated 15, 0.25 m<sup>2</sup> quadrats following Vaughn et al. (1997). Mussels were identified, measured for length, and returned to the stream. In the riffle there were many freshly dead mussels (tissue still attached), so we separately tallied densities and sizes for live and dead mussels. In the dry riffle we established eight transects across the riverbed spaced 10 meters apart. Then, at each one meter interval across each transect we counted freshly dead mussel individuals that could be observed from the surface for one meter to either side of the transect line.

We used length-dry weight regressions to estimate mean mussel biomass for each species. We combined this information with our measured densities to estimate the total biomass of each species in the pool and riffle. We multiplied the dry-weight corrected nitrogen and phosphorus excretion rates and algal clearance rates from our laboratory experiment by mussel biomass from our field survey to get areal rates (rates per g dry weight per square meter of riverbed), and summed across species to get community wide ecosystem service rates (N recycling, P recycling and biofiltration) based on the species actually present in the pool and riffle. We did not use the dry riffle in our ecosystem services estimates because we did not have mussel length data for that area and thus could not estimate biomass. We used mussel biomass and stoichiometric data to estimate the amount of nitrogen, phosphorus and carbon stored in mussel soft tissue and shell (Christian et al. 2008, Atkinson et al. 2010).

***Objective 2:*** *Place automatic recording level loggers in ten river reaches/mussel beds in the Kiamichi River to obtain daily information on flow discharge and water temperature across seasons.*

We installed 8 Onset<sup>®</sup> HOBO<sup>®</sup> data loggers (model U20-001-01) that measured water depth and water temperature across the Kiamichi River watershed (Figure 2; Table 1). These sites were strategically selected to capture influences from Sardis Reservoir and tributaries. We also installed 3 Onset<sup>®</sup> HOBO<sup>®</sup> data loggers (model U20-001-01) that measured atmospheric pressure and air temperature across the watershed. These data were used to calibrate and compare the water temperature and depth data. Daily solar radiation data was collected from OK Mesonet stations distributed across the Kiamichi watershed. The Mesonet is a network of 120 environmental monitoring stations distributed across Oklahoma (<http://www.mesonet.org/index.php/site/about>). All of these stations collect air temperature (°C) and solar radiation (400-1100 nm; W/m<sup>2</sup>) in 5-minute intervals.

***Objective 3:*** *Create a GIS-based model that quantifies (i) incoming solar radiation to the Kiamichi watershed (using Oklahoma Mesonet data); (ii) water-surface reflection and topographic and riparian shading (using methods from Julian et al. 2008b); and (iii) water budgets (using flow and hydrographic data). This GIS-based model will be combined with empirical data from Objective 2 to develop predictive relationships of water temperature based on variable flow and atmospheric conditions.*

With the intention of developing a GIS-based model that estimates water temperatures using solar radiation budgets (BLAM; Julian et al. 2008a), we collected 22 hemispherical canopy photographs throughout the watershed (Figure 2). We analyzed these canopy photos with Gap Light Analyzer (GLA) software and derived canopy shading and the percentage of incoming solar radiation that reached the stream surface on an average summer day. We then used these values to calibrate a canopy-shading map for the entire watershed based on an Enhanced Vegetation Index (EVI) derived from Landsat imagery taken close to the same period as the canopy photos. This canopy-shading map can be used to calculate daily solar radiation budgets at the ground/stream surface, which can then be used to develop empirical mechanistic models for river water temperature.

**Objective 4:** *Compare model results with various in-stream flow scenarios to make environmental flow recommendations that protect mussel populations and system-wide ecological function.*

Using data from Objective 2, we developed multivariate regression models for each monitoring station (Figure 2, Table 1) that uses air temperature and water depth to predict water temperature. These models were then used to (1) develop an historical timeline of water temperatures in the Kiamichi River; and (2) determine what flows need to be released from Sardis Dam to maintain healthy mussel communities downstream and/or maximize the ecosystem services they provide.

## PRINCIPAL FINDINGS AND SIGNIFICANCE

**Objective 1:** *Mussel thermal preference and performance and estimated ecosystem services.*

We measured respiration (Figure 3), nitrogen excretion (Figure 4) and phosphorus excretion rates (Figure 5) and clearance (filtration) rates (Figure 6) for five unionid mussel species (*Lampsilis teres*, *Plectomerus dombeyanus*, *Potamilus purpuratus*, *Pyganodon grandis* and *Quadrula verrucosa*) and the invasive clam *Corbicula fluminea*.

Mussel densities at the Paine's site mussel bed (Vaughn site 7) were strongly associated with water depth and temperature. In late July 2011-12, the upper pool portion of this mussel bed was covered by water depths of 30-to-100 cm, with midday water temperatures < 30°C. In contrast the portion of the riffle that still had water covering it was extremely shallow with hot water temperatures. On July 31, 2011 the average depth in the riffle was 10 cm and the midday temperature was 40°C, well above the thermal tolerances for both juvenile and adult mussels (Pandolfo et al. 2010, Galbraith et al. 2012). In past surveys mussel densities in the pool and riffle/run portion of this site have been approximately equal (Vaughn and Pyron 1995), however in 2011-12 mussel densities in the pool were approximately 12 times higher than in the shallower riffle (Figure 7A). In the riffle freshly dead mussels (tissue still attached) were twice as abundant in quadrats as live mussels (Figure 7B). In the completely dry lower riffle we found 19 species of freshly dead mussels.

We estimated ecosystem services for the Paine's site mussel bed based on the actual community composition, densities and rates for species we found in quadrats at the site in 2011-12: *Actinonaias ligamentina*, *Amblema plicata*, *Ellipsaria lineolata*, *Fusconaia flava*, *Lampsilis cardium*, *Obliquaria reflexa*, *Potamilus purpuratus*, *Quadrula pustulosa*, *Quadrula verrucosa* and *Truncilla truncata*. Rates for *P. purpuratus* and *Q. verrucosa* were estimated from data

collected in this study. Rates for the other species are from Spooner and Vaughn (2008). We estimated ecosystem services separately for the pool, live mussels in the riffle, and lost services due to mussel death (the freshly dead mussels in the riffle). Community nitrogen and phosphorus recycling rates were highest in the pool and lowest in the riffle and increased with temperature (Figure 8). This is because mussel metabolic rates rise with temperature and they excrete at higher rates because they are stressed (Spooner and Vaughn 2008). What is interesting is that the N and P recycling capability lost through mussel death in the riffle was much higher than that provided by surviving, live mussels in the riffle (Figure 9). The same pattern can be seen for biofiltration (Figure 9) and nutrient storage (Figure 10).

***Objective 2: Discharge and water temperature time-series.***

Because of the extremely low flows to no flows in the watershed during the summers of 2011 and 2012, we were not able to construct stage-discharge rating curves for each monitoring station. Instead, we relied on water discharge data from four federal monitoring stations located within our study area (Table 2). We obtained daily precipitation, air temperature (for verification of HOBO data), and solar radiation data from three Oklahoma Mesonet stations located around the watershed (Table 3). All of these data were used to create time-series for each station that displayed mean water temperatures (Appendix 1) and maximum water temperatures (Appendix 2). During our study period (June 8, 2011 – September 30, 2012), there were 4 days at the Kiamichi River station @ Clayton in which water temperatures exceeded 35 C – the temperature at which adult mussels begin to die. Kiamichi River @ Antlers had 21 days where water temperature exceeded 35 C. During these days, there were no releases from Sardis Dam or in the case of Antlers, releases did not convey all the way to Antlers due to the lower Kiamichi River being a losing stream during extended droughts in the post-Sardis Dam hydrologic regime. The effect of lack of releases from Sardis Dam on downstream reaches during droughts is illustrated in Figure 11. Sardis Dam captures approximately 25% of the Kiamichi River watershed above the Antlers gage. When none of this runoff is released during extended droughts, the lower reaches behave like the upper reaches in terms of hydrologic drought. Before Sardis Dam (1982) downstream reaches such as Antlers were not as susceptible to hydrologic drought as the upper reaches on account of a larger contributing watershed.

In addition to numerous days of lethal water temperatures, there were also long periods of no flow days at many of the stations (Table 4) that also led to mass mortality of mussels (USFWS, unpublished data; C.L. Atkinson, unpublished data).

***Objective 3: Predictive relationships of water temperature based on variable flow and atmospheric conditions.***

We analyzed the canopy photos with Gap Light Analyzer (GLA) software and derived canopy shading and the percentage of incoming solar radiation that reached the stream surface on an average summer day (Table 5). We then used these values to calibrate a canopy-shading map for the entire watershed based on an Enhanced Vegetation Index (EVI) derived from Landsat imagery taken close to the same period as the canopy photos (Figure 12).

Solar radiation at the stream surface was not a good predictor of water temperatures (Figure 13), which we attribute to the extremely low flow volumes of the Kiamichi streams during the drought of 2011-12. Under these flow conditions, water temperature is more influenced by heat

diffusion at the air-water interface than by solar radiation heating. That is, the air temperature is the dominant control on water temperature for low flow conditions. Thus, we changed our strategy to model water temperatures using a multivariate regression model that incorporates air temperature and flow depth. These multivariate regression models predicted mean daily water temperatures (Appendix 3) and maximum daily water temperatures (Appendix 4) accurately. The coefficient of determination ( $r^2$ ) for mean daily water temperature ranged from 0.77 to 0.85 for all the stations except Antlers (K9), which had an  $r^2 = 0.64$  (Appendix 3). We attribute the lower predictability for K9 to the extreme variability in groundwater-surface water exchanges over our study period. Similarly,  $r^2$  for maximum daily water temperature ranged from 0.62 to 0.83 (Appendix 4). For all models, water temperature increased predictably with increasing air temperature, and decreased predictably with increasing water depth. These models were used to determine how different water releases from Sardis Dam affect downstream water temperatures (Figure 14; Objective 4).

***Objective 4:*** Compare model results with various in-stream flow scenarios to make environmental flow recommendations that protect mussel populations and system-wide ecological function.

The managed daily water releases of 0.59 cms (21 cfs ) from Sardis Dam beginning on August 2, 2011 did not increase discharge at the Antlers site until August 27, 2011 (25 days later). The likely reason for this lack of conveyance is that the water table was considerably lower than the stream bed at the end of July 2011, and thus all water released by Sardis Dam was quickly lost to the subsurface until the local water table rose high enough to intersect the channel bed, which occurred on August 27, 2011. Note that there were three small rainfall events ( $> 1$  cm) during this period that also helped to raise the water table. What all of these data mean is that the Kiamichi River is a losing stream (i.e. discharge is lost to the subsurface due to the water table being lower than the stream bed) during extended periods of drought, particularly when 25% of its watershed runoff is held behind Sardis Dam without daily releases.

Figures 15 and 16 show the discharge-temperature rating curves that can be used to determine the required discharge for the Kiamichi River near Clayton (USGS 07335790) in order to reduce maximum water temperature to the target water temperatures that ensure mussel survival and allow them to provide ecosystem services. At the bare minimum, we recommend that maximum water temperatures be kept below 35°C, which is the temperature at which almost all juvenile mussels and many adult mussels start to die (Pandolfo et al 2010, 2012; Galbraith et al. 2010, 2012). For example, on a day with a mean daily air temperature of 40°C, enough water needs to be released from Sardis Dam to ensure 1.8 cms at the Clayton gage and prevent mussel mortality (Table 6). Note that these recommendations are based on empirical data and do not directly take into account the water temperature of Sardis Reservoir. Even more important than regulating water temperature, we recommend that during droughts, enough water should be released from Sardis Dam to maintain flow at both the Clayton and Antlers gages ( $> 0.01$  cms) as the reach between these two gages is critical mussel habitat with 3 federally listed endangered species.

Adult freshwater mussels are sedentary and dispersal is via their larvae (glochidia) that are obligate parasites on fish (Strayer et al. 2004). While no flow days have occurred in the river in the past, in pre-reservoir construction droughts the river would have been recolonized by fish hosts moving up from the Red River (Vaughn 2012). The presence of Hugo Dam downstream prevents recolonization from the Red River and its tributaries and creates an isolated mussel

community above Hugo Lake. Vaughn has been monitoring mussels in the Kiamichi River since 1990 and has found that mussel populations have declined following the drought in the early 2000s (Galbraith et al. 2010) and the 2011-12 drought. As an example, at Paine's site mussel abundance has decreased 50 % since 1991 (Figure 17). The occurrence of the endangered mussel species have also decreased throughout the river (Galbraith et al. 2008), including the abundance of *Arkansia wheeleri*. The Kiamichi River contains the only viable population in the world of *A. wheeleri* (Vaughn and Pyron 1995). Thus, it is imperative that we manage releases from Sardis Dam to maintain flows in the river between Sardis Lake and Hugo Lake.

Freshwater mussels provide important ecosystem services to humans, including pre-filtration of water and nutrient recycling and storage. Different mussel species perform these services differently at various temperatures, but when the contributions of whole mussel communities are considered biofiltration and nutrient recycling generally increase with temperature up to a point because mussel metabolic rates increase with temperature. However, when water temperatures become so warm that mussels can no longer filter or excrete nutrients in a normal manner or actually die, these ecosystem services are lost. For the Kiamichi River, the maximum temperature that mussel communities can continue to perform normally is 35°C, although some species begin to decrease their performance at temperatures above 25 or 30°C (for example, *Actinonaias ligamentina*, see Vaughn et al. 2008). In addition, once mussels die it may take decades for populations to recover and provide lost ecosystem services, assuming flows are maintained in the river. Mussels have very long life spans (30 to 50 years), don't reach reproductive maturity until around age 6, and often don't reproduce every year. In mussel beds hard hit by the 2011-12 drought, such as the riffle at Paine's site, it will likely take approximately 30 years to achieve enough mussel biomass to restore ecosystem services.

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Table 1. Locations of HOBO data loggers that measure water depth and water temperature. Period of data collection may not be continuous due to logger displacements (flood or anthropogenic) and to days with no flow.

<b>ID</b>	<b>Description</b>	<b>Location (WGS 84)</b>	<b>Elevation (m)</b>	<b>Period of Data (MM/DD/YYYY)</b>
K1	Atmosphere, Upper watershed	N34 38.359 W94 36.733	280	06/08/2011 – 09/30/2012
K2	Kiamichi River @ Big Cedar	N34 38.351 W94 36.724	279	06/08/2011 – 09/30/2012
K3	Buffalo Creek	N34 43.711 W95 14.141	203	06/08/2011 – 09/30/2012
K4	Jackfork Creek above Sardis Reservoir	N34 36.063 W95 33.956	193	06/08/2011 – 07/19/2011
K5	Atmosphere, Middle watershed	N34 34.428 W95 21.435	164	06/08/2011 – 09/30/2012
K6	Kiamichi River @ Tuskahoma	N34 36.715 W95 16.640	155	06/08/2011 – 09/30/2012
K7	Jackfork Creek below Sardis Dam	N34 36.377 W95 20.091	160	06/08/2011 – 09/30/2012
K8	Kiamichi River @ Clayton	N34 34.531 W95 20.406	154	06/08/2011 – 09/30/2012
K9	Kiamichi River @ Antlers	N34 14.933 W95 36.317	126	06/08/2011 – 09/30/2012
K10	Atmosphere, Lower watershed	N34 14.846 W95 36.451	141	06/08/2011 – 09/30/2012
K11	Kiamichi River @ Paine's	N34.42720 W95.58134	139	8/01/2011 – 09/24/2011

Table 2. Water discharge gages in the watershed. The Sardis Lake gage is maintained by USACE (USACE station ID: CYD02).

<b>ID</b>	<b>Name</b>	<b>Location (NAD27)</b>	<b>Elevation (m)</b>	<b>Watershed area (km<sup>2</sup>)</b>	<b>Period of Data (MM/YYYY)</b>
USGS 07335700	Kiamichi River near Big Cedar, OK	N34 38.300 W94 36.750	270	102.6	10/1965 – current <sup>1</sup>
USGS 07335790	Kiamichi River near Clayton, OK	N34 34.483 W95 20.433	158	1810	11/1980 – current
USGS 07336200	Kiamichi River near Antlers, OK	N34 14.917 W95 36.300	128	2924	10/1972 – current
USGS 07335775	Sardis Lake near Clayton, OK	N34 37.750 W95 21.050	161	712	11/1994 – current

<sup>1</sup>USGS began recording water temperature at this site 2/2012.

Table 3. Oklahoma mesonet stations in the watershed used to characterize and verify air temperature and precipitation.

<b>ID (number)</b>	<b>Name</b>	<b>Location (NAD27)</b>	<b>Elevation (m)</b>	<b>Period of Data (MM/YYYY)</b>
TALI (93)	Talihina	N34.71070 W95.01152	204	03/1997 – present
CLAY (29)	Clayton	N34.65657 W95.32596	186	03/1997 – present
ANTL (4)	Antlers	N34.22438 W95.70059	179	03/1997 – present

Table 4. No flow days at each of the four discharge monitoring stations for Summer 2011 (June 8 – September 30) and Summer 2012 (June 1 – September 30). Except during large floods, discharge on Jackfork Creek below Sardis Dam is set by controlled releases from the dam.

<b>ID</b>	<b>Name</b>	<b>Watershed area (km<sup>2</sup>)</b>	<b>No Flow Days</b>	
			<b>Summer 2011</b>	<b>Summer 2012</b>
USGS 07335700	Kiamichi River near Big Cedar, OK	102.6	95	112
USGS 07335790	Kiamichi River near Clayton, OK	1810	13	32
USGS 07336200	Kiamichi River near Antlers, OK	2924	52	31
USGS 07335775	Jackfork Creek below Sardis Dam	712	55	67

Table 5. Locations and data from canopy photographs that measure stream shading.

<b>ID</b>	<b>Date (MM/DD/YYYY)</b>	<b>Location (WGS 84)</b>	<b>Elevation (m)</b>	<b>Width (m)</b>	<b>Canopy shading (%)</b>	<b>Stream surface solar radiation (%)</b>
CP1	06/7/2011	N34 38.244 W94 39.153	264	8.8	64.0	54.4
CP2	06/7/2011	N34 38.396 W94 36.669	267	14.6	59.2	60.1
CP3	06/7/2011	N34 38.411 W94 36.620	280	4.5	88.4	18.2
CP4	06/7/2011	N34 38.448 W94 37.304	285	5.9	86.5	26.9
CP5	06/7/2011	N34 40.942 W94 53.174	210	30.1	51.2	72.0
CP6	06/7/2011	N34 39.463 W95 02.522	187	30	46.4	84.5
CP7	06/7/2011	N34 43.717 W95 14.151	201	14	68.8	66.6
CP8	06/7/2011	N34 36.068 W95 33.953	197	15	65.0	63.2
CP9	06/8/2011	N34 36.715 W95 16.640	155	36	45.8	86.8
CP10	06/8/2011	N34 36.850 W95 17.969	154	14.7	47.5	82.9
CP11	06/8/2011	N34 36.826 W95 17.850	171	10	84.8	28.3
CP12	06/8/2011	N34 36.375 W95 20.096	171	11.3	66.9	55.9
CP13	07/14/2011	N34 40.863 W94 55.682	183	25	61.6	65.7
CP14	07/14/2011	N34 40.790 W94 56.538	192	28	49.0	64.3
CP15	07/14/2011	N34 40.812 W94 56.543	188	37.5	40.9	89.0
CP16	07/14/2011	N34 40.375 W94 56.275	198	4.5	86.7	21.6
CP17	07/14/2011	N34 40.385 W94 56.285	200	3.9	82.6	26.1
CP18	07/14/2011	N34 40.361 W94 56.269	198	4.9	79.8	33.7
CP19	07/14/2011	N34 40.018 W94 57.585	200	10	80.5	38.4
CP20	07/14/2011	N34 34.500 W95 21.263	182	40	44.4	87.2
CP21	07/14/2011	N34 34.389 W95 21.425	157	37.5	46.8	84.3
CP22	07/14/2011	N34 14.953 W95 36.428	130	42	41.1	89.7

Table 6. Required discharge (in mean daily cubic meters per second) for Kiamichi River near Clayton (USGS 07335790) to prevent maximum water temperatures from exceeding 35°C, and thus preventing mussel mortality. Releases from Sardis Dam can be used to supplement discharge at the Clayton gage.

<b>Mean daily air temperature ( C )</b>	<b>Required discharge at Clayton gage (cms)</b>
36	0.1
37	0.2
38	0.2
39	0.3
40	1.8
41	4.4
42	8.3
43	13.4
44	19.7
45	27.2
46	35.9
47	45.8

Figure 1. Google image of Paine's site showing the areas sampled for mussels (pool, riffle and dry lower riffle).



Figure 2. Study area and environmental variables monitoring network.

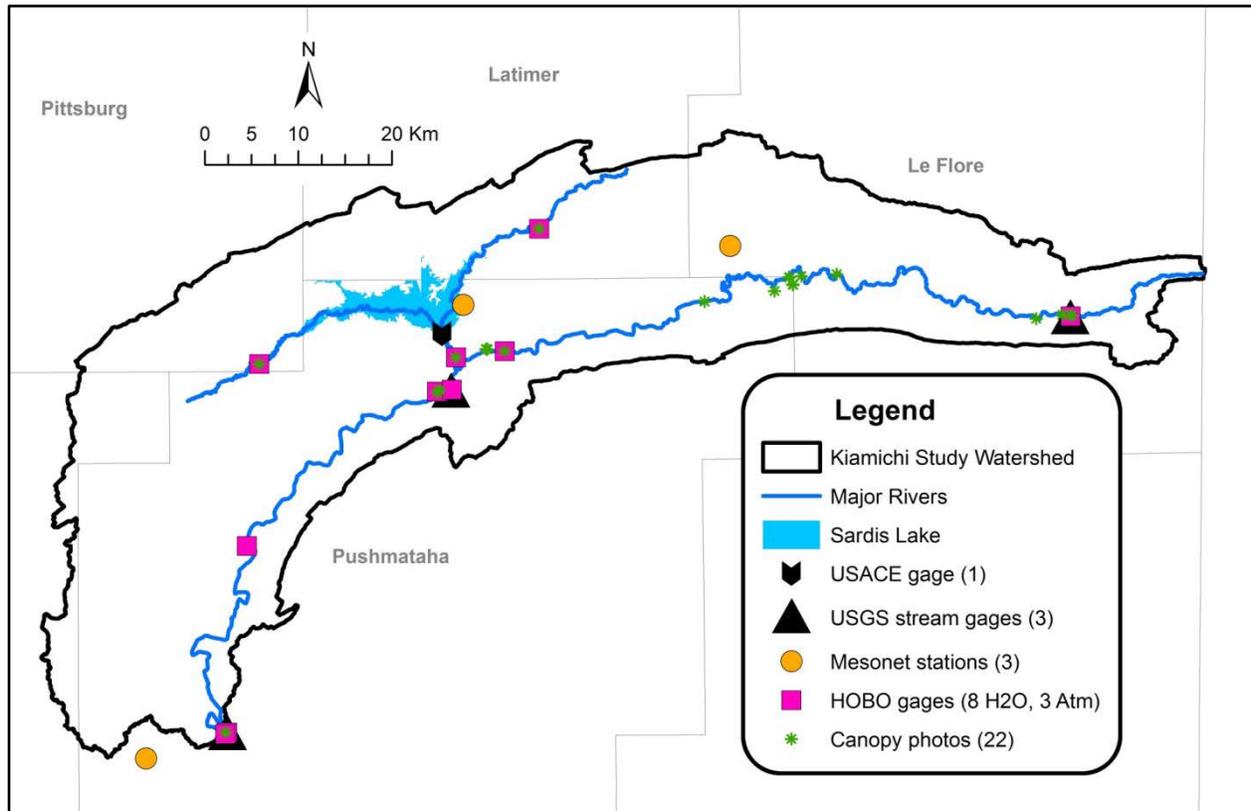


Figure 3. Mussel respiration rates.

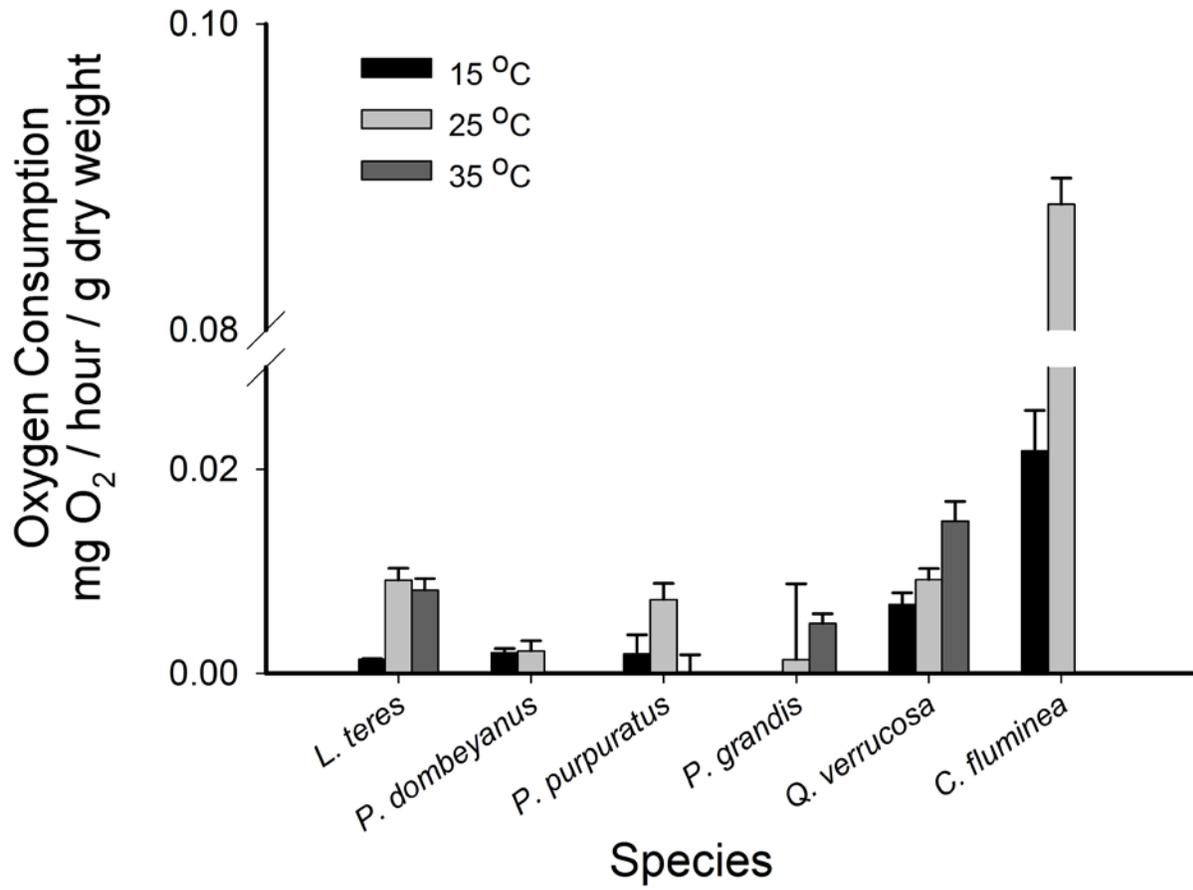


Figure 4. Mussel nitrogen excretion rates.

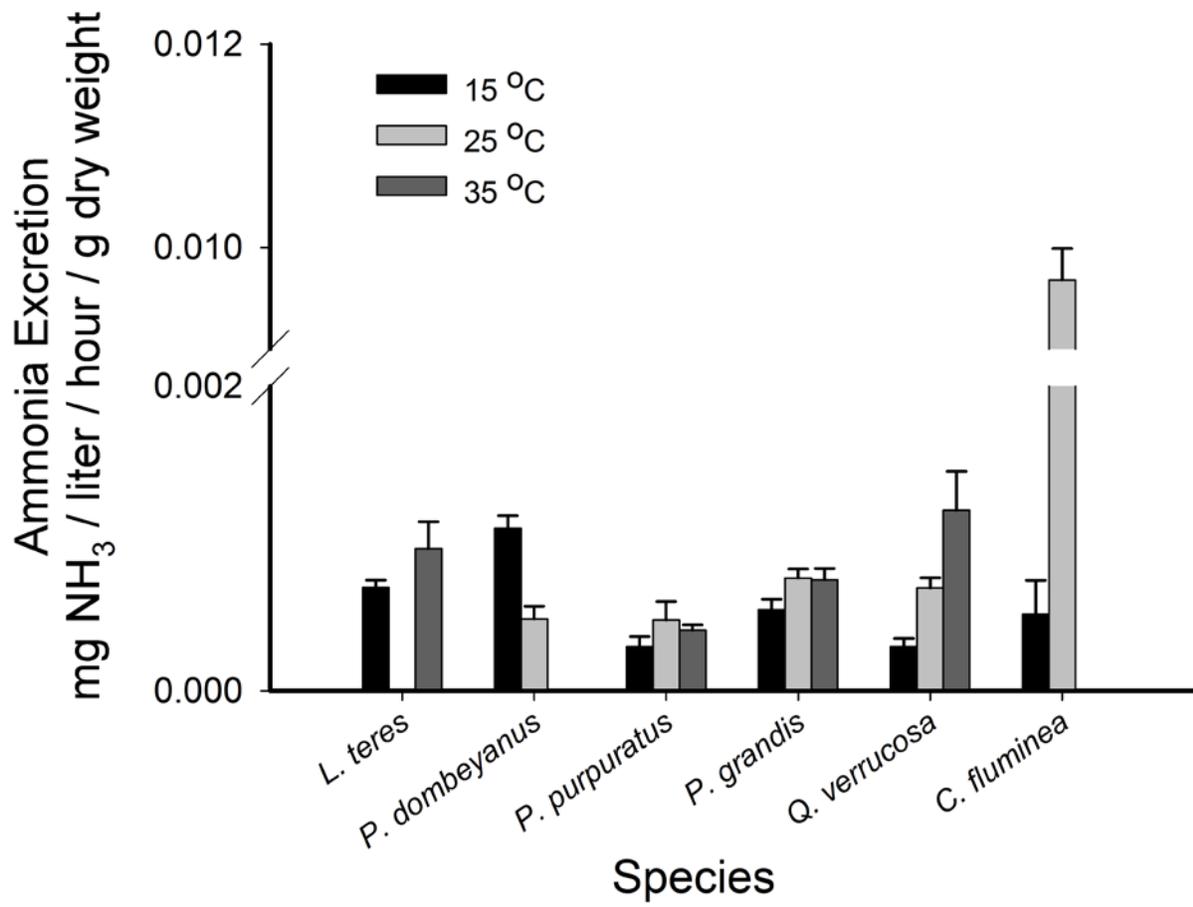


Figure 5. Mussel phosphorus excretion rates.

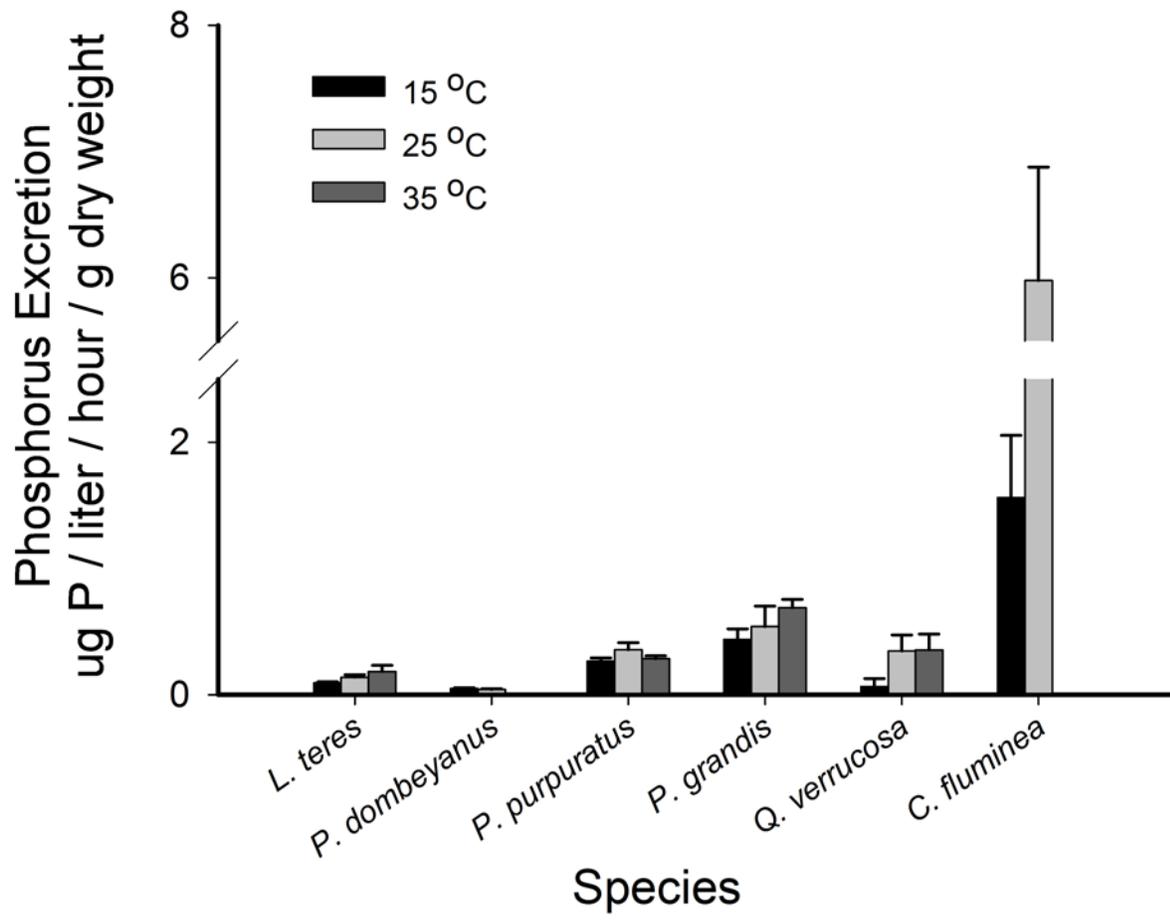


Figure 6. Mussel filtration rates.

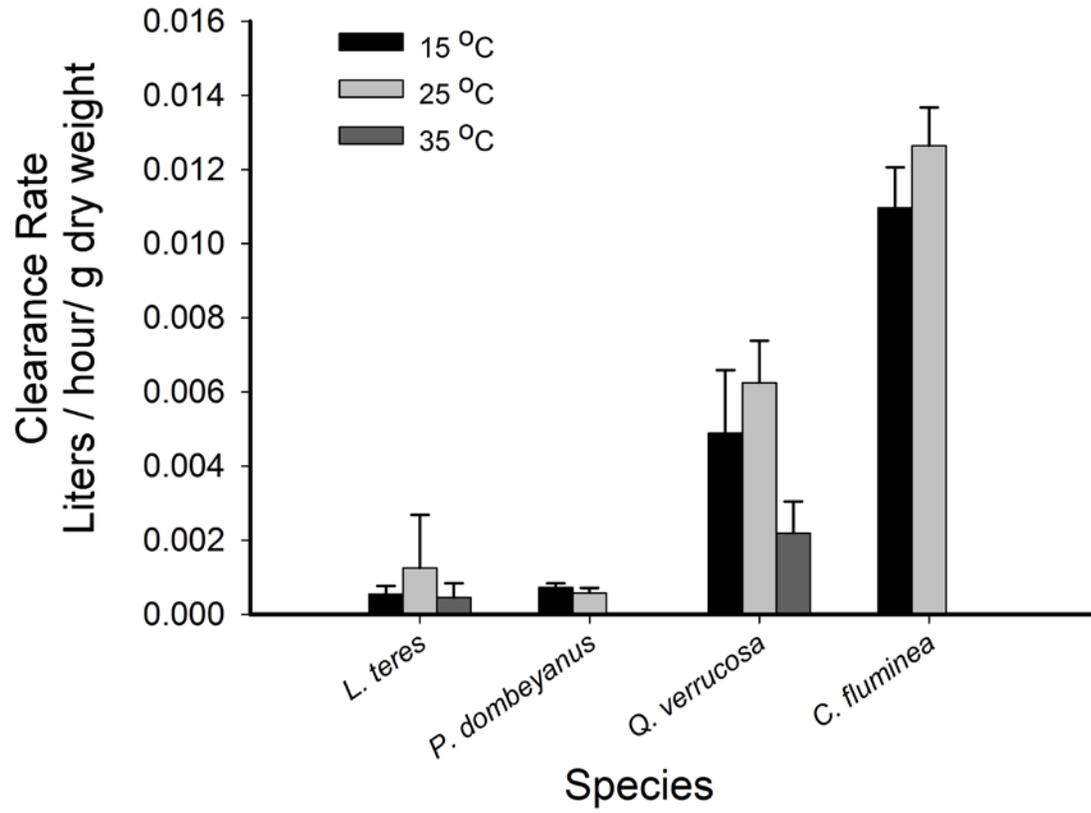


Figure 7. Mussel densities ( $\pm 1$  S.E.) at Paine's site (Vaughn site 7 from Vaughn and Pyron (1995). A: Comparison of pool and riffle densities. B: Comparison of live and dead mussels in the riffle.

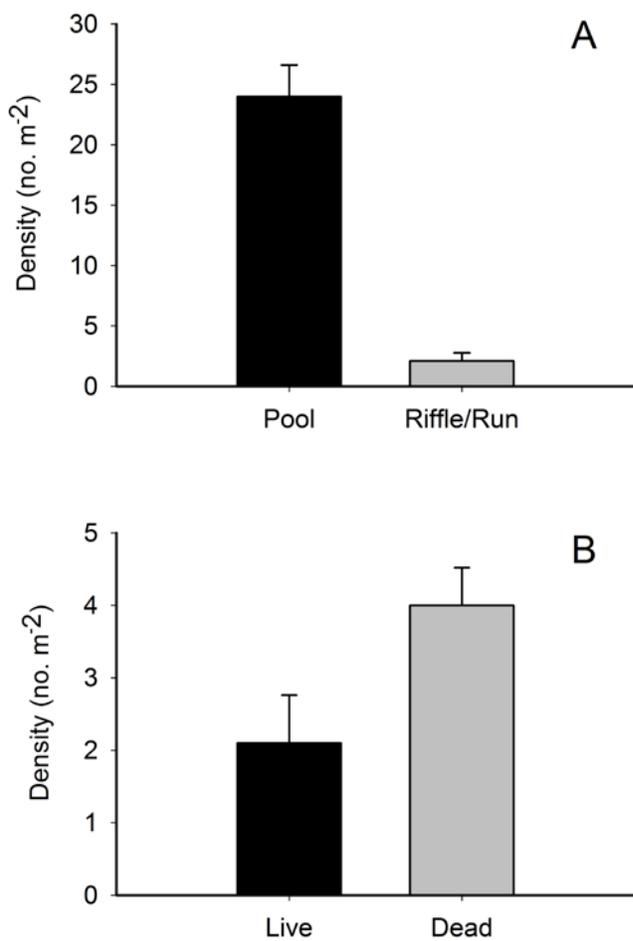


Figure 8. Mussel nitrogen and phosphorus recycling at Paine's site.

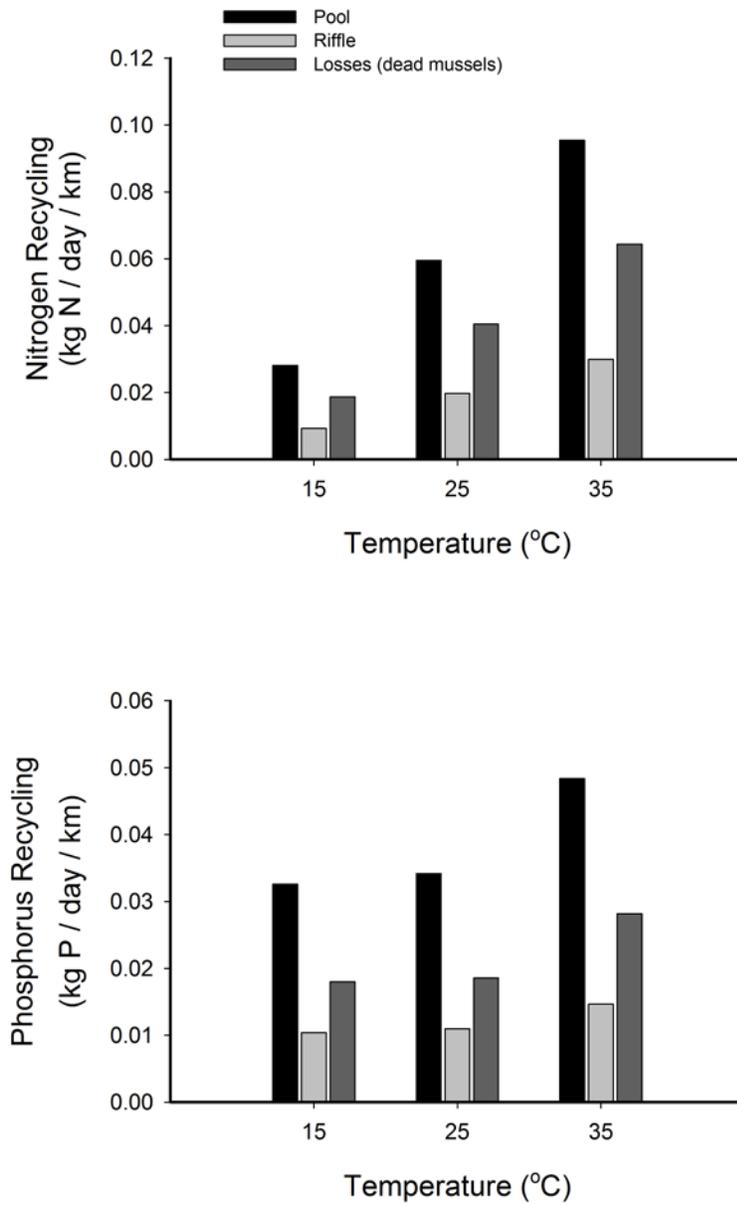


Figure 9. Mussel biofiltration at Paine's site.

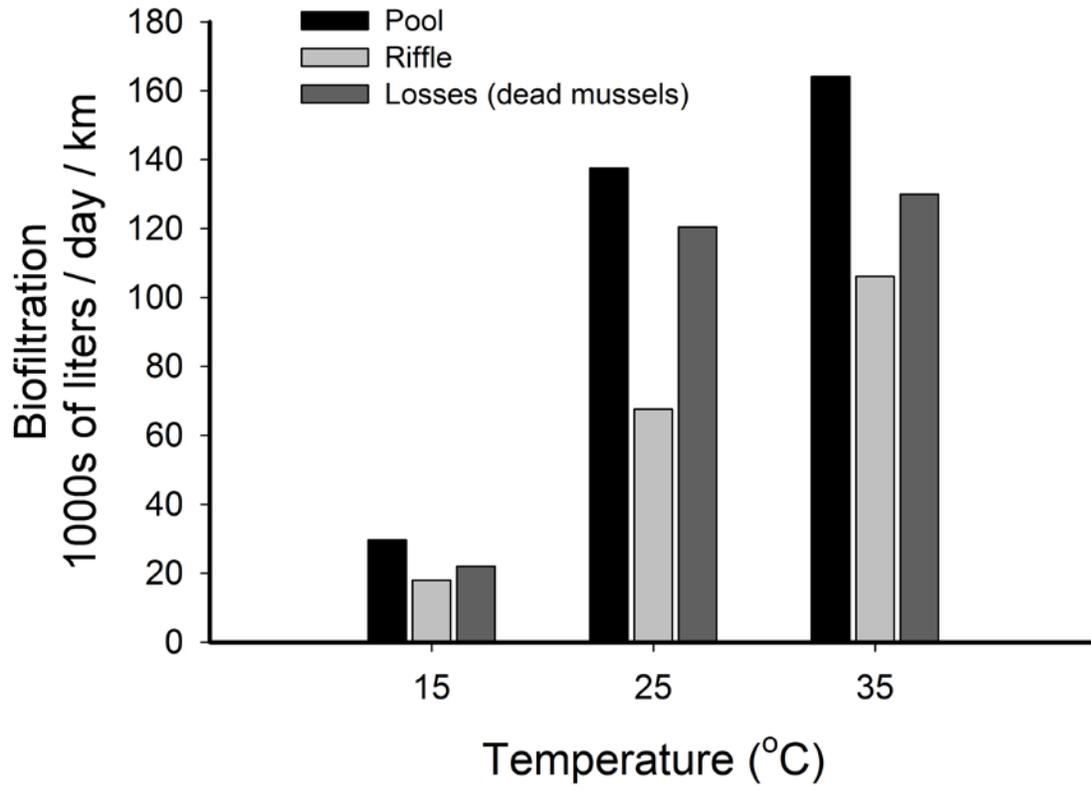


Figure 10. Mussel nutrient storage at Paine's site.

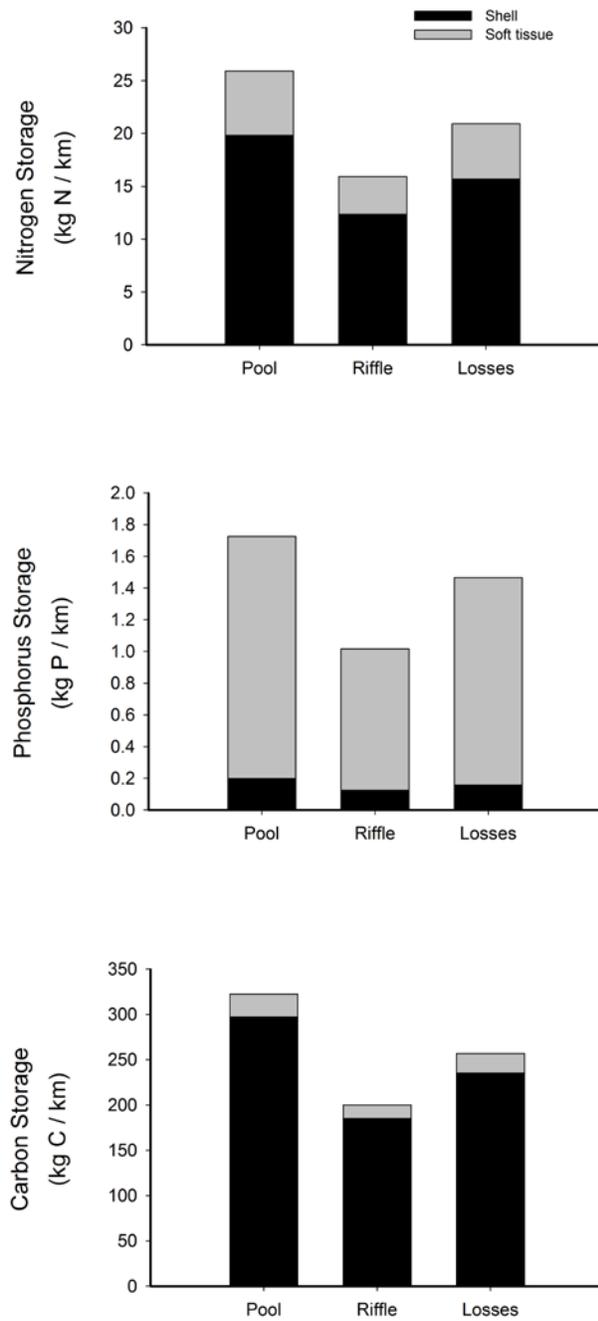


Figure 11. Severe hydrologic drought frequency for Kiamichi River at Big Cedar (upper watershed) and at Antlers (downstream extent of study area). Discharge data were obtained from the USGS gages listed in Table 2. The Kiamichi River at Antlers should be less susceptible to drought given it has a much larger watershed, which the displayed trends show from 1973 to 2004. Beginning in 2005, the two locations along the river exhibit the same drought behavior, which we attribute to the lack of releases from Sardis Dam (which captures approximately 25% of the total watershed's runoff). That is, the lack of releases from Sardis Dam during drought periods increases the magnitude and frequency of hydrologic drought in downstream reaches.

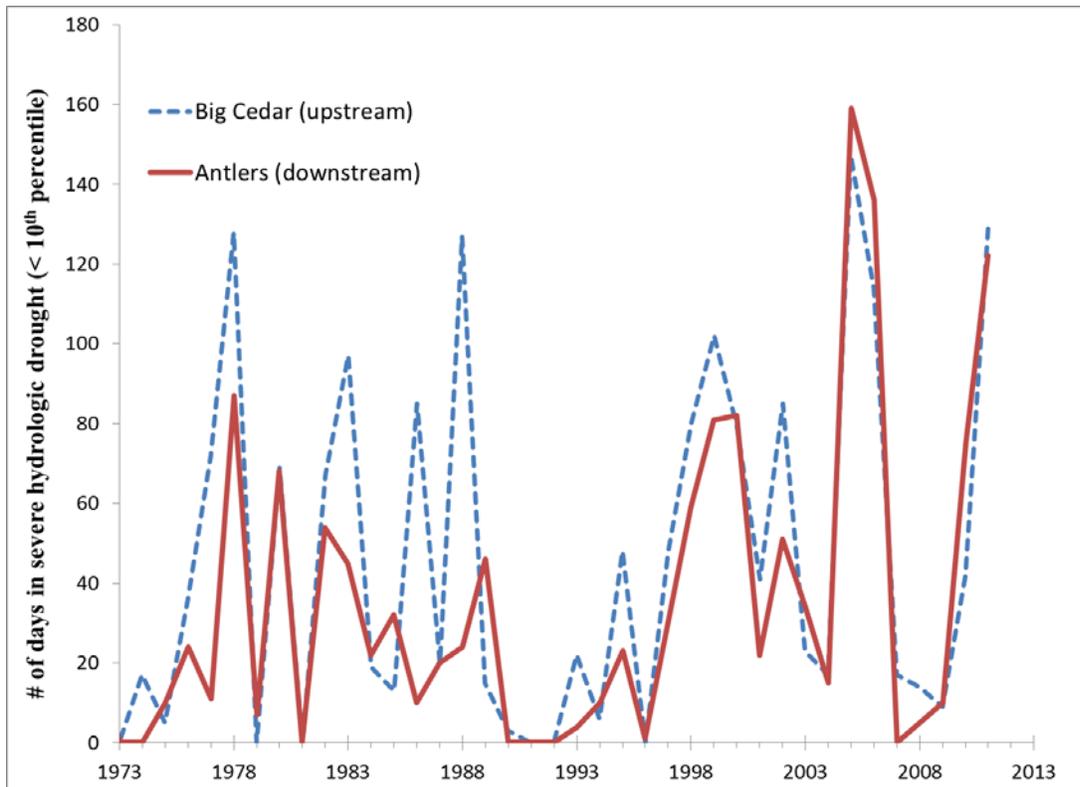


Figure 12. Map of canopy shading across the Kiamichi River watershed, derived using canopy photograph analyses in combination with subpixel mapping of Landsat imagery.

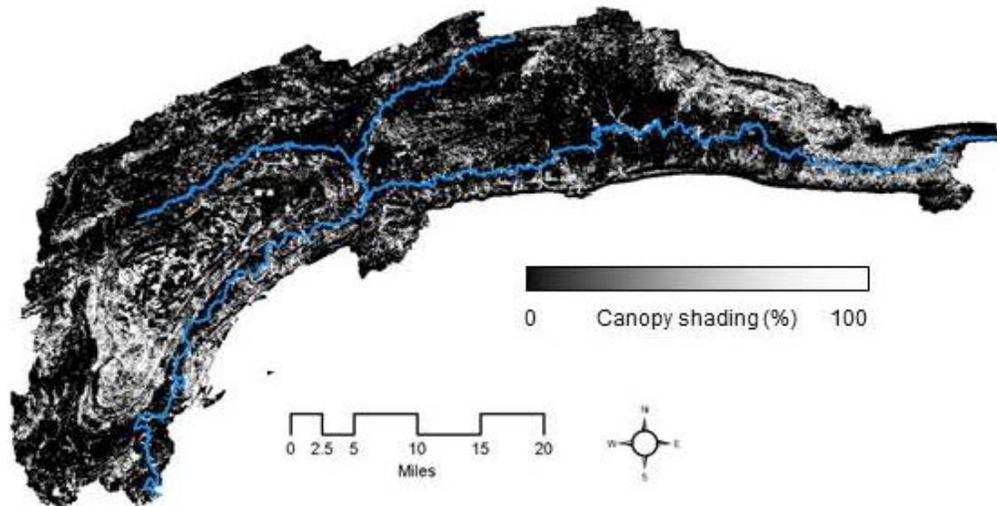


Figure 13. Relationship between mean daily water temperature of Kiamichi River @ Clayton and total daily solar radiation reaching watershed stream surface for the summer of 2011 (6/8/2011 – 9/30/2011). There was not a strong relationship between these two variables ( $r^2 = 0.23$ ), and thus the GIS model based on solar radiation budgets was not pursued. Note that prior to Sardis Dam releases on August 2, 2011, water temperature remained above 29 C.

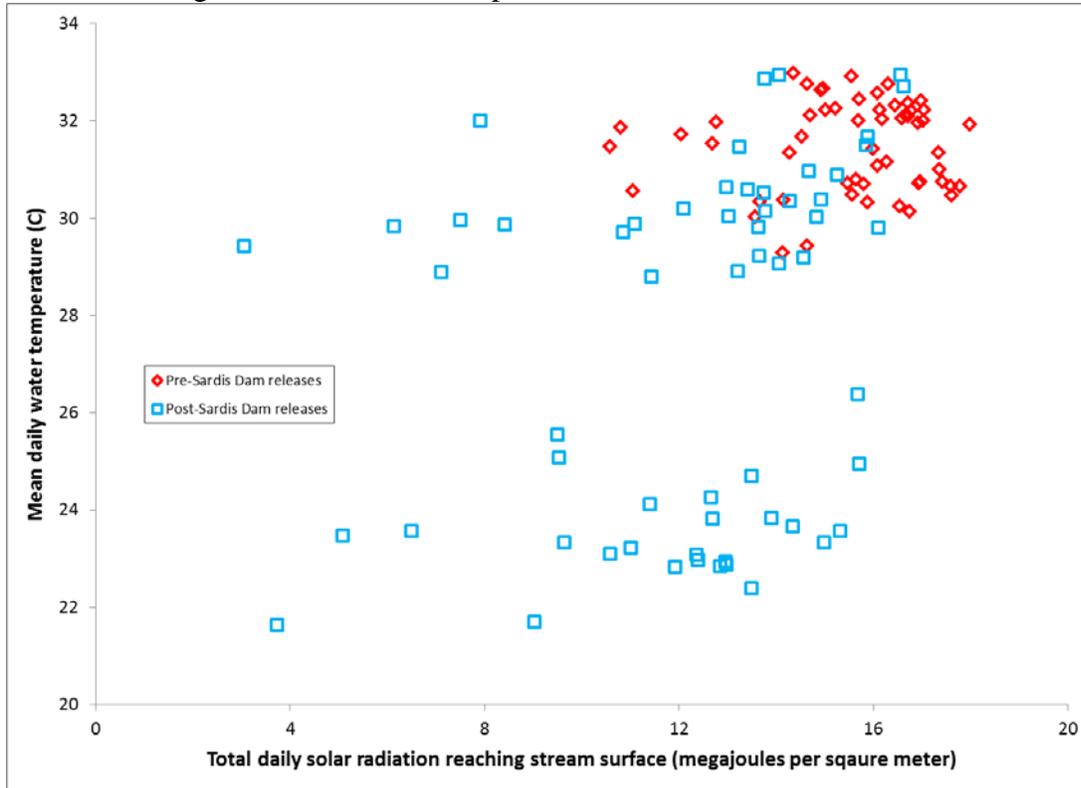


Figure 14. The effect of different water releases from Sardis Dam on downstream water temperatures in the Kiamichi River, at Clayton in this case during Summer 2011. Water temperatures were calculated using actual air temperatures with modeled water depths (Appendix 5E). Refer to Appendix 3F for the multivariate regression model used.

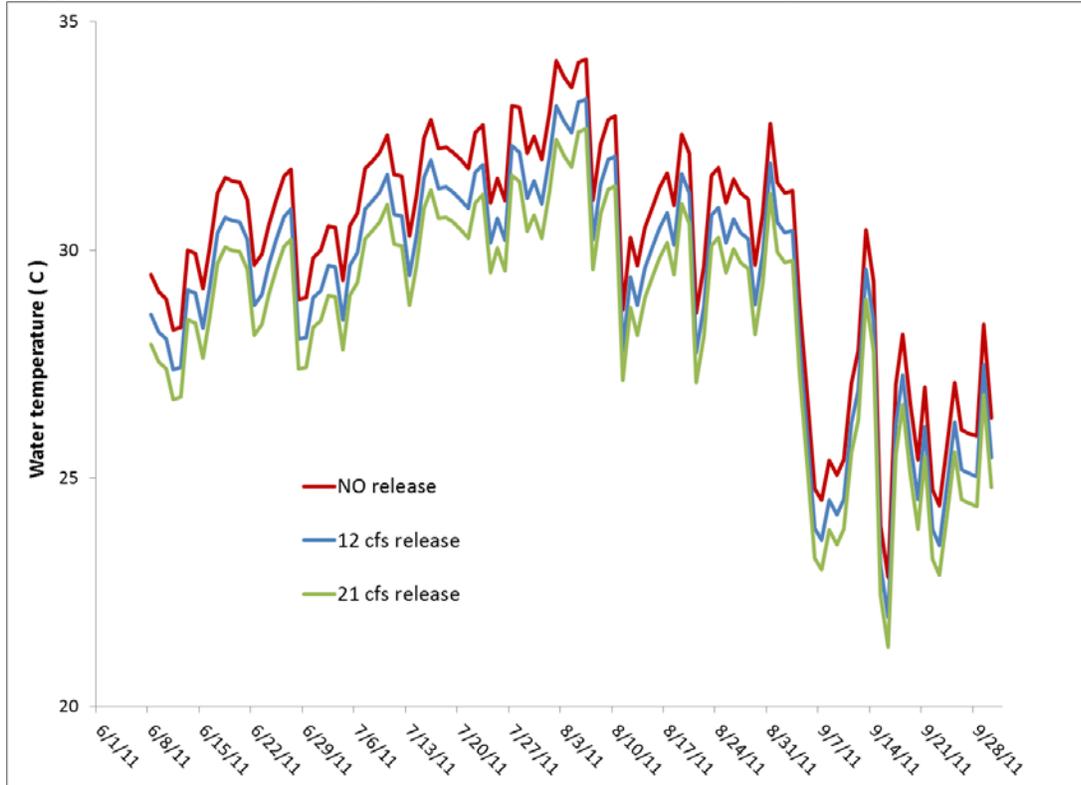


Figure 15. Discharges required for Kiamichi River near Clayton (USGS 07335790) to reduce maximum water temperature below target water temperatures assessed in Objective 1. Empirical rating curves were developed using Appendix 4F in combination with Appendix 5C.

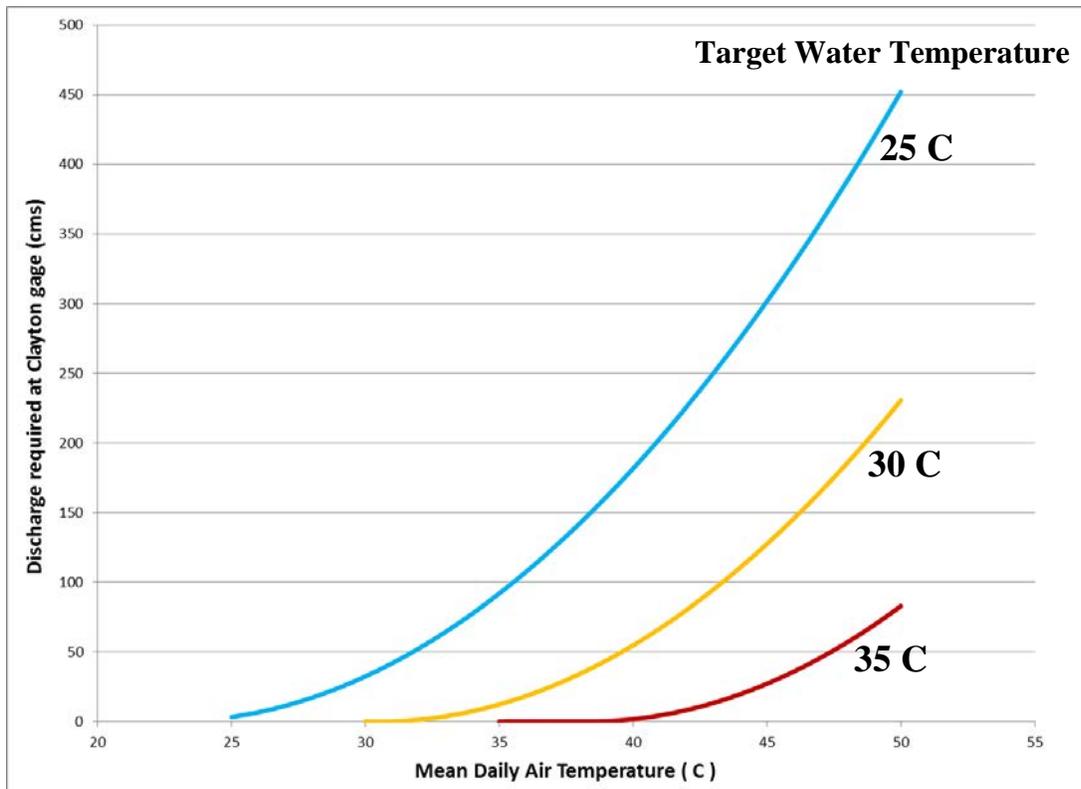


Figure 16. Discharges (under 100 cms) required for Kiamichi River near Clayton (USGS 07335790) to reduce maximum water temperature below target water temperatures assessed in Objective 1. Empirical rating curves were developed using Appendix 4F in combination with Appendix 5C. This is the same figure as Figure 15, just with shorter ranges for visual simplicity.

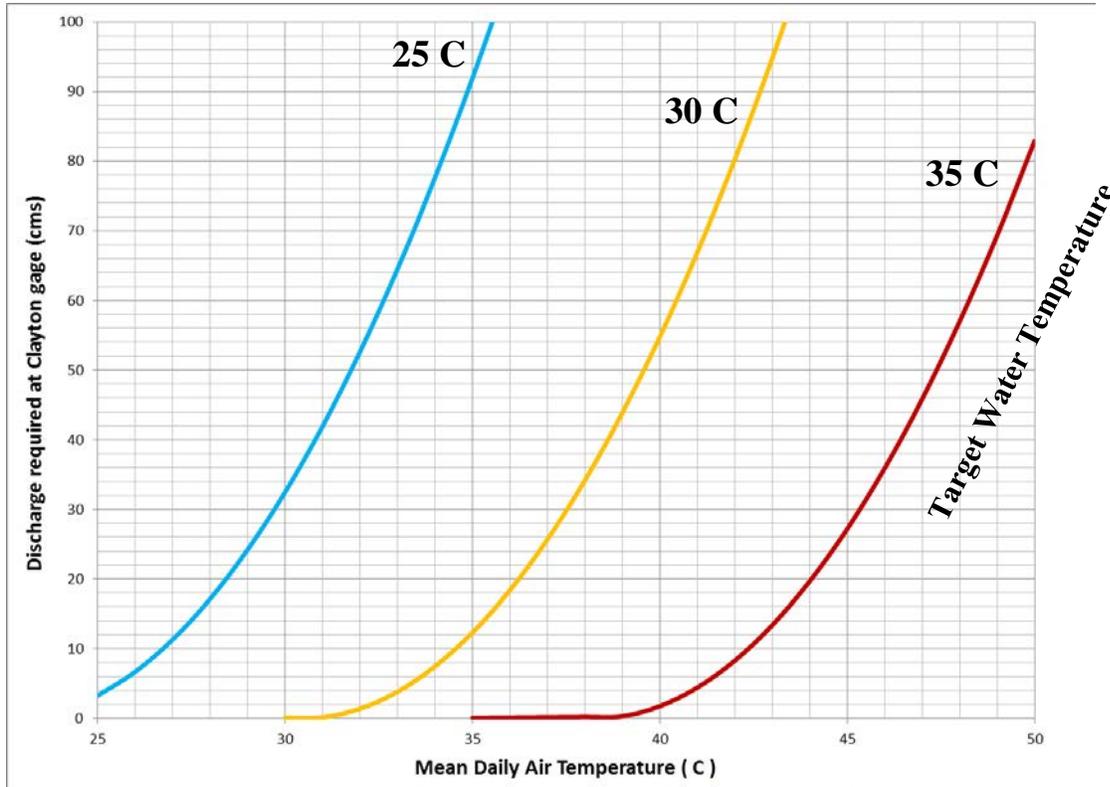
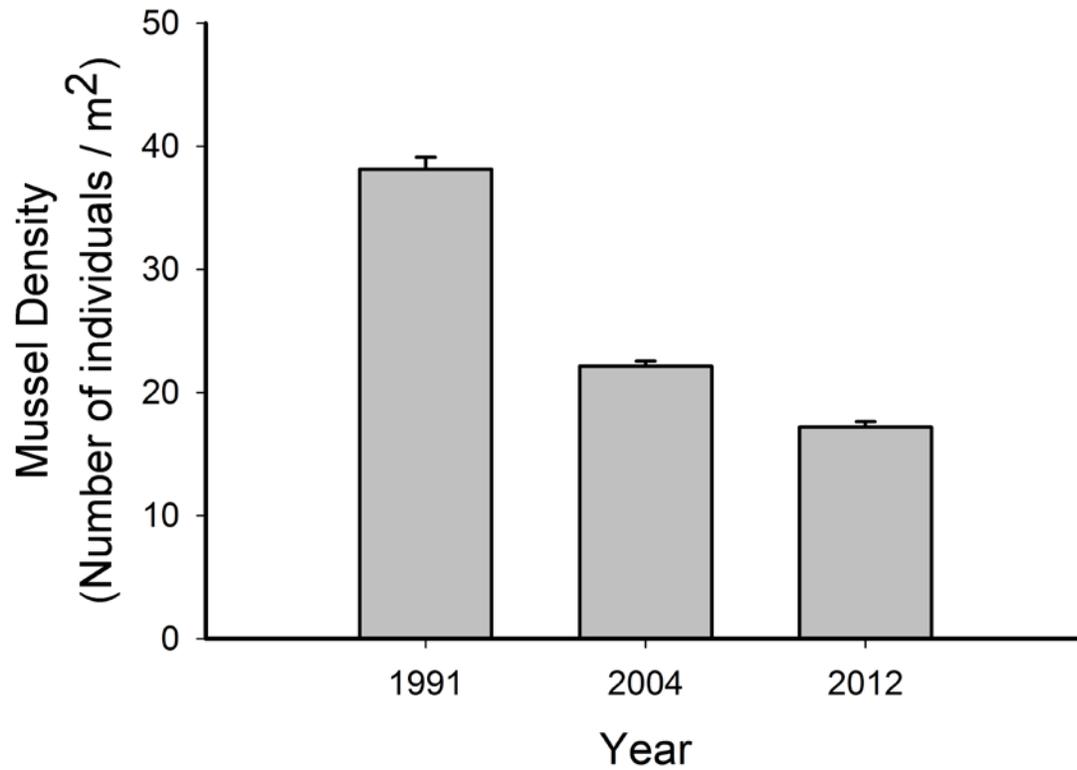
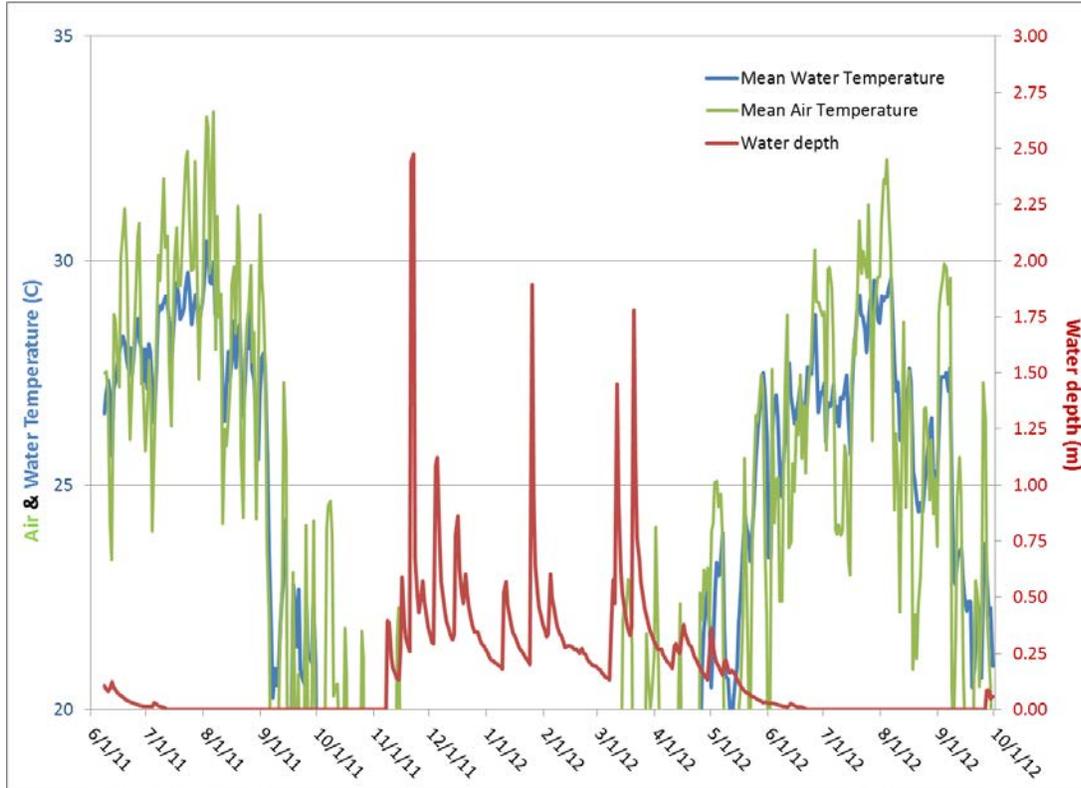


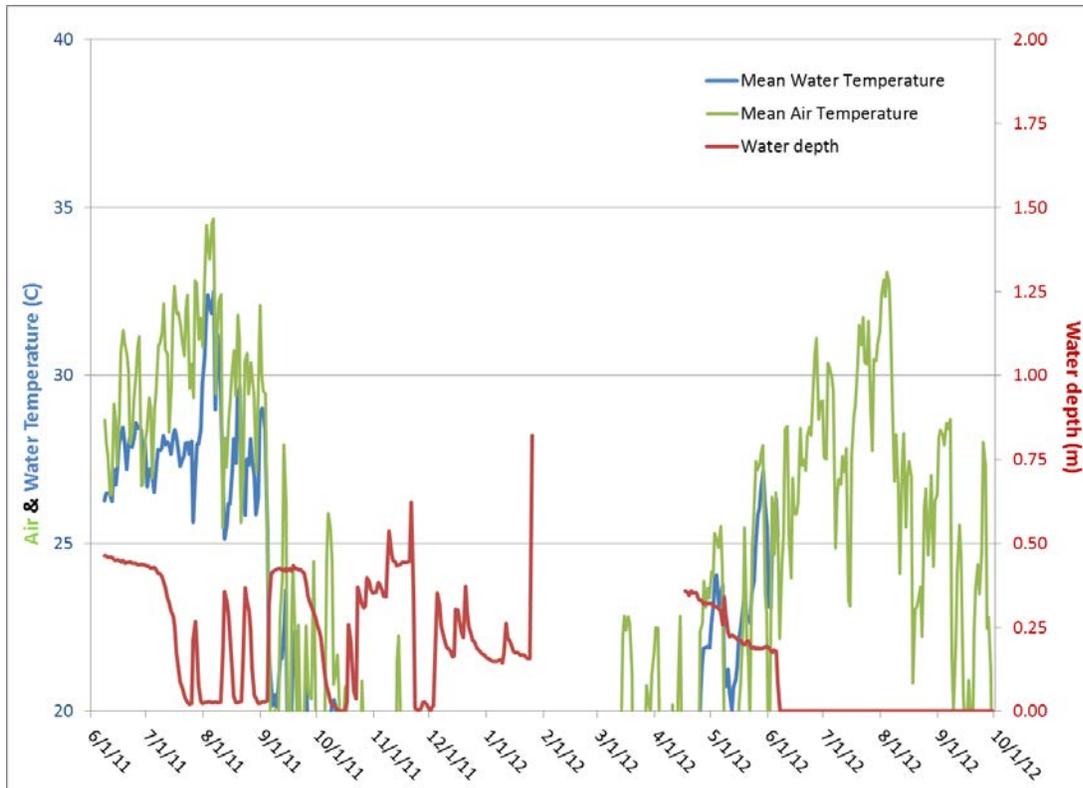
Figure 17. Average mussel densities at Paine's site (Vaughn site 7, Hobo logger site K11 across three decades – 1991, 2004 and 2012. From Vaughn and Pyron (1995), Galbraith et al. (2010) and Vaughn unpublished.



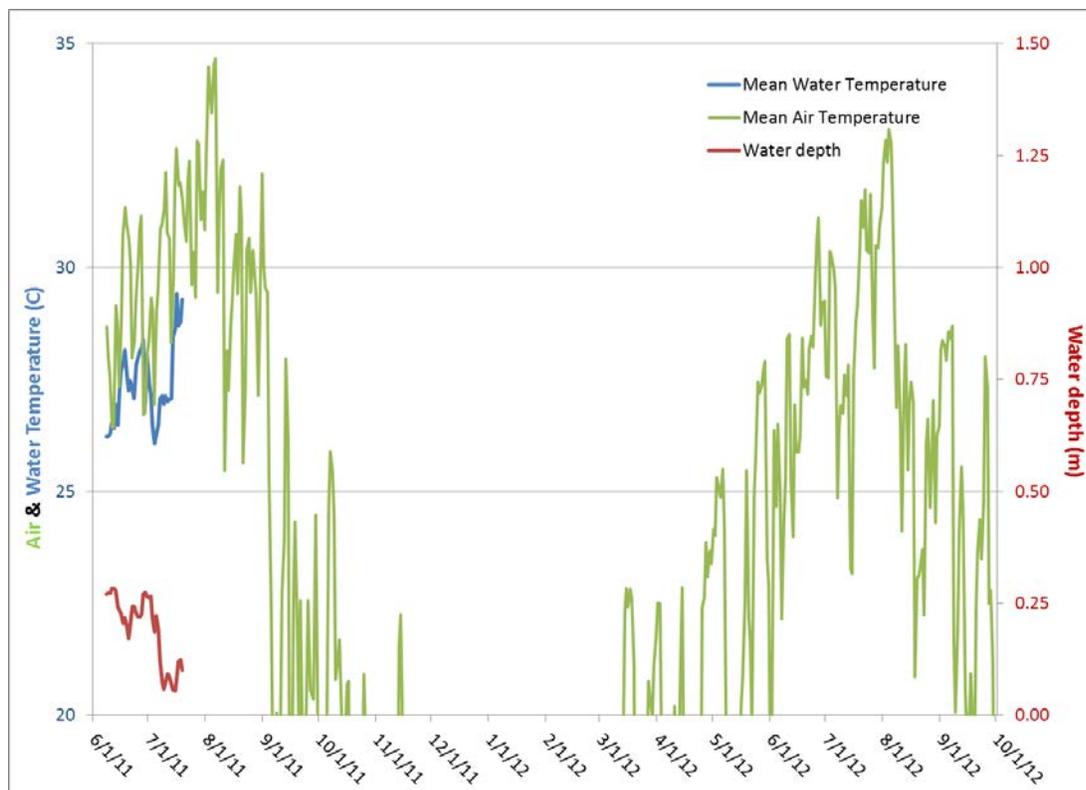
## Appendix 1 – Mean water temperature time-series



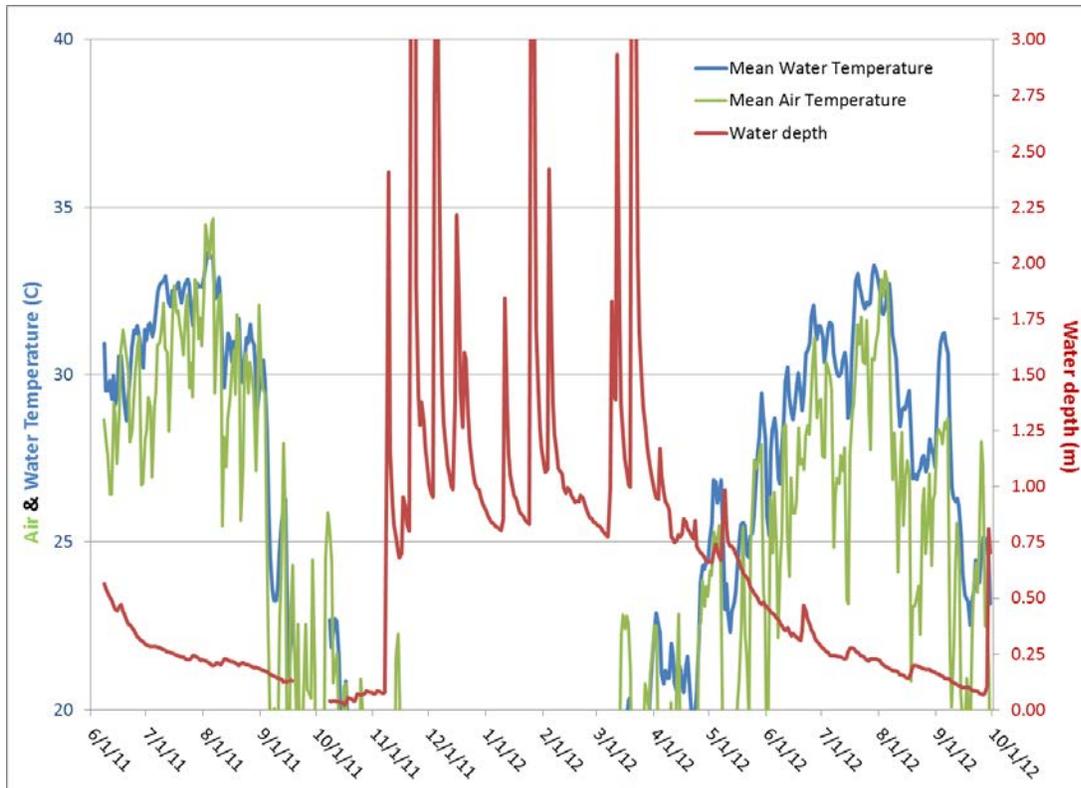
Appendix 1A. Water depth and mean daily air & water temperature for Kiamichi River station at Big Cedar (K2), the most upstream station of the study area. Because our HOB0 gage was displaced on several occasions, water depth was obtained from the USGS gage at the same site. Water temperature for 2012 was also obtained from the USGS gage due to our HOB0 gage being out of water during most of this period.



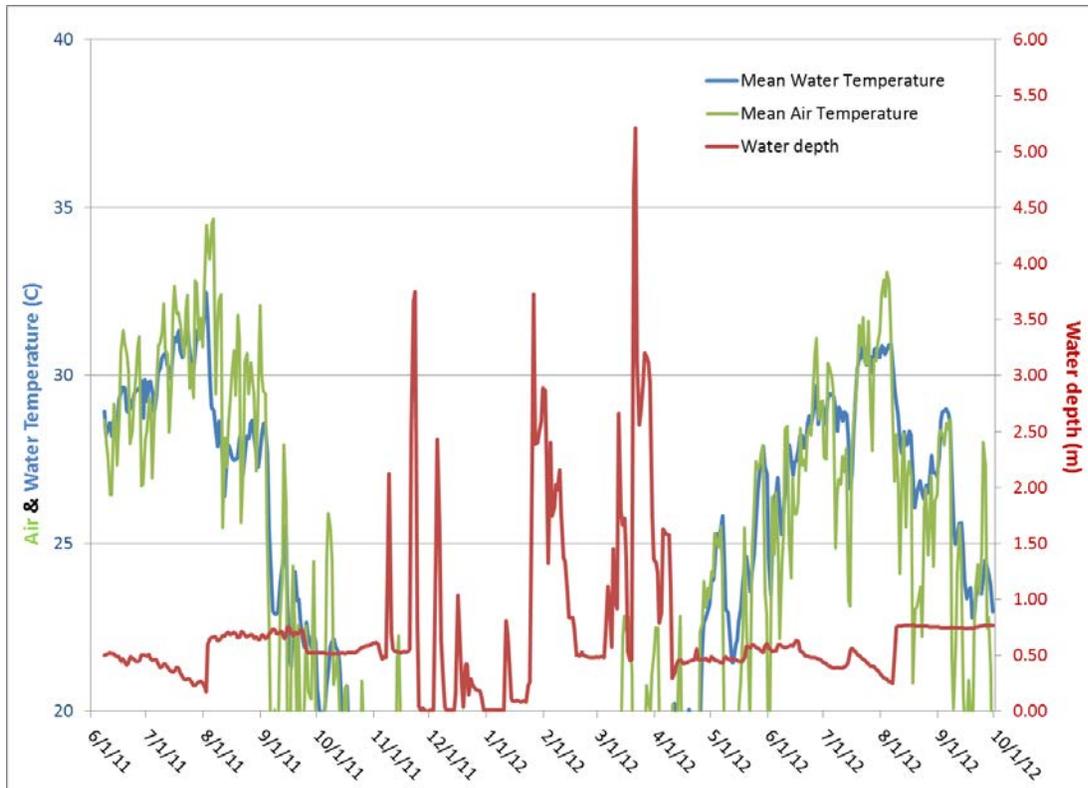
Appendix 1B. Water depth and mean daily air & water temperature for Buffalo Creek station (K3), one of the two main inputs to Sardis Lake. The HOBO gage was displaced by a flood on January 25, 2012 and was not replaced until April 17, 2012. The creek was dry from June 7 to September 30, 2012 and thus no water temperature data for this period.



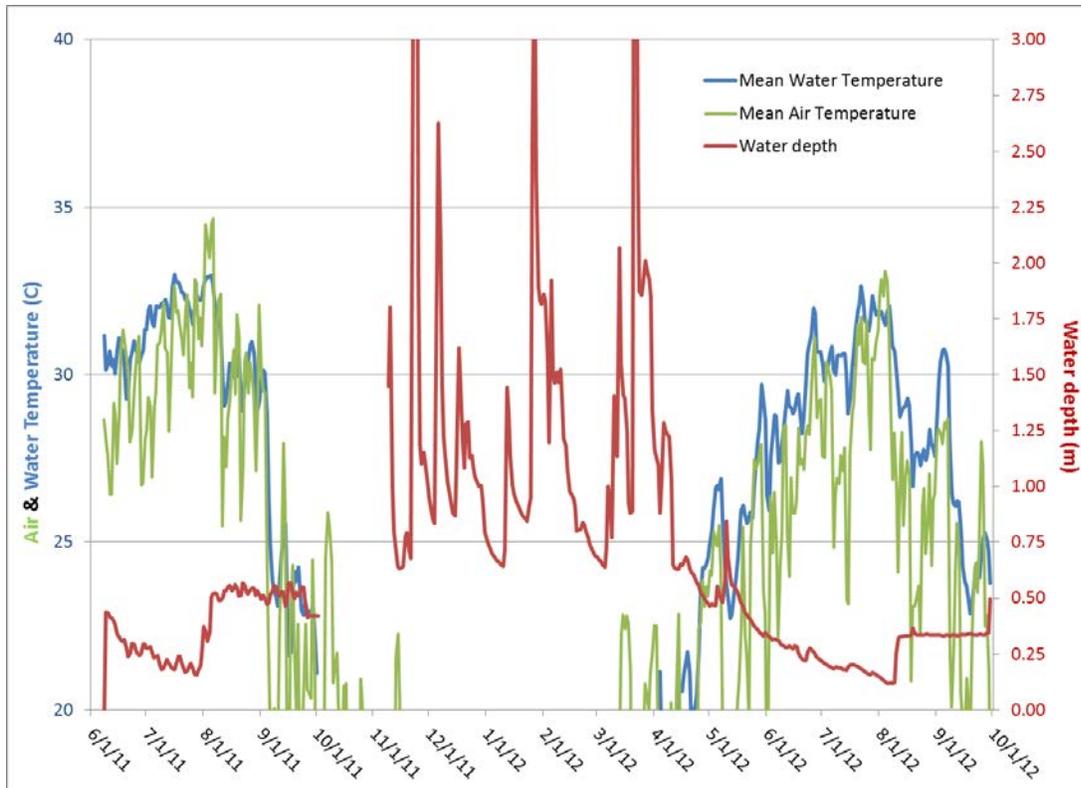
Appendix 1C. Water depth and mean daily air & water temperature for Jackfork Creek station above Sardis Reservoir (K4), one of the two main inputs to Sardis Lake. The logger malfunctioned on July 19, 2011, with no usable data after this date.



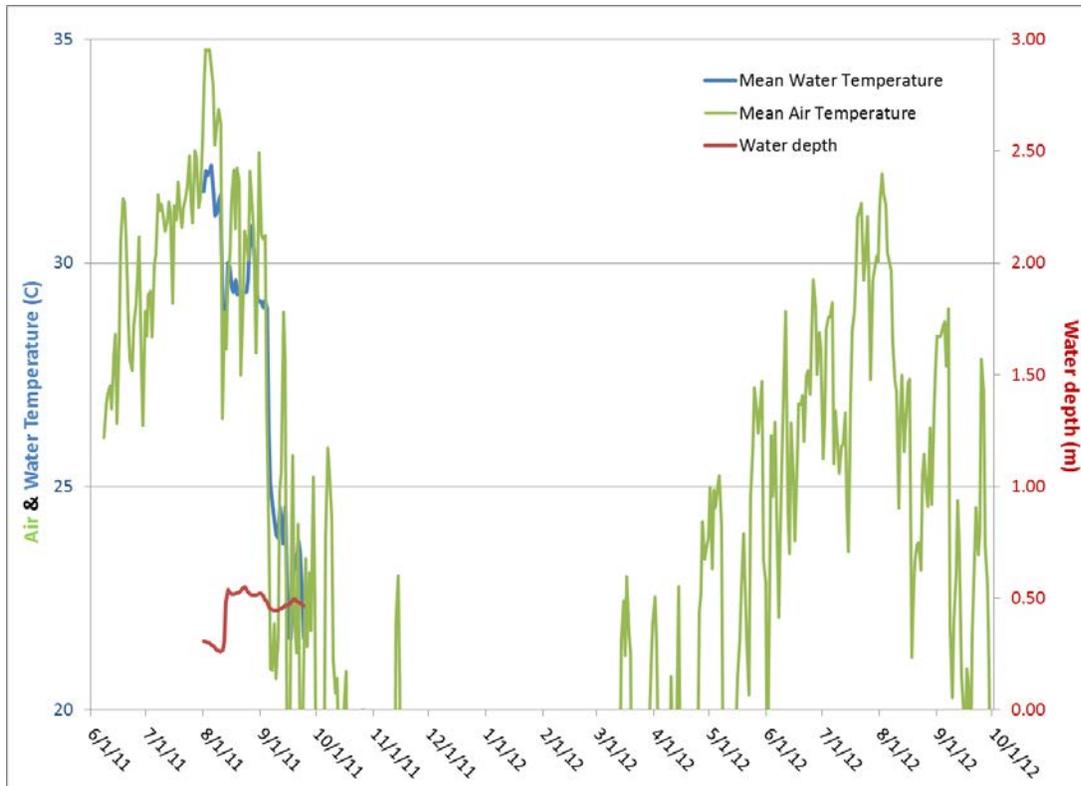
Appendix 1D. Water depth and mean daily air & water temperature for Kiamichi River station at Tuskahoma (K6), upstream of the Jackfork Creek confluence.



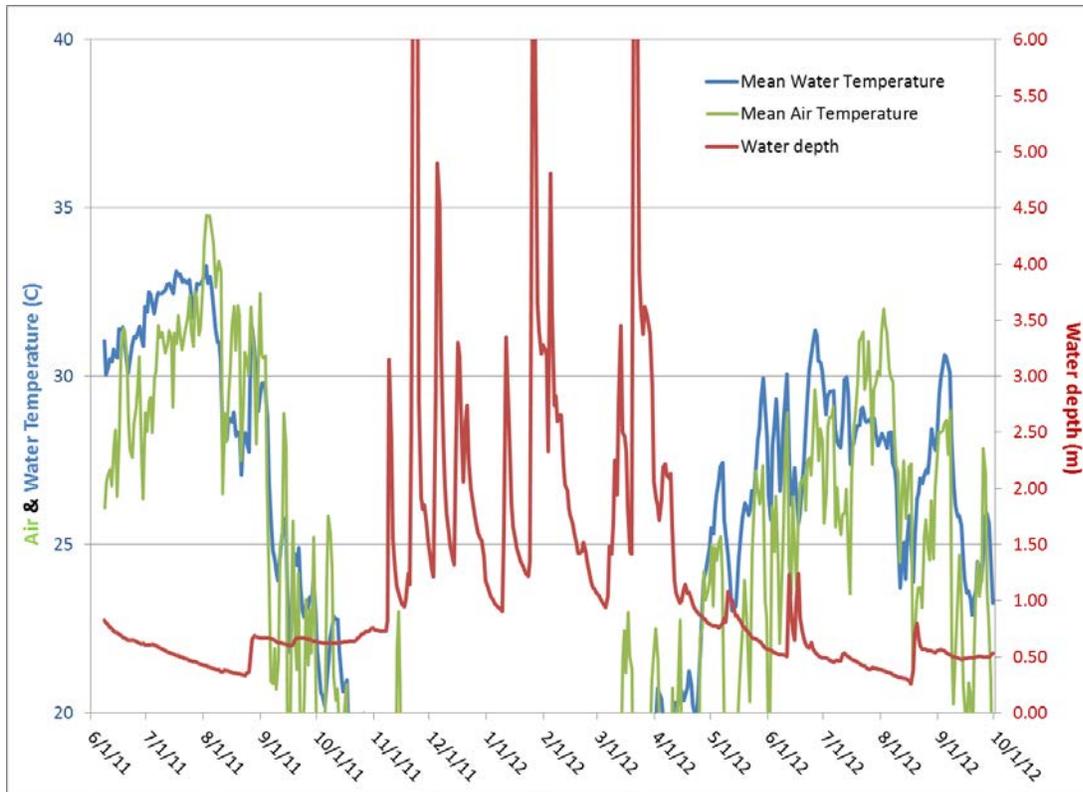
Appendix 1E. Water depth and mean daily air & water temperature for Jackfork Creek station below Sardis Dam (K7). This station measures releases from Sardis Dam. Note the spikes in water depth on August 3, 2011 and August 8, 2012 from managed Sardis Dam releases of 21 cfs and 12 cfs, respectively.



Appendix 1F. Water depth and mean daily air & water temperature for Kiamichi River station at Clayton (K8), downstream of the Jackfork Creek confluence. Note the spikes in water depth on August 3, 2011 and August 8, 2012 from managed Sardis Dam releases of 21 cfs and 12 cfs, respectively.

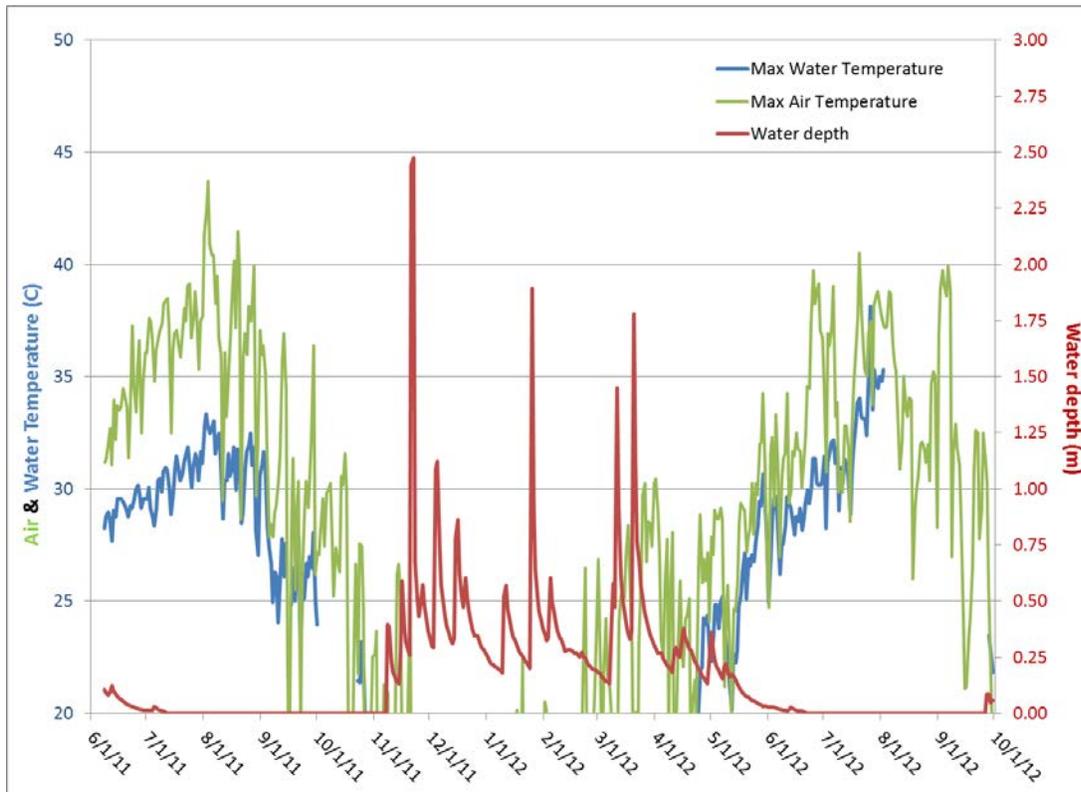


Appendix 1G. Water depth and mean daily air & water temperature for Kiamichi River station at Paine's (K11). Note the spike in water depth on August 13, 2011 from managed Sardis Dam releases of 21 cfs. Due to access issues, logger was not installed until July 31, 2011. After September 24, 2011, logger was buried under large debris jam and was not accessible. With such little data from this site, it was not modeled for water temperature changes. These data are useful, however, to show the flow timing and magnitude effects from Sardis Dam releases on downstream reaches.

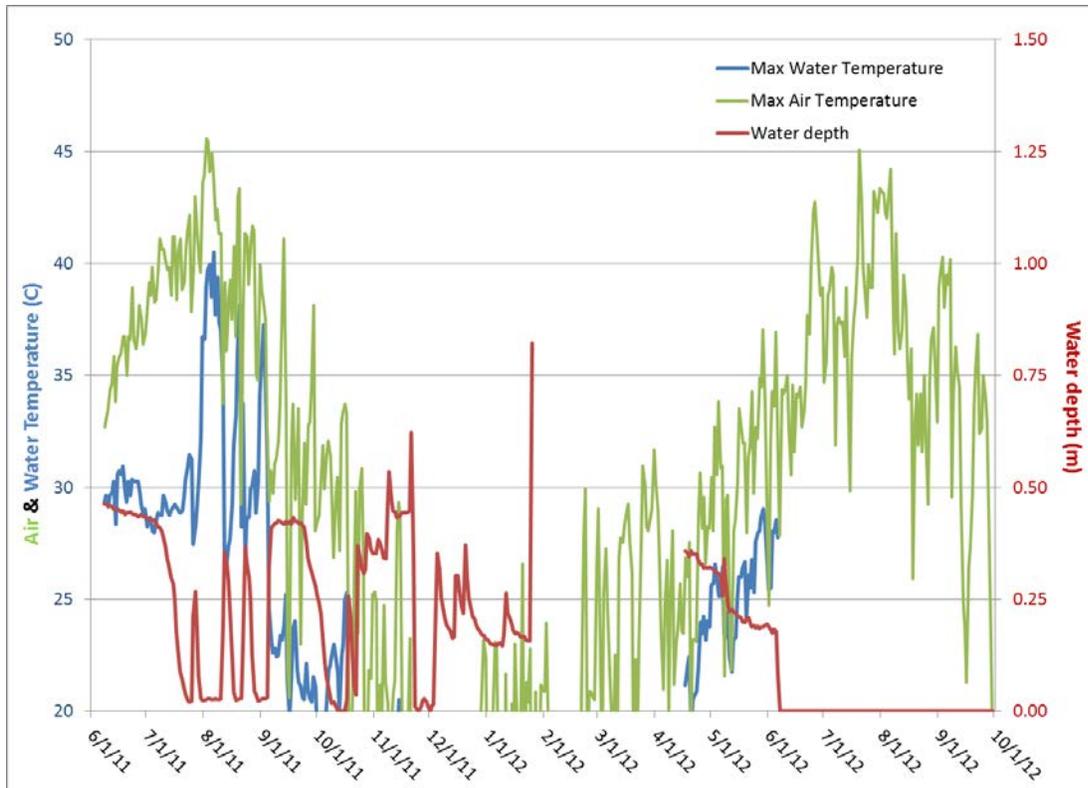


Appendix 1H. Water depth and mean daily air & water temperature for Kiamichi River station at Antlers (K9), downstream extent of study area. Note the spikes in water depth on August 27, 2011 and August 19, 2012 from managed Sardis Dam releases of 21 cfs and 12 cfs, respectively.

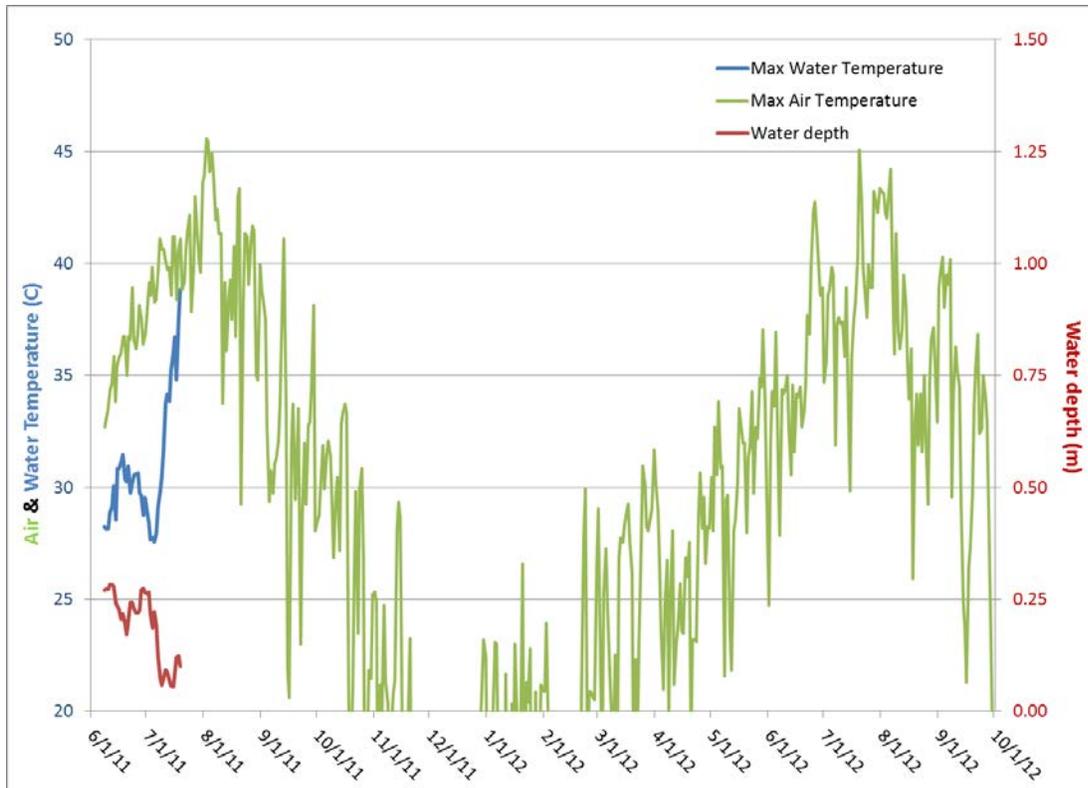
## Appendix 2 – Maximum water temperature time-series



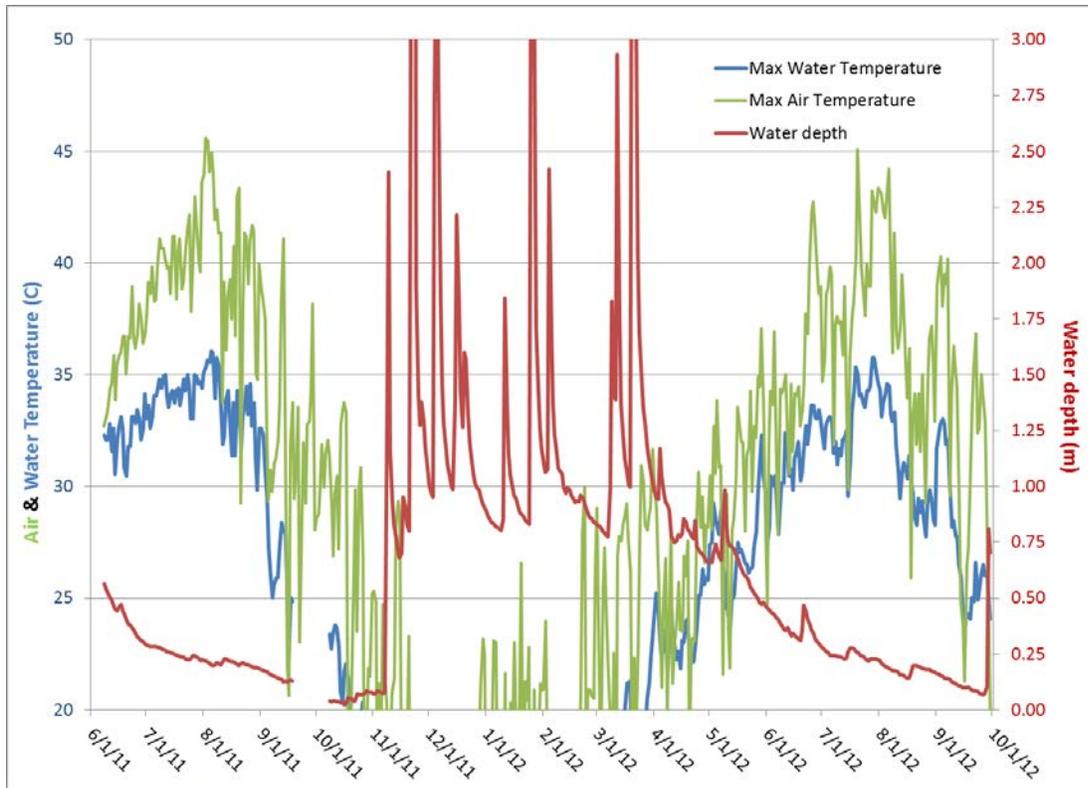
Appendix 2A. Water depth and maximum daily air & water temperature for Kiamichi River station at Big Cedar (K2), the most upstream station of the study area. Because our HOBO gage was displaced on several occasions, water depth was obtained from the USGS gage at the same site. Maximum water temperature is not reported for most of 2012 because our HOBO gage was out of water during most of this period.



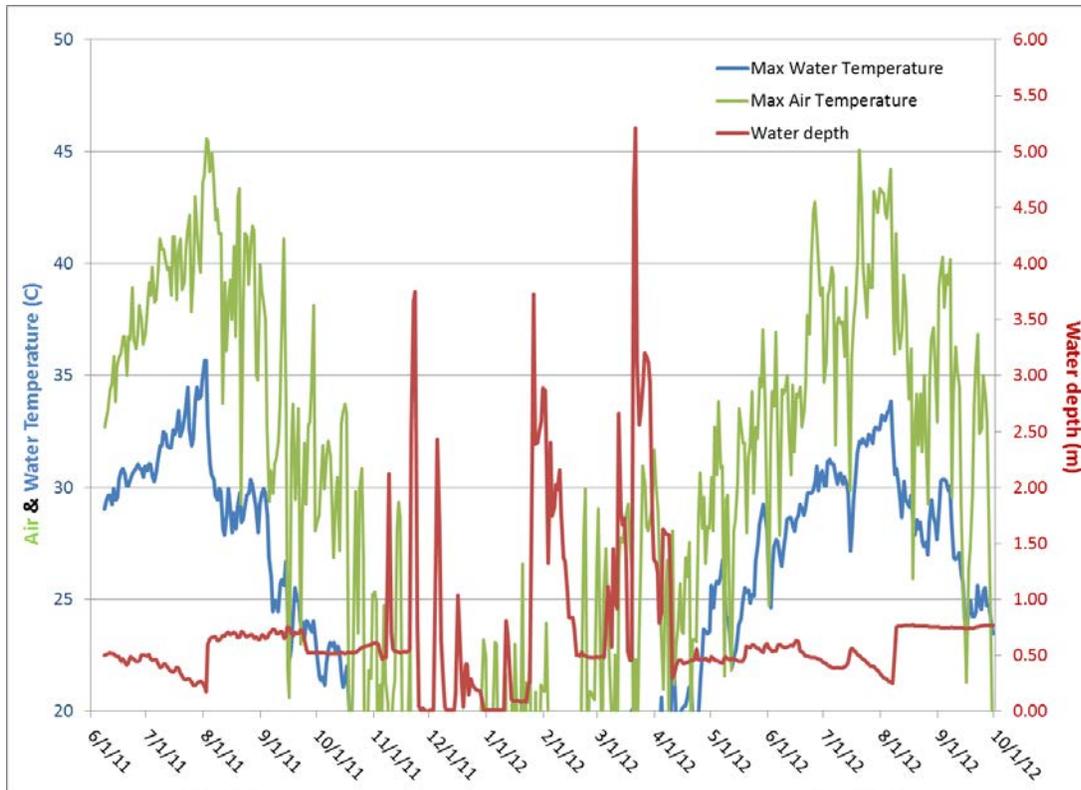
Appendix 2B. Water depth and maximum daily air & water temperature for Buffalo Creek station (K3), one of the two main inputs to Sardis Lake. The HOBO gage was displaced by a flood on January 25, 2012 and was not replaced until April 17, 2012. The creek was dry from June 7 to September 30, 2012 and thus no water temperature data for this period.



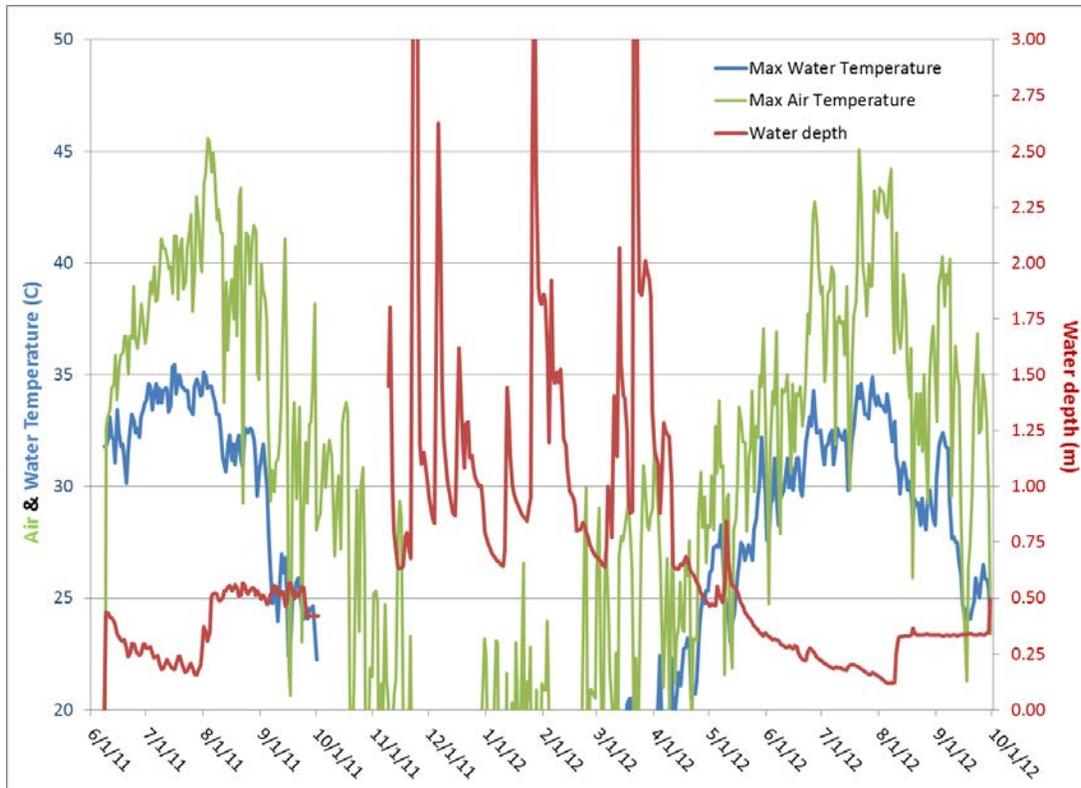
Appendix 2C. Water depth and maximum daily air & water temperature for Jackfork Creek station above Sardis Reservoir (K4), one of the two main inputs to Sardis Lake. The logger malfunctioned on July 19, 2011, with no usable data after this date.



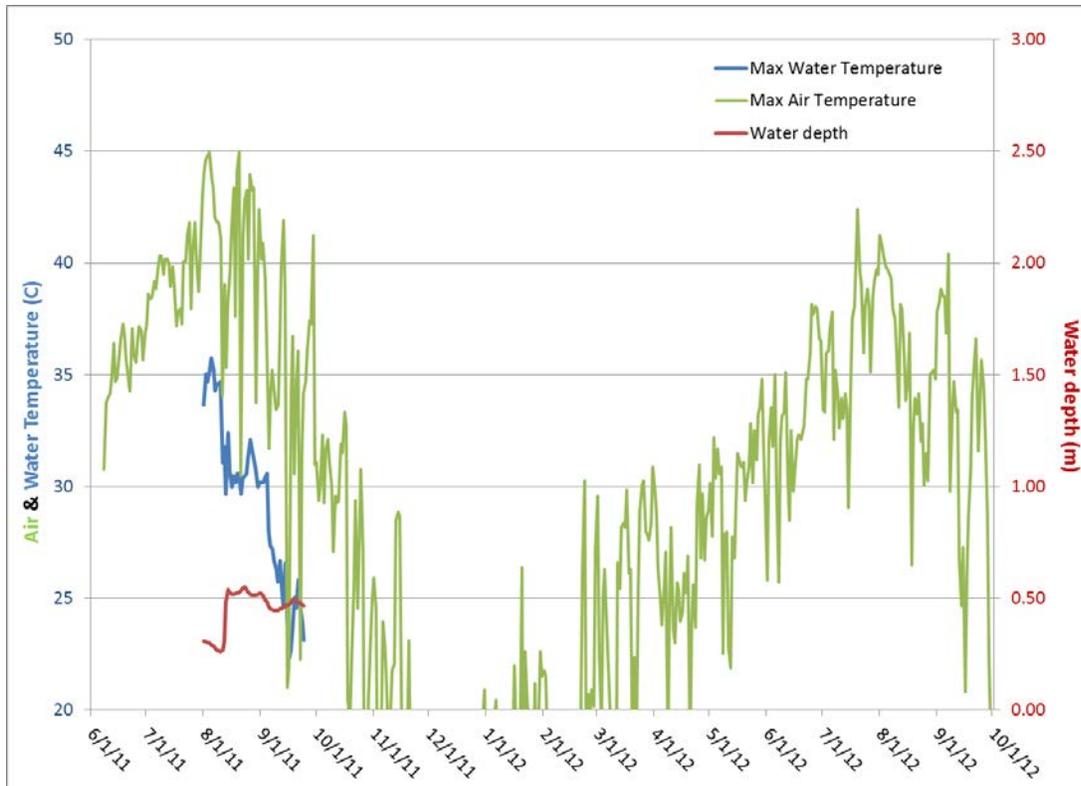
Appendix 2D. Water depth and maximum daily air & water temperature for Kiamichi River station at Tuskahoma (K6), upstream of the Jackfork Creek confluence.



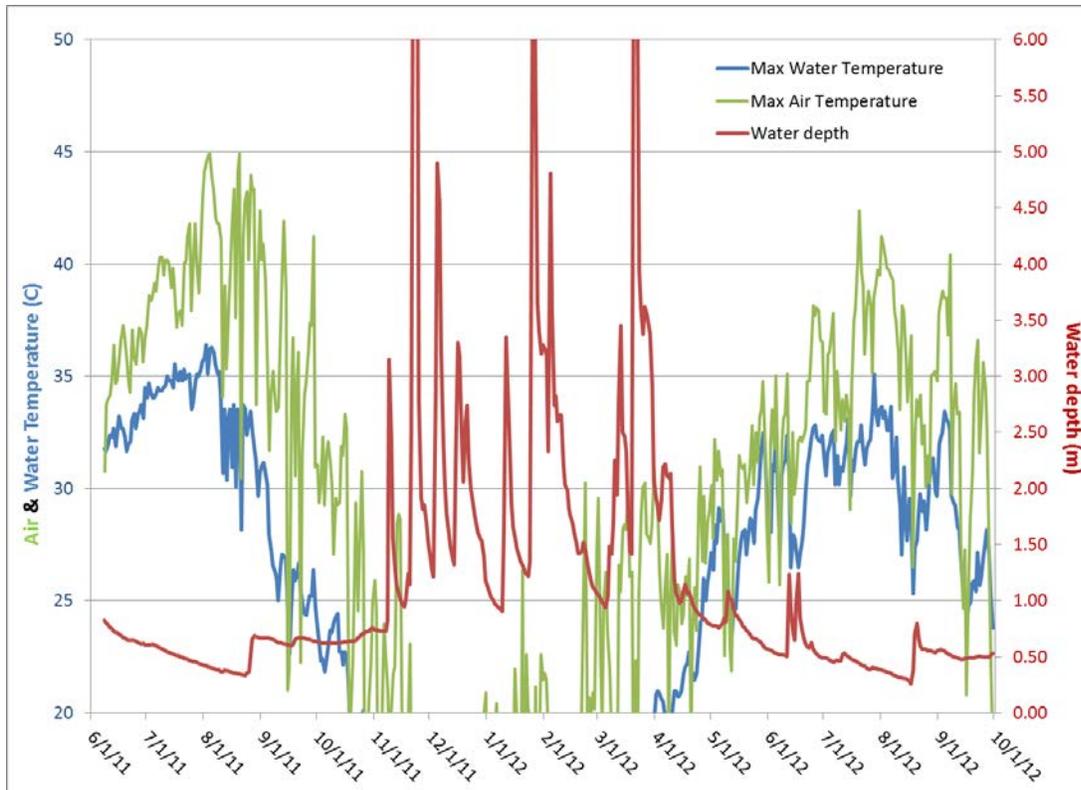
Appendix 2E. Water depth and maximum daily air & water temperature for Jackfork Creek station below Sardis Dam (K7). This station measures releases from Sardis Dam. Because Sardis Reservoir is such a large body of water, its water temperatures will be considerably lower than air temperatures during the summer. Note the spikes in water depth on August 3, 2011 and August 8, 2012 from managed Sardis Dam releases of 21 cfs and 12 cfs, respectively.



Appendix 2F. Water depth and maximum daily air & water temperature for Kiamichi River station at Clayton (K8), downstream of the Jackfork Creek confluence. Note the spikes in water depth on August 2, 2011 and August 8, 2012 from managed Sardis Dam releases of 21 cfs and 12 cfs, respectively.

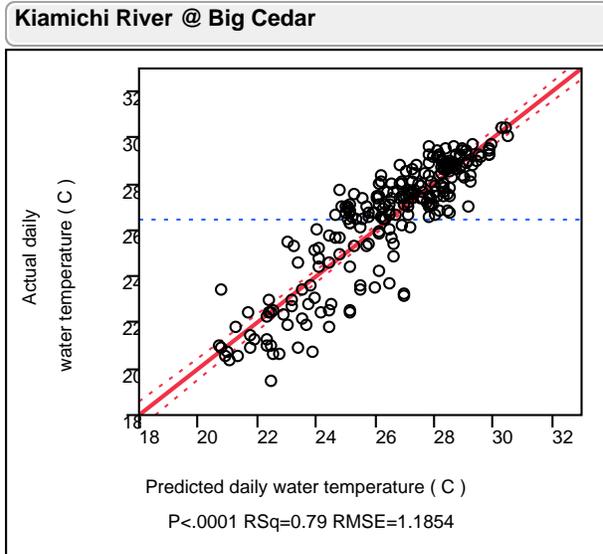


Appendix 2G. Water depth and maximum daily air & water temperature for Kiamichi River station at Paine's (K11). Note the spike in water depth on August 13, 2011 from managed Sardis Dam releases of 21 cfs. Due to access issues, logger was not installed until July 31, 2011. After September 24, 2011, logger was buried under large debris jam and was not accessible. With such little data from this site, it was not modeled for water temperature changes. These data are useful, however, to show the flow timing and magnitude effects from Sardis Dam releases on downstream reaches.

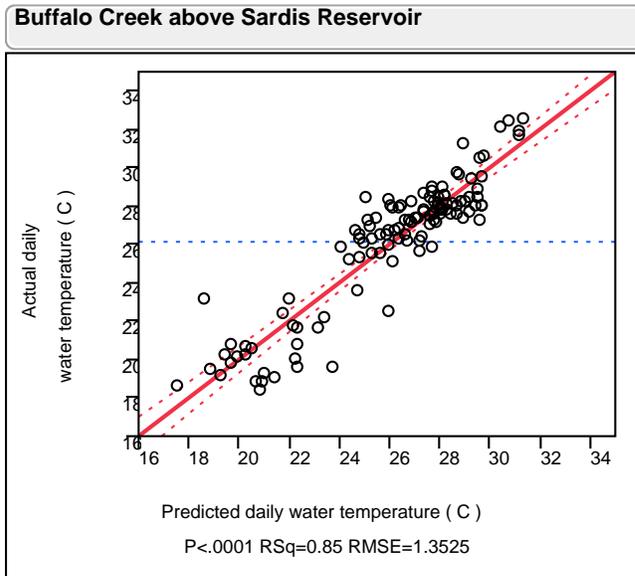


Appendix 2H. Water depth and maximum daily air & water temperature for Kiamichi River station at Antlers (K9), downstream extent of study area. Note the spikes in water depth on August 27, 2011 and August 19, 2012 from managed Sardis Dam releases of 21 cfs and 12 cfs, respectively.

### Appendix 3 – Mean daily water temperature regression models



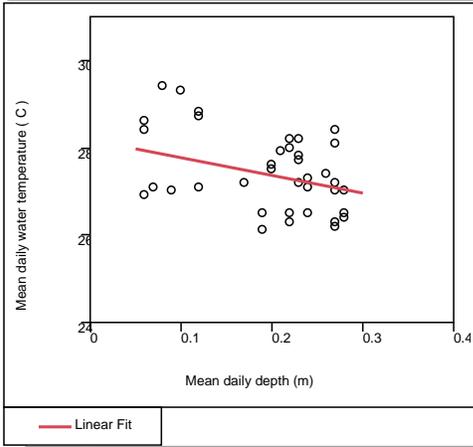
Appendix 3A. Actual vs. predicted mean daily water temperature ( $T_w$ ) for Kiamichi River at Big Cedar (K2) using a bivariate model with mean daily air temperature ( $T_{air}$ ). Water depth ( $D$ ) was not used for this station because of its narrow range (0 – 0.12 cm). Horizontal blue dotted line represents the mean value. Diagonal solid red line represents  $y=x$ , and diagonal red dashed lines are 95% confidence intervals. Model equation:  $T_w = 0.58T_{air} + 11.09$ .



Appendix 3B. Actual vs. predicted mean daily water temperature ( $T_w$ ) for Buffalo Creek above Sardis Reservoir (K3) using a multivariate model that includes mean daily air temperature ( $T_{air}$ ) and mean daily water depth ( $D$ ) at the station. Horizontal blue dotted line represents the mean value. Diagonal solid red line represents  $y=x$ , and diagonal red dashed lines are 95% confidence intervals. Model equation:  $T_w = 0.69T_{air} - 1.69D + 7.26$ .

Jackfork Creek above Sardis Reservoir

Bivariate Fit of Tw and D



Linear Fit

Linear Fit

$$T_w = 28.176366 - 4.0509241 \cdot D$$

Summary of Fit

RSquare	0.129377
RSquare Adj	0.107612
Root Mean Square Error	0.81769
Mean of Response	27.40476
Observations (or Sum Wgts)	42

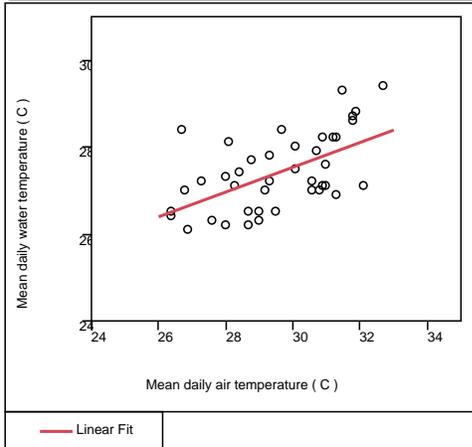
Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	3.974342	3.97434	5.9441
Error	40	26.744705	0.66862	Prob > F
C. Total	41	30.719048		0.0193

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	28.176366	0.340707	82.70	<.0001
Average of Depth_m	-4.050924	1.661538	-2.44	0.0193

Bivariate Fit of Tw and Tair



Linear Fit

Linear Fit

$$T_w = 18.982302 + 0.2851159 \cdot T_{air}$$

Summary of Fit

RSquare	0.32793
RSquare Adj	0.311128
Root Mean Square Error	0.718425
Mean of Response	27.40476
Observations (or Sum Wgts)	42

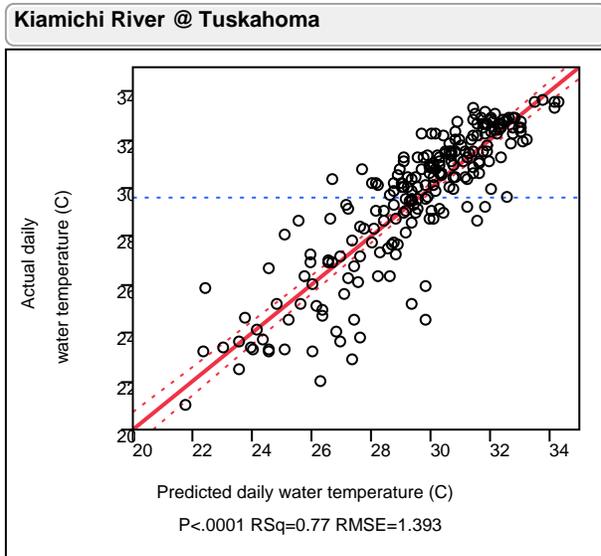
Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	10.073689	10.0737	19.5176
Error	40	20.645359	0.5161	Prob > F
C. Total	41	30.719048		<.0001

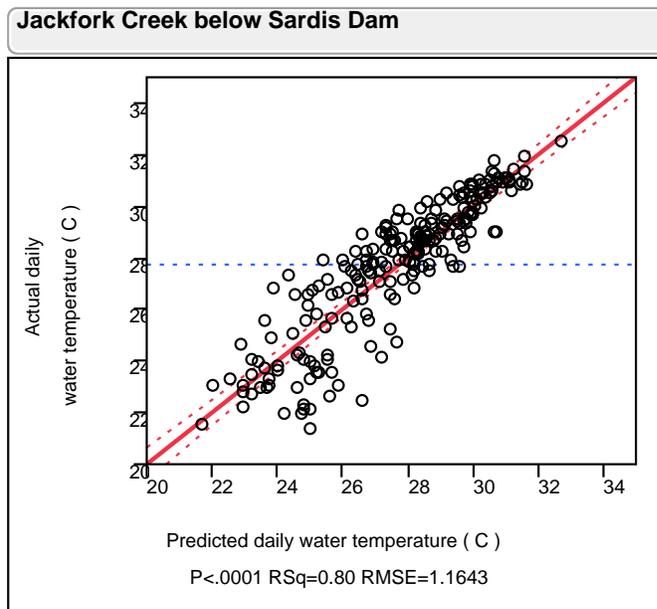
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob
Intercept	18.982302	1.909672	9.94	<.000
Mean_Air_Temp_C	0.2851159	0.064537	4.42	<.000

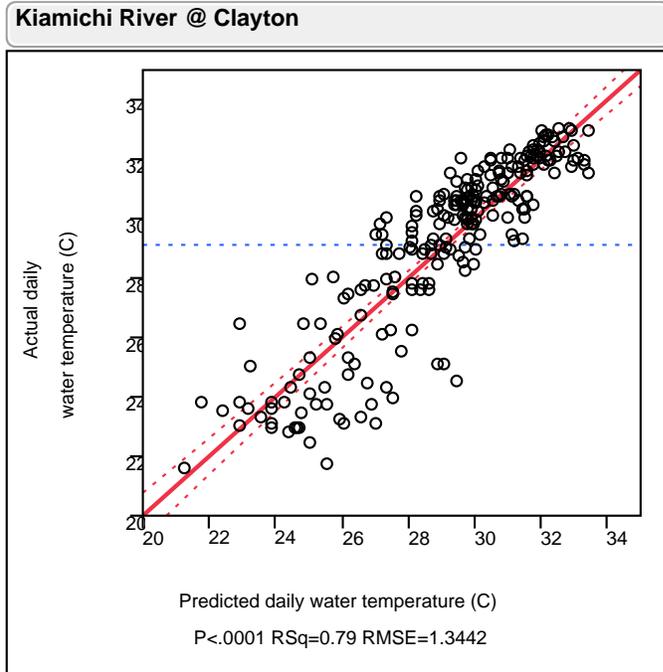
Appendix 3C. Bivariate plots of mean daily water temperature ( $T_w$ ) vs. water depth ( $D$ ) and mean daily air temperature ( $T_{air}$ ) for Jackfork Creek station above Sardis Reservoir (K4). The plots show that  $T_w$  has a significant negative correlation with  $D$  and a significant positive correlation with  $T_{air}$ . There were not enough measurements to derive a robust model for  $T_w$ .



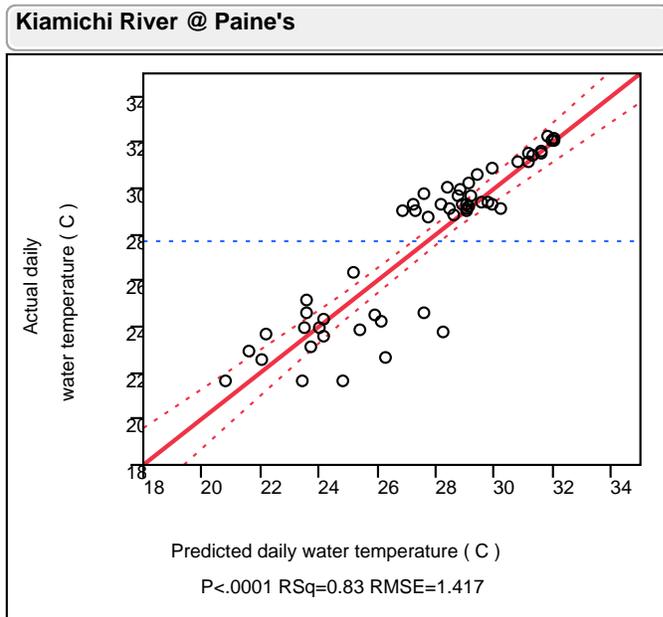
Appendix 3D. Actual vs. predicted mean daily water temperature ( $T_w$ ) for Kiamichi River at Tuskahoma (K6) using a bivariate model with mean daily air temperature ( $T_{air}$ ). Mean daily water depth ( $D$ ) could not be included in the multivariate model for this station because it had a nonlinear relationship with water temperature. Horizontal blue dotted line represents the mean value. Diagonal solid red line represents  $y=x$ , and diagonal red dashed lines are 95% confidence intervals. Model equation:  $T_w = 0.66T_{air} + 11.26$ .



Appendix 3E. Actual vs. predicted mean daily water temperature ( $T_w$ ) for Jackfork Creek below Sardis Dam (K7) using a multivariate model that includes mean daily air temperature ( $T_{air}$ ) and mean daily water depth ( $D$ ) at the station. Horizontal blue dotted line represents the mean value. Diagonal solid red line represents  $y=x$ , and diagonal red dashed lines are 95% confidence intervals. Model equation:  $T_w = 0.46T_{air} - 4.23D + 17.54$ .

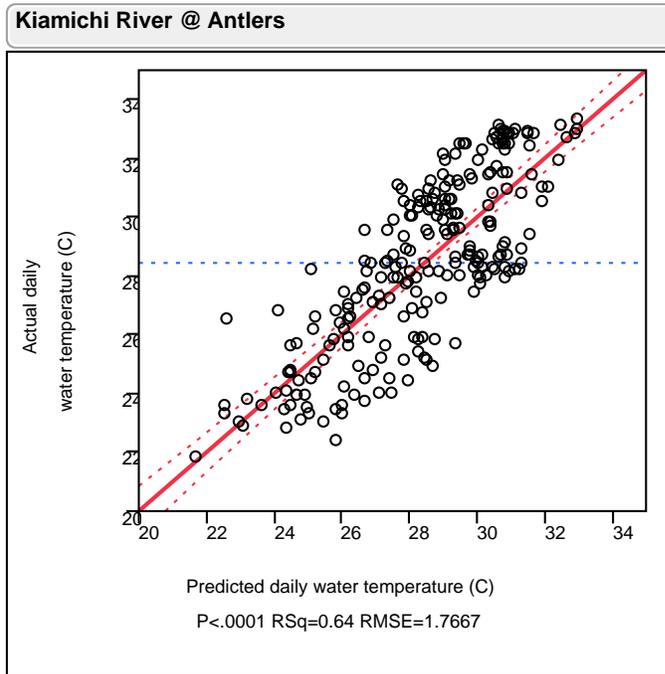


Appendix 3F. Actual vs. predicted mean daily water temperature ( $T_w$ ) for Kiamichi River at Clayton (K8) using a multivariate model that includes mean daily air temperature ( $T_{air}$ ) and mean daily water depth ( $D$ ) at the station. Horizontal blue dotted line represents the mean value. Diagonal solid red line represents  $y=x$ , and diagonal red dashed lines are 95% confidence intervals. Model equation:  $T_w = 0.59T_{air} - 4.37D + 14.36$ .



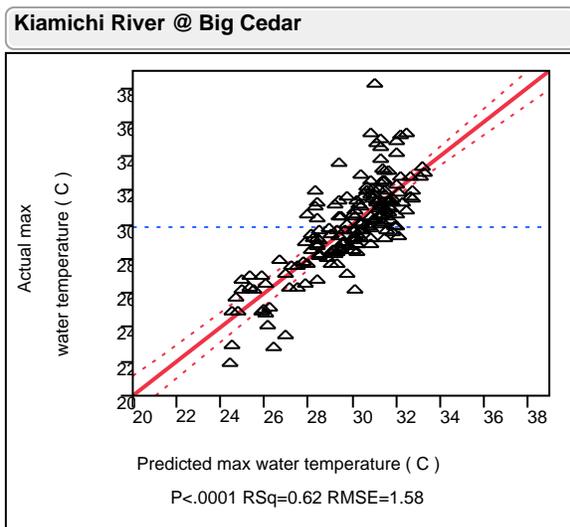
Appendix 3G. Actual vs. predicted mean daily water temperature ( $T_w$ ) for Kiamichi River at Paine's (K11) using a multivariate model that includes mean daily air temperature ( $T_{air}$ ) and mean daily water depth ( $D$ ) at the station. Horizontal blue dotted line represents the mean value.

Diagonal solid red line represents  $y=x$ , and diagonal red dashed lines are 95% confidence intervals. Model equation:  $T_w = 0.58T_{air} - 2.47D + 12.52$ .

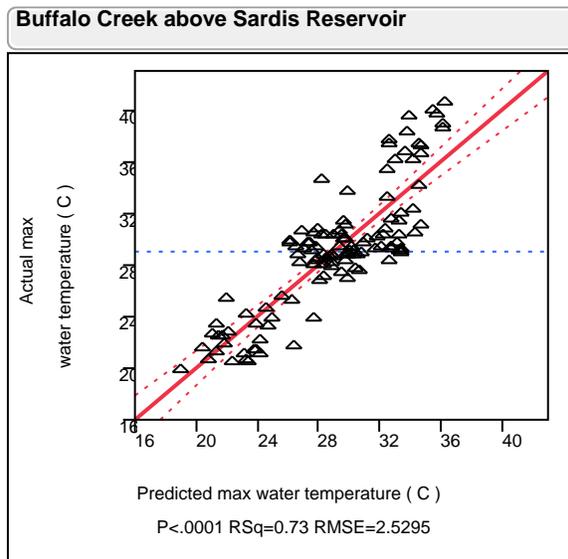


Appendix 3H. Actual vs. predicted mean daily water temperature ( $T_w$ ) for Kiamichi River at Antlers (K9) using a bivariate model with mean daily air temperature ( $T_{air}$ ). Water depth ( $D$ ) was not used for this station because of collinearity with air temperature (i.e. lower flow occurred on warmer days). Model equation:  $T_w = 0.61T_{air} + 11.83$ .

#### Appendix 4 – Maximum daily water temperature regression models



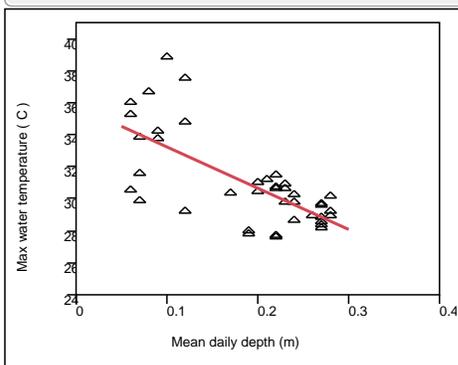
Appendix 4A. Actual vs. predicted maximum daily water temperature ( $T_w$ ) for Kiamichi River at Big Cedar (K2) using a bivariate model with mean daily air temperature ( $T_{air}$ ). Water depth ( $D$ ) was not used for this station because of its narrow range (0 – 0.12 cm). Horizontal blue dotted line represents the mean value. Diagonal solid red line represents  $y=x$ , and diagonal red dashed lines are 95% confidence intervals. Model equation:  $T_w(\text{max}) = 0.53T_{air} + 15.75$ .



Appendix 4B. Actual vs. predicted maximum daily water temperature ( $T_w$ ) for Buffalo Creek above Sardis Reservoir (K3) using a multivariate model that includes mean daily air temperature ( $T_{air}$ ) and mean daily water depth ( $D$ ) at the station. Horizontal blue dotted line represents the mean value. Diagonal solid red line represents  $y=x$ , and diagonal red dashed lines are 95% confidence intervals. Model equation:  $T_w(\text{max}) = 0.71T_{air} - 9.82D + 11.85$ .

## Jackfork Creek above Sardis Reservoir

## Bivariate Fit of Max Tw and D



— Linear Fit

## Linear Fit

$$T_w(\max) = 35.810794 - 25.76917 \cdot D$$

## Summary of Fit

RSquare	0.493621
RSquare Adj	0.480962
Root Mean Square Error	2.030906
Mean of Response	30.90238
Observations (or Sum Wgts)	42

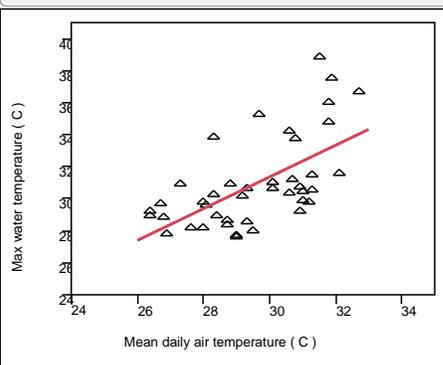
## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	160.82662	160.827	38.9923
Error	40	164.98314	4.125	<b>Prob &gt; F</b>
C. Total	41	325.80976		≈.0001

## Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	35.810794	0.846217	42.32	≈.0001
Average of Depth_m	-25.76917	4.126779	-6.24	≈.0001

## Bivariate Fit of Max Tw and Tair



— Linear Fit

## Linear Fit

$$T_w(\max) = 1.646827 + 0.9903549 \cdot T_{air}$$

## Summary of Fit

RSquare	0.373047
RSquare Adj	0.357373
Root Mean Square Error	2.259798
Mean of Response	30.90238
Observations (or Sum Wgts)	42

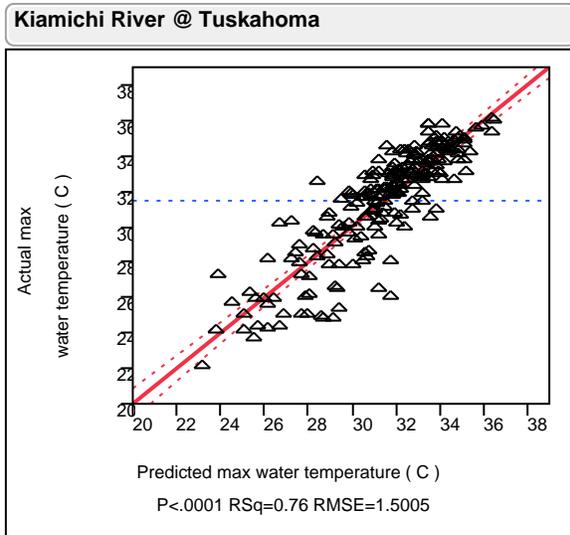
## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	121.54224	121.542	23.8006
Error	40	204.26752	5.107	<b>Prob &gt; F</b>
C. Total	41	325.80976		≈.0001

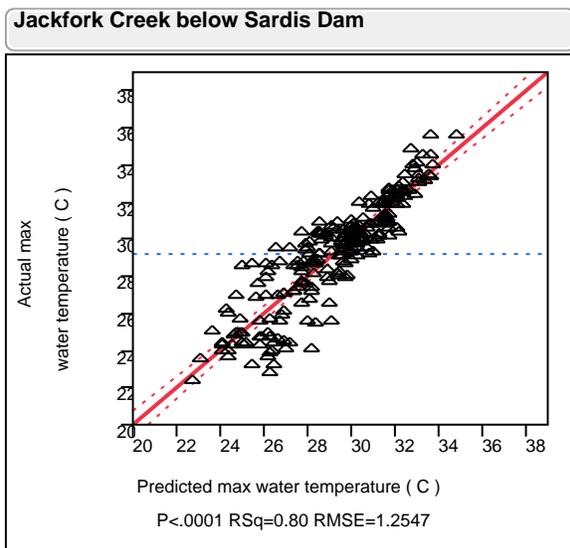
## Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob
Intercept	1.646827	6.006857	0.27	0.785
Mean_Air_Temp_C	0.9903549	0.203	4.88	≈.000

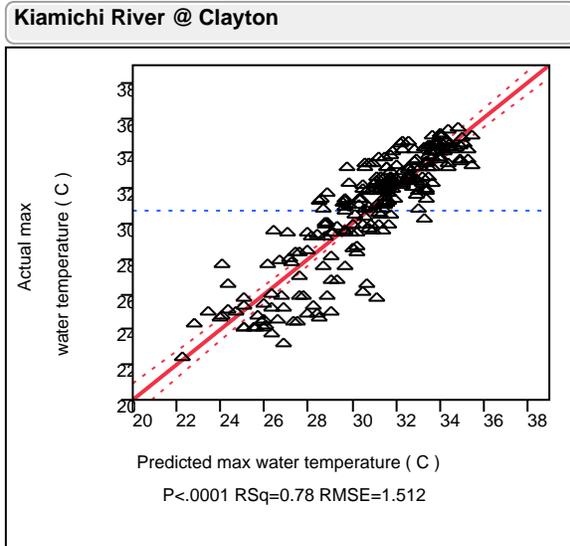
Appendix 4C. Bivariate plots of maximum daily water temperature ( $T_w$ ) vs. water depth ( $D$ ) and mean daily air temperature ( $T_{air}$ ) for Jackfork Creek station above Sardis Reservoir (K4). The plots show that  $T_w(\max)$  has a significant negative correlation with  $D$  and a significant positive correlation with  $T_{air}$ . There were not enough measurements to derive a robust model for  $T_w(\max)$ .



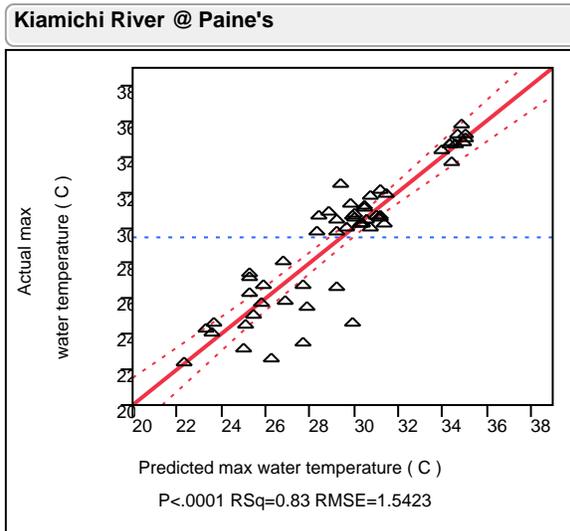
Appendix 4D. Actual vs. predicted maximum daily water temperature ( $T_w$ ) for Kiamichi River at Tuskahoma (K6) using a bivariate model with mean daily air temperature ( $T_{air}$ ). Mean daily water depth ( $D$ ) could not be included in the multivariate model for this station because it had a nonlinear relationship with water temperature. Horizontal blue dotted line represents the mean value. Diagonal solid red line represents  $y=x$ , and diagonal red dashed lines are 95% confidence intervals. Model equation:  $T_w(\max) = 0.71T_{air} + 11.89$ .



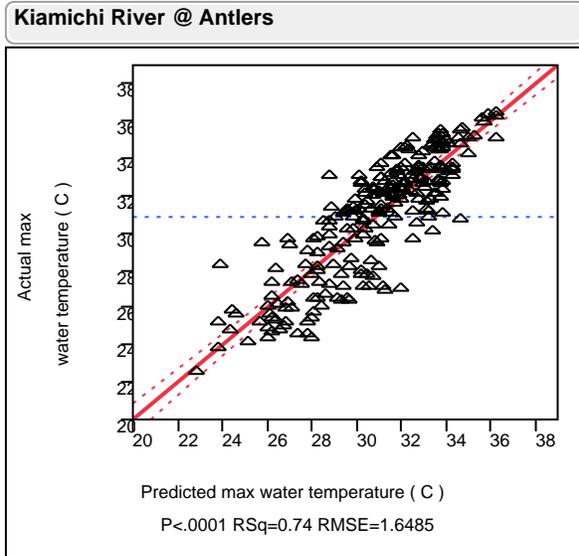
Appendix 4E. Actual vs. predicted maximum daily water temperature ( $T_w$ ) for Jackfork Creek below Sardis Dam (K7) using a multivariate model that includes mean daily air temperature ( $T_{air}$ ) and mean daily water depth ( $D$ ) at the station. Horizontal blue dotted line represents the mean value. Diagonal solid red line represents  $y=x$ , and diagonal red dashed lines are 95% confidence intervals. Model equation:  $T_w(\max) = 0.47T_{air} - 5.78D + 19.58$ .



Appendix 4F. Actual vs. predicted maximum daily water temperature ( $T_w$ ) for Kiamichi River at Clayton (K8) using a multivariate model that includes mean daily air temperature ( $T_{air}$ ) and mean daily water depth ( $D$ ) at the station. Horizontal blue dotted line represents the mean value. Diagonal solid red line represents  $y=x$ , and diagonal red dashed lines are 95% confidence intervals. Model equation:  $T_w(\max) = 0.64T_{air} - 4.84D + 14.75$ .

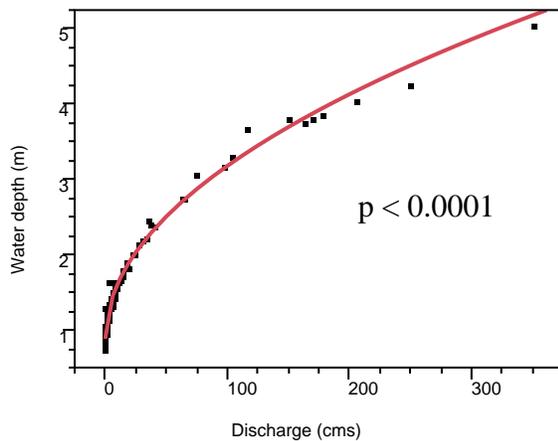


Appendix 4G. Actual vs. predicted maximum daily water temperature ( $T_w$ ) for Kiamichi River at Paine's (K11) using a multivariate model that includes mean daily air temperature ( $T_{air}$ ) and mean daily water depth ( $D$ ) at the station. Horizontal blue dotted line represents the mean value. Diagonal solid red line represents  $y=x$ , and diagonal red dashed lines are 95% confidence intervals. Model equation:  $T_w(\max) = 0.59T_{air} - 10.41D + 17.73$ .

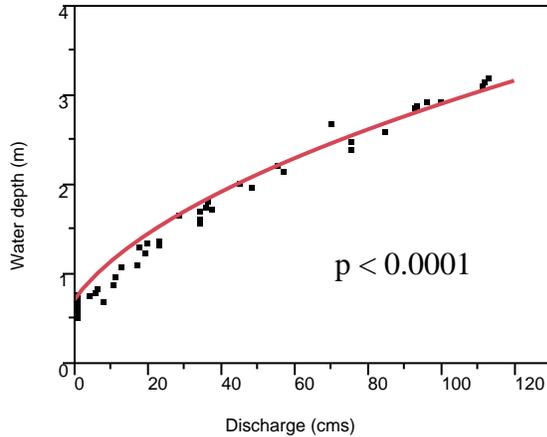


Appendix 4H. Actual vs. predicted maximum daily water temperature ( $T_w$ ) for Kiamichi River at Antlers (K9) using a bivariate model with mean daily air temperature ( $T_{air}$ ). Water depth ( $D$ ) was not used for this station because of collinearity with air temperature (i.e. lower flow occurred on warmer days). Model equation:  $T_w(\max) = 0.72T_{air} + 11.08$ .

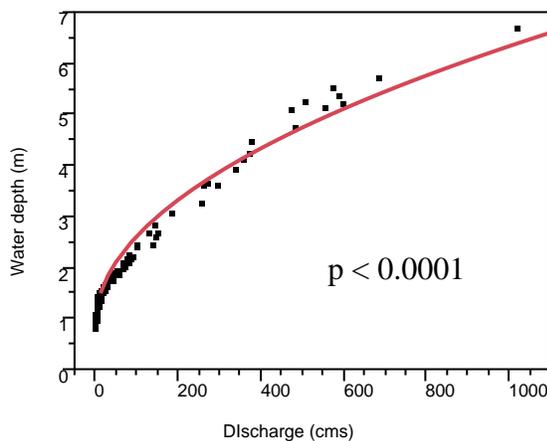
## Appendix 5 – Hydrology data



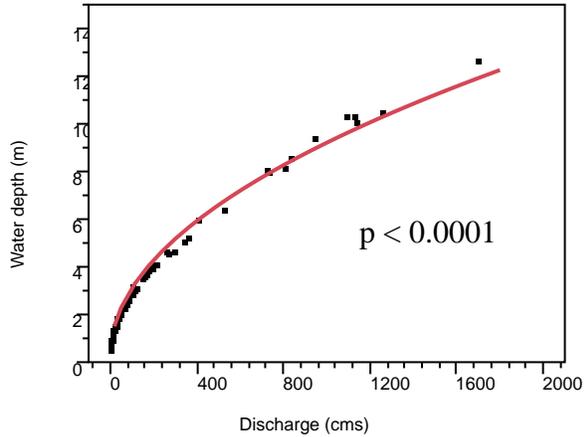
Appendix 5A. Depth-Discharge rating curve for Kiamichi River near Big Cedar (USGS 07335700). Use the following equation to calculate water depth at Big Cedar gage ( $D_{BIGC}$ ) using the discharge reported on the USGS waterdata site ( $Q_{BIGC}$ ):  $D_{BIGC} = 0.88 + 0.23(Q_{BIGC})^{0.5}$



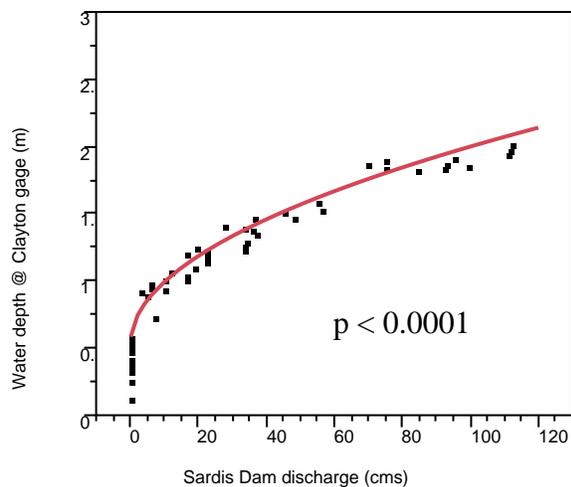
Appendix 5B. Depth-Discharge rating curve for Jackfork Creek below Sardis Dam using releases from Sardis Lake near Clayton (USGS 07335775) for discharge. Use the following equation to calculate water depth below Sardis Dam ( $D_{SARD}$ ) using the discharge reported on the USGS waterdata site ( $Q_{SARD}$ ):  $D_{SARD} = (0.52 + 0.08 * Q_{SARD})^{0.5}$



Appendix 5C. Depth-Discharge rating curve for Kiamichi River near Clayton (USGS 07335790). Use the following equation to calculate water depth at Clayton gage ( $D_{CLAY}$ ) using the discharge reported on the USGS waterdata site ( $Q_{CLAY}$ ):  $D_{CLAY} = 0.88 + 0.17(Q_{CLAY})^{0.5}$



Appendix 5D. Depth-Discharge rating curve for Kiamichi River near Antlers (USGS 07336200). Use the following equation to calculate water depth at Clayton gage ( $D_{ANTL}$ ) using the discharge reported on the USGS waterdata site ( $Q_{ANTL}$ ):  $D_{ANTL} = 0.28 + 0.28(Q_{ANTL})^{0.5}$



Appendix 5E. Relationship between Sardis Dam releases ( $Q_{SARD}$ ) and water depth of Kiamichi River @ Clayton ( $D_{CLAY}$ ):  $D_{CLAY} = 0.525 + 0.147(Q_{SARD})^{0.5}$ . This equation was used to determine the necessary releases from Sardis Dam to prevent maximum water temperatures (via Appendix 4F) from exceeding target temperatures identified in Objective 1.

# Hydro model used in Sardis Agreement

Doughty, Russell B.

Mon 11/21/2016 1:13 PM

Sent Items

To: Cunningham, Julie <Julie.Cunningham@owrb.ok.gov>;

Julie,

A couple of months ago, I requested from JD the hydro model used in the Sardis agreement. If I'm not mistaken, the agreement states that the model will be stored for public access at the OWRB. However, JD told me that the OWRB doesn't have the model. Has the OWRB received the model yet and if so, can I get a copy?

I'm very concerned about the model itself and the methodology behind it. From what I understand, OCVUT paid to have the model done and the only person to review that model is Barney Austin. In short, there has been no public access or peer review of the so-called 'science' behind this agreement.

In conversation with Barney, it was obvious to me that he didn't have a realistic grasp of how the Kiamichi watershed functions. For instance, he told me that the Kiamichi River is a gaining stream... but of course, the Kiamichi is a losing stream. Caryn Vaughn's work discusses this fact in great detail - in particular, it took 28 days for water from Sardis spillway to reach Antlers during the 2011 drought because of water lost to the subsurface. The oldest mussel beds in the study area had 100% mortality in that year, some of which had been studied for over 30 years by the University. The release was too little too late.

Chief Batton informed OWRP that we had instream flow protections "at all times" under this agreement, but of course that is false, too. Only when OKC is pumping water is there a requirement for environmental flows. The misinformation about the Kiamichi Basin, the Sardis Contract, and the Sardis agreement is disappointing at best.

Russ

-----  
Russell Doughty  
PhD Graduate Assistant  
Earth Observation and Modeling Facility  
Department of Microbiology and Plant Biology  
University of Oklahoma  
101 David L. Boren Blvd.  
Norman, OK 73019  
Mobile: (918) 699-9215  
[www.eomf.ou.edu](http://www.eomf.ou.edu)

Loy and Jane Dunlap  
435779 East 1931 Road  
RATTAN OK 74562  
580-509-5600

April 3, 2017

*Spartan Council for Oklahoma City*  
OKLAHOMA WATER RESOURCE BOARD

I ask that the OWRB deny the permit application submitted by Oklahoma City. (Stream water application number 2007-017) for withdrawal of water from Sardis Lake or the Kiamichi River, approval of this permit will devastate Pushmataha County.

List of effects comprised by Kenneth P. Roberts, PHD University of Tulsa are:

- a. 220 archaeologist Sites
- b. Fish and Wildlife
- c. River cane used by Choctaw Nation for baskets.
- d. Local Well Water Dry up

Also Blue-Green algae will be created by higher water temps that will affect all people in the area.

I would like to know how this will affect the compact we have with Texas, Arkansas and Louisiane.

When will environmental or Geological Studies be done, and when landowners will be notified about the land to be taken for reservoir.

I ask that the OWRB deny permit as Stream Water Application No. 2007-17 for the few reasons stated.

*Jane Dunlap*  
Loy and Jane Dunlap

*Loy Dunlap*

Overland  
43579 E 1431 Road  
Pawnee OK 74862

TULSA OK 741



ATTN: BRIAN MAGANUS  
Special Council For the City of Okla. City  
By Leg. Council & Appro. White  
1700 Lincoln St. Ste 3500

Demco Co  
80234435 0050

April 3, 2017

City of Oklahoma City c/o  
Brian M. Nazarenus, Special Counsel  
Riley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

The withdrawal of water from the Kiamichi River is of concern to me as a landowner with frontage on the Kiamichi River. My property is near Moyers and just upstream of where the catch dam is proposed. I would like to know what studies have been made on how the dam and the withdrawal would affect my land value and my future here on the Kiamichi.

I ask that the Oklahoma Water Resources Board delay approval of this permit until more studies have been done and information passed on to landowners in our area.

Thank you,



Tom Garrett  
HC66 Box42  
Moyers, OK 74557  
580-271-8909  
tom@kriver.com

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

01 9230 0268  
PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT  
OF THE RETURN ADDRESS. FOLD AT DOTTED LINE

**CERTIFIED MAIL**

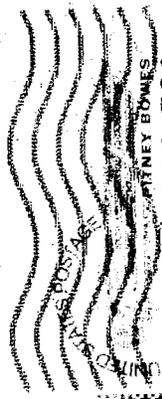
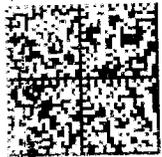
Tom Garrett  
HC 66 Box 42  
Moyers, OK 74557



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TULSA OK 741

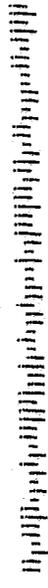
03 APR 2017 PM



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MAILED FROM ZIP CODE 74557

City of Oklahoma City c/o  
Brian M. Nazarenius, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

00200314536





Don Hairrell

17400 State Highway 2

Clayton OK 74536

April 4, 2017

**OKLAHOMA WATER RESOURCE BOARD**

I ask that the OWRB deny the permit application submitted by Oklahoma City. (Stream water application number 2007-017) for withdrawal of water from Sardis Lake or the Kiamichi River, approval of this permit will devastate Pushmataha County.

List of effects comprised by Kenneth P. Roberts, PHD University of Tulsa are:

- a. 220 archaeologist Sites
- b. Fish and Wildlife
- c. River cane used by Choctaw Nation for baskets.
- d. Local Well Water Dry up

Also Blue-Green algae will be created by higher water temps that will affect all people in the area.

I would like to know how this will affect the compact we have with Texas, Arkansas and Louisiana.

When will environmental or Geological Studies be done, and when landowners will be notified about the land to be taken for reservoir.

I ask that the OWRB deny permit as Stream Water Application No. 2007-17 for the few reasons stated.

Don Hairrell

# Theressa Harper

HC 66 Box 580  
Moyers Ok, 74557

April 3, 2017

City of Oklahoma City  
c/o Brian M. Nazarene, Special Counsel  
Ryley, Carlock, & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver. CO 80203

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from the Sardis Lake and / or Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

Recreation/Hunting/Fishing  
Loss of Water for Drinking/Rural and City  
Loss of Community/Schools  
Wildlife Habitat  
Endangered species  
Loss of tributaries

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, we graciously ask the OWRB to postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. As a member of this community, I ask for our due process right to a hearing of our protest.

Thank you for your consideration in this matter.

Sincerely,



Theressa Harper

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, Ok 73118-2881

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A Cleve Box 550  
Maywood  
74557

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City of Oklahoma City  
c/o Brian M Margreanus Special Conc.  
Rylen Fairbank Applewhite  
1700 Lincoln St Slub 350

Denver Co 80203

80203+4535 0050



April 1, 2017

Oklahoma Water Resources Board  
Planning & Management Division  
3800 North Classen Blvd  
Oklahoma City, Ok 73118-2881

My name is Imogene Hairrell Harris. I own land in Sections 16 and 17, Township 1 South, Range 17 East, Pushmataha County, Oklahoma which abuts the Kiamichi River streambed. My address is 174812 State Highway 2, Clayton, Oklahoma 74536. My telephone number is 918-569-4218.

I am protesting the application of Oklahoma City, as amended, to withdraw water from the Kiamichi River and Sardis Lake (believed to be No. 20070017). I request that the permit be denied or modified to protect my property interests.

On the above land I pasture livestock and grow and sell hay, among other endeavors. The taking of water from the river (1) will cause groundwater from my land to migrate to fill the void caused by the watertaking thereby resulting in both loss of income and of land value because water is needed for crops to grow and livestock to thrive; (2) the Kiamichi already is losing river, i. e. the flow of water at Albion approximately fifty miles upstream is the same if not more than the amount of water flowing at Antlers downstream; (3) removing large quantities of water will affect stream flow and affect endangered species in the water and riverbed bordering my land and on my adjoining land e.g. the Ouachita Rock Pocketbook Mussel; (4) my land is part of a historic ranch established in 1912 and my retirement home and devaluing it causes intense emotional distress; (5) granting the permit as requested is denial of due process of law, <sup>no</sup> studies have been done on the effect of taking; (6) Kiamichi river water was not pledged to pay for construction of Sardis dam and lake.\*

Imogene Hairrell Harris

*Imogene Hairrell Harris*

C: City of Oklahoma City, Oklahoma  
200 North Walker Avenue, at City Hall  
Oklahoma City, Ok 73102

\* (6) and (7) upon information and belief  
\*\* incl. equal rights

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

April 4, 2017

**RE: Stream Water Application No. 2007-017**

To Whom It May Concern:

My Name is Susan Herbert

My telephone number is 859-494-7365

My email address is [sherbuhuss@yahoo.com](mailto:sherbuhuss@yahoo.com)

My mailing address is 2524 S Harvard Pl. Apt. B, Tulsa, OK 74114.

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

The citizens of southeast Oklahoma were not properly informed of plans to divert water from local resources to Oklahoma City. This is not fair representation of all citizens in the state. Future discussions and plans need to be transparent and open to all parties.

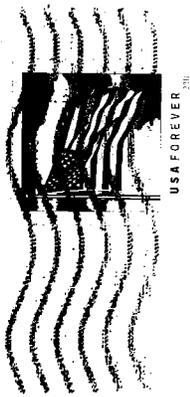
I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

Susan Herbert  
2524 S Harvard Pl  
Apt. B,  
Tulsa, OK 74114

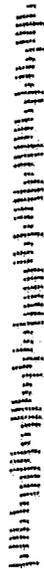
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City of Oklahoma City c/o  
Brian M. Nazaremus, Special Counsel  
Ryle, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

80203\*4535



April 3, 2017

To: City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 2500  
Denver, CO 80203

From : Kevin N. Hilley  
3827 Bowser Av Apartment #8  
Dallas TX 75219  
Telephone number: (214.709.7043)

Subject: Protest to Stream Water Application No. 2007-017

Dear Sir or Madam,

My name is Kevin Hilley. I do not reside in Pushmataha County, but have a great interest in the result of this protest, because I lived in both Antlers and Atoka for over a total of 15 years. During that time, I was the editor of both the Antlers American and the Atoka County Times, both county and regional weekly newspapers. I became familiar with the Oklahoma Water Resource Board, and its actions regarding lakes and rivers in the jurisdiction of my newspaper coverage. I conducted interviews and wrote stories about local people and how OWRB decisions affected daily life. I am still acquainted with these people, and indeed I have many family members living in, and owning property, adjacent and within the Kiamichi River Basin.

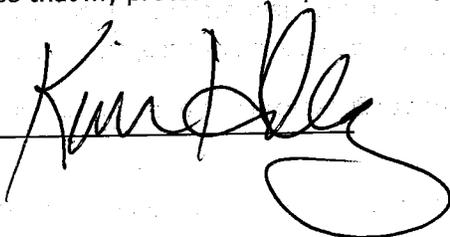
Therefore, I agree with others in protesting the current action for the following reasons:

1. Property value loss from alternation in stream flow
2. Loss of land due to potential damming
3. Loss of Land use from flooding
4. Potential loss of underground water reserves that supply my drinking water.
5. Loss of economic development
6. Loss of recreation abilities for myself, my kids, and my grandkids.
7. Loss of tributaries that feed the Kiamichi River
8. Loss of hunting and fishing capabilities due to the negative impacts of such a diversion
9. Loss of critical wildlife habitat for the endangered species that exist on the Kiamichi River.
10. Lack of environmental and economic impact studies.

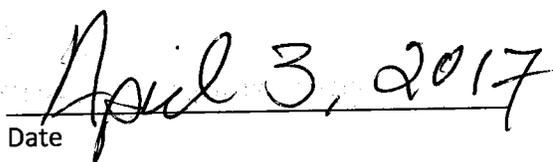
These are just a few of the many reasons why I implore the Oklahoma Water Resources Board to deny the permit. Moreover, I demand the Oklahoma Water Resources Board postpone any decision on the aforementioned permit until all the scientific and economic studies be conducted, and all residents along the Kiamichi River have been adequately informed. I demand my due process right to a hearing on the matter so that my protest can be part of the public record.

Sincerely,  
Kevin Hilley

Name



Date



Cc: Oklahoma Water Resources Board  
Planning and Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

Kevin N. Hilley  
3827 Bowser Av Apt #8  
Dallas, TX 75219

TULSA OK 741

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City of Oklahoma City c/o  
Brian M. Nazarenus, Special Counsel  
Ryley, Carlock & Appewhite  
1700 Lincoln Street, Suite 2500  
Denver, CO 80203

80203#4525



To: City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Riley, Carlock & Applewhite  
1700 Lincoln Street, Suite 2500  
Denver, CO 80203

April 3, 2017

From : Denise Hilton  
HC 66 Box 315  
Moyers, OK 74557  
Telephone number: (580) 298-5367

Subject: Protest to Stream Water Application No. 2007-017

Dear Sir or Madam,

My name is Denise Hilton and I am a landowner on the Kiamichi River, for which a water diversion permit is being requested by Oklahoma City to the Oklahoma Water Resources Board (Stream Water Application No. 2007-017). I request that the Oklahoma Water Resources Board deny the permit for diversion from Sardis Lake and the Kiamichi River as this diversion project will result in direct damage to my legally protected interests that include but are not limited to the following:

1. Property value loss from alternation in stream flow
2. Loss of land due to potential damming
3. Loss of Land use from flooding
4. Potential loss of underground water reserves that supply my drinking water.
5. Loss of economic development
6. Loss of recreation abilities for myself, my kids, and my grandkids.
7. Loss of tributaries that feed the Kiamichi River
8. Loss of hunting and fishing capabilities due to the negative impacts of such a diversion
9. Loss of critical wildlife habitat for the endangered species that exist on the Kiamichi River.
10. Lack of environmental and economic impact studies.

These are just a few of the many reasons why I implore the Oklahoma Water Resources Board to deny the permit. Moreover, I demand the Oklahoma Water Resources Board postpone any decision on the aforementioned permit until all the scientific and economic studies be conducted, and all residents along the Kiamichi River have been adequately informed. I demand my due process right to a hearing on the matter so that my protest can be part of the public record.

Sincerely,  
Denise Hilton

Denise Hilton  
Name

4-3-2017  
Date

Cc: Oklahoma Water Resources Board  
Planning and Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

Denise Hutton  
No 66 Box 315  
Moyers OK, 7455

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT  
OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

**CERTIFIED MAIL**



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City of Oklahoma City c/o.

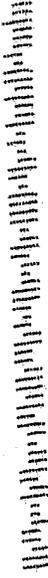
Prison M. Nagasemus Special Counsel,

By Day, Carlock & Applewhite

1700 Lincoln Street, Suite 2500

Denver, CO 80203

80203\*4525



To: City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 2500  
Denver, CO 80203

April 3, 2017

Cc: Oklahoma Water Resources Board  
Planning and Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

From : Frank Hilton  
HC 66 Box 315  
Moyers, OK 74557  
Telephone number: (580) ?

Subject: Protest to Stream Water Application No. 2007-017

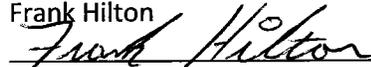
Dear Sir or Madam,

My name is Frank Hilton and I own land on the Kiamichi River. I am writing in protest to the proposed river diversion project permit (Stream Water Application No. 20074-017), as requested by Oklahoma City's permit application, to take water from Sardis Lake and the Kiamichi River. I request that the Oklahoma Water Resources Board deny the permit as the diversion of water will have result in irreversible damage to my legally protected interests. My protest is, in part, for the damage that will be done to the River flow from loss of well water and/or from damming the river in Moyers. As an avid hunter and fisherman, the damage to the local ecosystem will impede on my ability to recreate in this way, which I have done for over the last 50 years. I take my children and grandchildren on such recreational activities and the damage to the River could end such a long-standing family tradition. Moreover, the economic impact on my property will be affected by this diversion plan and without the adequate environmental, economic, and cultural impact studies are completed in their entirety, this permit should be denied without further consideration.

I demand the Oklahoma Water Resources Board postpone and/deny any decisions on this above permit application, and I demand my due process right to a hearing on the matter so that my protest can be part of the public record.

Sincerely,

Frank Hilton

  
\_\_\_\_\_

Name

4-3-17  
\_\_\_\_\_

Date

Cc: Oklahoma Water Resources Board  
Planning and Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

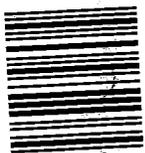
Frank Welter  
Ne 66 Box 315  
Mogena, OK 74557

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City of Oklahoma City c/o  
Brian M. Nagavenner, Special Counsel,  
Rydey, Casback & Applewhite  
1700 Lincoln Street, Suite 2500  
Oklahoma, Co, 73103

90203+4525

To: City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 2500  
Denver, CO 80203

April 3, 2017

From : Rebecca Hoel  
210 N.E. "C" Street  
Antlers, OK 74523  
Telephone number: (918) 9398642

Subject: Protest to Stream Water Application No. 2007-017

Dear Sir or Madam,

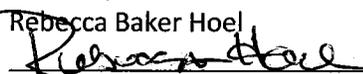
My name is Rebecca Baker Hoel, and I am a long term resident of Pushmataha County, as well as a landowner on the Kiamichi River, for which a water diversion permit is being requested by Oklahoma City to the Oklahoma Water Resources Board (Stream Water Application No. 2007-017). I request that the Oklahoma Water Resources Board deny the permit for diversion from Sardis Lake and the Kiamichi River as this diversion project will result in direct damage to my legally protected interests that include but are not limited to the following:

1. Property value loss from alternation in stream flow
2. Loss of land due to potential damming
3. Loss of Land use from flooding
4. Potential loss of underground water reserves that supply my drinking water.
5. Loss of economic development
6. Loss of recreation abilities for myself, my kids, and my grandkids.
7. Loss of tributaries that feed the Kiamichi River
8. Loss of hunting and fishing capabilities due to the negative impacts of such a diversion
9. Loss of critical wildlife habitat for the endangered species that exist on the Kiamichi River.
10. Lack of environmental and economic impact studies.

These are just a few of the many reasons why I implore the Oklahoma Water Resources Board to deny the permit. Moreover, I request that the Oklahoma Water Resources Board postpone any decision on the aforementioned permit until all the scientific and economic studies be conducted, and all residents along the Kiamichi River have been adequately informed. I demand my due process right to a hearing on the matter so that my protest can be part of the public record.

Sincerely,

Rebecca Baker Hoel

  
Name

4/3/2017  
Date

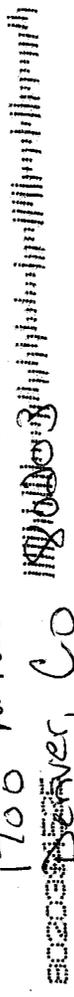
Cc: Oklahoma Water Resources Board  
Planning and Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

Rebecca Hoel  
210 N.E. 'C' St  
Antlers, OK 74523

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City of Oklahoma City c/o  
M. Nazarens, Special Counsel  
Brian Carlock & Applewhite  
Ryley, Lincoln Street, Ste 2500  
1700  
Seaver, CO



City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900

March 4, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is Justin J. J. Humphrey  
My telephone number is 405, 557-7382  
My e-mail address is justin.humphrey@okhouse.gov  
My mailing address is The Oklahoma House of Representatives  
2300 N. Lincoln Blvd.  
Oklahoma City, OK 73105-4805

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

*I have property on Buch Creek in North East Acker. I believe that this permit will effect that property. I am working with my father to put a duck reserve on this property. Therefore, this will cause an economic and environmental hardship on us.*

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Justin J. Humphrey  
Name

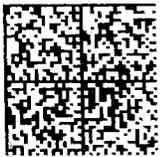
4-4-17  
Date

CC: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881



OKLAHOMA HOUSE of REPRESENTATIVES  
 \*\*\*\*\*  
 2300 N. LINCOLN BLVD  
 OKLAHOMA CITY, OK 73105-4805  
 Rep. Justin Humphrey  
 329B

OKLAHOMA CITY  
 OK 730  
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City of Oklahoma City c/o  
 Brian M. Nazareus, Special Counsel  
 Ryley, Carlock & Applewhite  
 1700 Lincoln Street, Suite 3500  
 Denver, CO 80203

80203-453575



City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

April 4, 2017

**RE: Stream Water Application No. 2007-017**  
To Whom It May Concern:

My Name is Syed Raziullah Hussaini

My telephone number is 859-494-7367

My email address is [syed-hussaini@utulsa.edu](mailto:syed-hussaini@utulsa.edu)

My mailing address is 2524 S Harvard Pl. Apt. B, Tulsa, OK 74114.

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

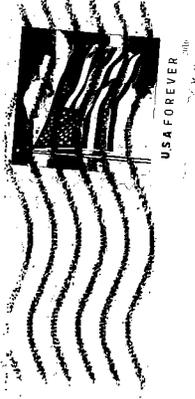
My interest is to visit the river and the lake with my family for recreation. I would like my three year old son to be able to know the natural habitat that exists now and when he grows up. Going to the river and the lake will be an educational outing. He will get to know various creatures which call the river and the lake their home, including the endangered species: Red Cockaded Woodpecker, Scale Shell Mussel, Winged Maple leaf Mussel, Indiana Bat and American Burying Beetle, threatened species (Northern Long-eared Bat), Piping Plover, Red Knot and Leopard Darter) and in-recovery species (American Peregrine Falcon). There is also a prehistoric fish weir which all of our family would like to visit from time to time. All of this can be affected by the withdrawal of water from Sardis Lake and/or the Kiamichi River.

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

**cc: Oklahoma Water Resources Board**  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

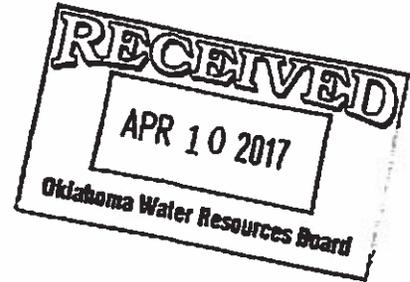
From  
Syed R Hussain  
2594 S Howard Pl  
Apt B, Tulsa, OK 74114

TULSA, OK 741  
06 APR 2017 PM 52 L



City of Oklahoma City c/o  
Brian M. Nazarenuş Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

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City of Oklahoma City c/o  
Brian M. Nazaregna, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900

March 10, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is Georgia Irwin

My telephone number is (918) 470-7747

My e-mail address is \_\_\_\_\_

My mailing address is 1684 Pa. Box

Telephone OK 74571

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Georgia Irwin  
Name

Mar 10-2017  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

April 7, 2017

RE: **Stream Water Application No. 2007-017**

To Whom It May Concern:

My name is Erin Iski.

My telephone number is 918-809-0677.

My e-mail address is EViski@gmail.com

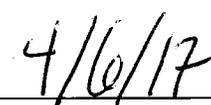
My mailing address is 4330 S. Norfolk Ave. Tulsa, OK 74105

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

The withdrawal of water from Sardis Lake and/or the Kiamichi River will hurt a specific breed of mussel that is on the Endangered Species List. The habitat is *critical* to that species and it cannot thrive anywhere else. We cannot destroy the future of this mussel for human interests/profits.

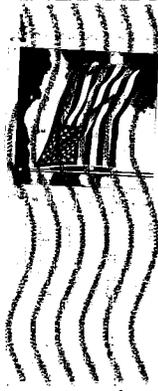
I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

  
Name  
Erin Iski

  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

Em Iski  
430 S. Norfolk Ave.  
Tulsa, OK 74105



OKLAHOMA CITY OK 730

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City of Oklahoma City  
c/o Brian M. Nitzarekus  
Ryley, Carlack, & Applewhite

1700 Lincoln St, Suite 3500  
DENVER CO 80202

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is

Dale Jacobson

My telephone number is

(918) 569-7796

My e-mail address is

djacob@yrcos.com

My mailing address is

P.O. Box 100

Clayton, Okla. 74536

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests, as listed below:

*I am concerned about the loss of Endangered species Red Cuckooed woodpecker, "Muscle" vital to our eco system, Indiana Bat, Amer. Burying Beetle, Leopard Warts + other species, Tourism, Property Values, Loss of water for Drinking, Economic Devlop, Recreation, Hunting & Fishing, Killing a Living Stream & Turning into a Canal*

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Name

Dale Jacobson

Date

3/31/17

Land Owner on Both sides of Kiamichi River

CC: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73119

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31<sup>st</sup>, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is

Justin Jackson

My telephone number is (970)

270-3006 or 918 569-4770

My e-mail address is

bugobble@yahoo.com

My mailing address is

P.O. Box 7

Tuskahoma, OK 74574

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

*Endangered Species: Example Pocketbook  
mussel & long-eared bat Wildlife Habitat: We have one of the money  
diverse ecosystems (Bald Eagle, Black Bear & Elk) Economic Development  
we need the assurance for future infrastructure Health: Blue Green Algae & Zika Virus*

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Name

Grandowner on both sides  
of the Kiamichi river 4 miles

Date

3/31/17

CC: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73119-2991

City of Oklahoma City c/o  
Brian M. Nazarenus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

**RE: Stream Water Application No. 2007-017**

To Whom It May Concern:

My name is Linda Jackson

My telephone number is (903) 1267-2550

My e-mail address is \_\_\_\_\_

My mailing address is P.O. Box 7 Tuskahoma, OK 74574

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

*property values, loss of existing business, recreation (hunting) fishing, wildlife habitat, loss of use of lake, economic development,*

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Linda Jackson  
Name

March 31 2017  
Date

CC: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Riley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is CURTIS JOHNSON

My telephone number is (918) 465-7908

My e-mail address is CURTESTESTCO@GMAIL.COM

My mailing address is 168639 ST. HWY 2

CLAYTON OKLA. 74536

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

TOURISM, WILDLIFE, ECONOMIC DEVELOPMENT  
LOSS OF WATER FOR RURAL & CITY

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Curtis Johnson  
Name

3-31-17  
Date

CC: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118



City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Riley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

RE: **Stream Water Application No. 2007-017**

To Whom It May Concern:

My name is Jaime Johnson

My telephone number is (918) 569-7242

My e-mail address is jaime.tstco@yahoo.com

My mailing address is 168834 St Hwy 2

Clayton, OK 74536

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

Wildlife, Loss of drinking water

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Jaime Johnson  
Name

3/31/17  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73119-0001

Johnson  
768839 SH2  
Clayton OK 74536

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT  
OF THE RETURN ADDRESS, FOLD AT DOTTED LINE  
**CERTIFIED MAIL®**



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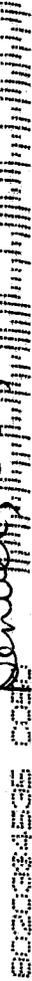


1000

80202

City of Oklahoma City  
c/o Brian M. Nagarens, Special  
Ryley, Carlock, & Applewhite Counsel  
1700 Lincoln St, Ste 3500

Denver CO 80203



City of Oklahoma City  
c/o Brian M. Nazarenius, Special Counsel  
Riley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

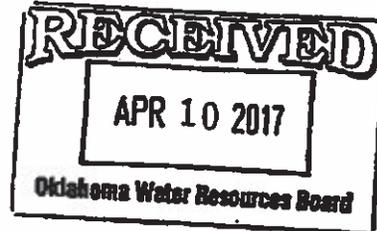
sent via FAX to (405) 530-8900

April 10, 2017

RE: Stream Water Application No. 2007-017

To whom it may concern:

My name is Dennis Kerr.  
My telephone number is (918) 631-3020.  
My e-mail address is dennis.-kerr@utulsa.edu  
My office mailing address is Department of Geosciences The University of Tulsa 800  
South Tucker Ave. Tulsa, OK 74104.



I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

- to observe and enjoy all native plant and animal species of the area, which would be endanger of loss under the proposed permit;
- to protect, as a citizen of the state of Oklahoma, all natural resources of the state threatened by government decisions based on incomplete information and absence of proper procedure to consider environmental and local resource impacts made by decisions such as the proposed permit.

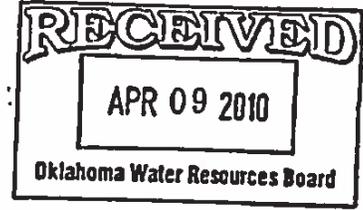
I ask the OWRD to deny the permit, listed in the published notice as Stream Water Application No. 2007-017 for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to hearing of my protest.

*Dennis Kerr*  
Dennis Kerr  
Name

April 10, 2017  
Date

cc: Oklahoma Water Resources Board  
Planning and Management Division  
3800 North Classen Blvd.  
Oklahoma City, OK 73118-2881

RESOLUTION



BE IT RESOLVED:

WHEREAS, the Latimer County Board of Commissioners protest the permitting of any further Sardis Lake Water to Oklahoma City; and

WHEREAS, the Latimer County Board of Commissioners support Water Development and Economic Development for the benefit of the citizens within the six counties of the Kiamichi River Basin.

THEREFORE BE IT RESOLVED THAT THE LATIMER COUNTY BOARD OF COMMISSIONERS, protest the permit application by Oklahoma City for any Sardis Lake Water that is now before the Oklahoma Water Resources Board, and

THEREFORE, BE IT FUTHER RESOLVED that the Latimer County Board of County Commissioners, request and demand that the Oklahoma Water Resources Board deny Oklahoma City's water permit application for any further Sardis Lake Water.

NOW THEREFORE, BE IT FURTHER RESOLVED, that the Latimer County Board of Commissioners officially do herby file this protest with the Oklahoma Water Resources Board.

OWRB-Permitting Division
3800 N Classes BLVD
Oklahoma City OK 73118

APPROVED AND PASSED THIS 5 DAY OF April, 2010

LATIMER COUNTY COMMISSIONERS



ATTEST: Carolyn Taylor
Secretary

Dennis Deeks
Chairman, LATIMER COUNTY COMMISSIONERS

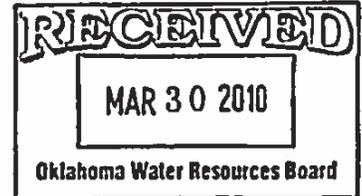
John McAdams
Member

Ray Albford
Member



COUNTY COURTHOUSE  
100 SOUTH BROADWAY

**KELLI FORD**  
**LEFLORE COUNTY CLERK**  
POST OFFICE BOX 218  
POTEAU, OKLAHOMA 74953



FACSIMILE 918-647-8930  
TELEPHONE 918-647-5738

March 29, 2010

Oklahoma Water Resources Board  
Permitting Division  
3800 N. Classes Blvd.  
Oklahoma City, OK 73118

**Re: Resolution**

As per Andrew Husky's request, please find enclosed a resolution, signed by the LeFlore County Commissioners, protesting ninety percent of Sardis Lake water to channel to Oklahoma City.  
If you have any questions, please feel free to call.

Sincerely,

A handwritten signature in cursive script that reads "Gina Rogers".

Gina Rogers

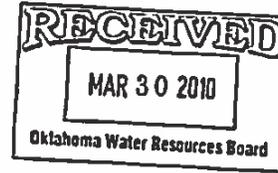
CARROLL ROGERS  
District #1 - Spiro  
Shop: 918-962-9471

LANCE SMITH  
District #2 - Poteau  
Shop: 918-647-3600

FREDDIE D. COX  
District #3 - Heavener  
Shop: 918-653-4494

LEFLORE COUNTY  
BOARD OF COUNTY COMMISSIONERS

POST OFFICE BOX 607  
POTEAU, OKLAHOMA 74953  
Telephone: 918-647-2527



RESOLUTION

WHEREAS, the LeFlore County Board of Commissioners protest the permitting of any further Sardis Lake Water to Oklahoma City, and

WHEREAS, the LeFlore County Board of Commissioners support Water Development and Economic Development for the benefit of the citizens with the six counties of the Kiamichi River Basin,

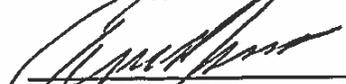
THEREFORE, BE IT RESOLVED that the LeFlore County Board of Commissioners, protest the permit application by Oklahoma City of any Sardis Lake Water that is now before the Oklahoma Water Resources Board, and

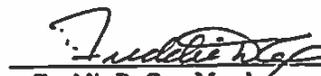
THEREFORE, BE IT RESOLVED that the LeFlore County Board of County Commissioners request and demand that the Oklahoma Water Resources Board deny Oklahoma City's water permit application for any further Sardis Lake Water.

NOW THEREFORE, BE IT FURTHER RESOLVED that LeFlore County Board of County Commissioners officially do hereby file this protest with the Oklahoma Water Resources Board;

Oklahoma Water Resources Board-Permitting Division  
3800 N. Classes Blvd.  
Oklahoma City, OK 73118

Passed and Approved the 29th day of March, 2010.

  
Carroll Rogers, Chairman

  
Freddie D. Cox, Member

  
Lance Smith, Vice-Chairman

Attest:  
  
Kelli Ford, County Clerk

City of Oklahoma City  
Brian M. Nazareus, Special Council  
Ryley, Carlock & Applewhite  
1700 Lincoln St., Suite 3500  
Denver, CO. 80203

April 2, 2017

Re: **Stream Water Application No. 2007-017**

To whom it may concern,

Debbie L. Leo and F. Jerrold Gutierrez  
dba Miller Lake Retreat LLC  
P.O. Box 25  
Moyers, Oklahoma 74557  
580-298-5483

My husband and I wish to protest the permitting of the Kiamichi river to Oklahoma City. Our reasons are many beginning with Oklahoma City's not following the OWRB's rules and regulations regarding the filing of the permit **Stream Water Application No.2007-017**.

I quote from the rules and regulations the following items that have not been set forth for permitting of the Kiamichi river and river basin: Missing from the list is;

1. The application form (completed, signed and notarized containing the following information:

- \*method(s) of diversion
- \*legal location of diversion point(s), and legal
- \*location of intended area of use

2. A plat indicating the following:

- \*location of diversion point;
- \*location and size of all water bodies;
- \*location of area of use, and
- \*location of water transport lines.

Each of these items from the list have not been presented to anyone living along the Kiamichi river, at or near the Sardis Lake reservoir, or anyone living upstream or downstream from the water source being requested by Oklahoma City's application for the water permit **Stream Water Application No. 2007-017**.

We ask the Oklahoma Water Resources Board to request further studies be conducted to assure that before permitting can take place, Oklahoma City submit many more studies to clarify each of those missing points as stated before granting any permit for water from the Kiamichi river basin.

Also, and very important to us, is the lack of any **Economic Impact** studies, **Ecological Impact** studies, **inflow stream** monitoring to determine real-time yearly flow of water through the system, impacts to existing water rights, **riparian** rights granted by the state of Oklahoma to all land owners along the Kiamichi river and the lack of concern or studies to determine how, if the water is diverted, it will impact **endangered species** living within the Kiamichi basin.

Furthermore, the affects on each of the communities along the Kiamichi river need to be addressed. We have businesses, schools, citizens whose lives will be greatly impacted by any water removal from the basin of origin. Studies have shown how much damage can occur by transporting water out of one basin and into a pipeline to another location. We will lose our potential for creating any economic development. Our property values will go down, it will adversely affect our tourism which brings a healthy tax base to the state.

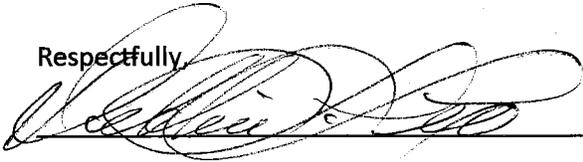
We live in the poorest county in Oklahoma. However, it is one of the most diverse places for wildlife in Oklahoma. It is a jewel within the southern part of the state and should remain a viable, potentially prosperous part of the state given that the water remains in the basin of origin. Economic development will come if and only if the waters flow all the way down to the Red River, naturally, unencumbered.

We realize that Oklahoma City will eventually acquire the water in Sardis Lake and it will adversely affect all of us who live here. We request that all of the studies be done, completed, and then shared with all interested parties instead of Oklahoma City trying to shorten the process to save them some time, money, or effort to actually do the studies. In the end, it is we who inhabit the basin who will suffer the consequences of their actions. Our thoughts on that are thus, we matter, too. We have a business that provides tourists a remarkable place to come and experience the wilds that are S.E. Oklahoma. Our wildlife adventures enhance each and every child, nature seeker, fisherman, swimmer, boater, etc. who come to stay here. The tax dollars help the state and that helps everyone.

We ask the OWRB to deny the permit listed as **Stream Water Application No. 2007-017** for all the reasons stated in this protest letter. It is clear that Oklahoma City has not followed the rules by which this permit would be granted. The reasons stated above are sound. We want this permit to be denied until all the proper studies are fully carried out and approved by all the agencies involved.

We are attaching photographs of our most precious wildlife inhabiting our part of the Kiamichi river. Please see the attached photos and admit them into our protest for consideration.

Respectfully



---

Debbie L. Leo



---

F. Lerrold Gutierrez

4-3-17

4-3-17

Attachment Exhibit 1 and 2



1

Nesting Bald Eagle on the Kiamichi river @ Miller Lake Retreat LLC. This is her second year of nesting. She has reared one baby as of 2016 and will hopefully be reproducing another offspring this year.



2

This is last years baby @ about 6 months old. It fledged and is living in the area along the river.

The number of species that will be adversely affected is huge. We respectfully ask you to re-evaluate your stance on this **Stream Water Application No. 2007-017**.

Thank you for your consideration.



7015 3430 0000 4078 9353

City of Oklahoma City of  
Brian M. Magaranda, Special Counsel  
Ryley Carlisle & Associates  
1700 Lincoln St, Suite 3500  
Lawson, Ok. 74003



1000



80203

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City of Oklahoma City c/o  
Brian M. Nazerenus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

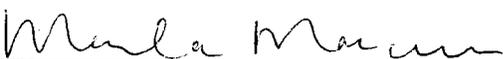
Re: Stream Water Application No. 2007-017

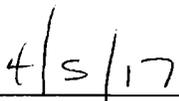
Marla Marcum  
580.326.8605  
[mmarcum@questmhsa.com](mailto:mmarcum@questmhsa.com)  
PO Box 654  
Antlers, OK 74523

I ask the Oklahoma Water Resource Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below.

Loss of water for drinking/rural and city  
Recreation/Hunting/Fishing  
Wildlife Habitat  
Loss of use of land  
Property Values  
Protecting endangered species  
Riparian Rights

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No 2007-017 for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

  
Name

  
Date

Cc: Oklahoma Water Resource Board  
Planning & Management Division  
3800 N. Classen Blvd  
Oklahoma City, OK 73118

Marcum  
PO Box 654  
Lawlers, OK 74523

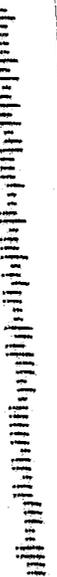


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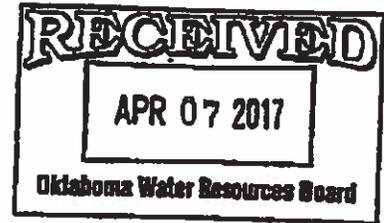
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City of Oklahoma City  
c/o Brian Nazareus  
Pyley, Carbock & Applewhite  
1744 Lincoln St STE 306  
DENVER, CO 80203



8020381005 0050

City of Oklahoma City c/o  
Brian M. Nazerenus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203



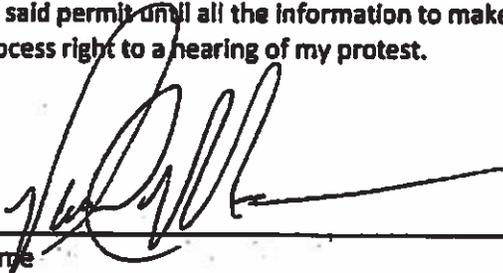
Re: Stream Water Application No. 2007-017

Paul Marcum  
580.209.2362  
[pmarcum@questmhsa.com](mailto:pmarcum@questmhsa.com)  
PO Box 654  
Antlers, OK 74523

I ask the Oklahoma Water Resource Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below.

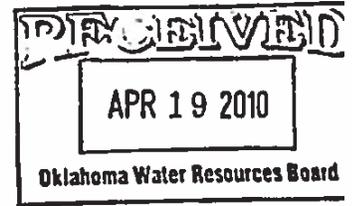
Loss of water for drinking/rural and city  
Recreation/Hunting/Fishing  
Wildlife Habitat  
Loss of use of land  
Property Values  
Protecting endangered species  
Riparian Rights

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No 2007-017 for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

  
Name

4/5/17  
Date

Cc: Oklahoma Water Resource Board  
Planning & Management Division  
3800 N. Classen Blvd  
Oklahoma City, OK 73118



**RESOLUTION**

**BE IT RESOLVED:**

**WHEREAS, the Marshall County Board of Commissioners protest the permitting of any further Sardis Lake Water to Oklahoma City; and**

**WHEREAS, the Marshall County Board of Commissioners support Water Development and Economic Development for the benefit of the citizens within the six counties of the Kiamichi River Basin.**

**THEREFORE BE IT RESOLVED THAT THE MARSHALL COUNTY BOARD OF COMMISSIONERS, protest the permit application by Oklahoma City for any Sardis Lake Water that is now before the Oklahoma Water Resources Board, and**

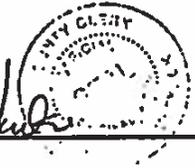
**THEREFORE BE IT FURTHER RESOLVED that the Marshall County Board of County Commissioners, request and demand that the Oklahoma Water Resources Board deny Oklahoma City's water permit application for any further Sardis Lake Water.**

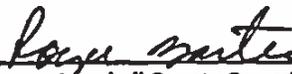
**NOW THEREFORE, BE IT FURTHER RESOLVED, that the Marshall County Board of Commissioners officially do hereby file this protest with the Oklahoma Water Resources Board.**

**OWRB-Permitting Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118**

**APPROVED AND PASSED THIS 15<sup>th</sup> DAY of April, 2010**

**MARSHALL COUNTY COMMISSIONERS**

**ATTEST:**    
Secretary

  
Chairman, Marshall County Commissioners

  
Member

  
Member

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, Co 80203

Certified Mail: 7015 0640 0000 4303 6885  
~~Facsimile to:~~

April 3, 2017

RE: Stream Water Application No. 2007-017  
(Kiamichi River)

To Whom It May Concern:

My name is Brody McClellan  
My telephone number is 580-271-0952  
My mailing address is P O Box 89, Finley, OK 74543

I ask the Oklahoma Water Resources Board (ORWB) to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

This water redistribution will have many adverse affects on the fish and game native to my area:

1. it will decrease drinking water availability.
2. The reduction in water will make the food sources (river bottom grasses, mosses, as well as many other plants) more scarce.
3. It will decrease the habitat for game animals, in which they breed and raise their young.
4. The fish need clean natural water flow for all of the same reasons.

If this water is taken it will not only cause them to have to search for more suitable habitat, it will cause some species great peril because the Kiamichi River Bain is their only known habitat. The Ouchita Rock Pocketbook mussel for instance. This mussel is already on the endangered species list. It is one of nature's filters, and it's only known home is the

Kiamichi River Basin. There are many other animals, birds, and insects on the endangered species list, but for the sake of time, I will only list a few:  
Red Cockaded Woodpecker, Scaleshell Mussel, Winged Mapleleaf Mussel, Indiana Bat, and the American Burying Beetle

Threatened list:

Northern Long-Eared Bat, Piping Plover (2 species), Red Knot and the Leopard Darter (fish)

On the Recovery list – the American Peregrine Falcon.

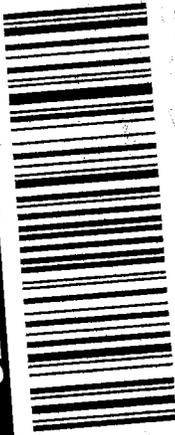
I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons state above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.



Cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

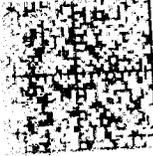
Brody Medellan  
PO Box 89  
Finley OK 74543

**CERTIFIED MAIL®**



7015 0640 0000 4303 6885

TULSA, OK 741



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0004719067 APR 04 2017  
MAILED FROM ZIP CODE 74543  
\$006.59

ATTN: Brian M. Nazaremus  
Special Counsel for the City of Okla. City  
Ryley Carlock and Applewhite  
1700 Lincoln St, Ste. 3500  
Denver, CO 80203

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, Co 80203

Certified Mail: 7015 ~~0140~~ 0640 0000 4303 6908  
~~Faxed to:~~

March 30, 2017

RE: Stream Water Application No. 2007-017  
(Kiamichi River)

To Whom It May Concern:

My name is Larinda McClellan  
My telephone number is 580-298-5942  
My email address is [larmac2005@yahoo.com](mailto:larmac2005@yahoo.com)  
My mailing address is P O Box 89, Finley, OK 74543

I am deeply concerned about the various negative impacts the withdrawal of water from Kiamichi River and/or Sardis Lake will have on Pushmataha and Choctaw Counties, the Red River Compact, and the State of Arkansas, all of which rely upon these water sources.

I am requesting the Oklahoma Water Resources Board (ORWB) deny a permit to the City of Oklahoma City for Stream Water Application No. 2007-017 (the withdrawal of water from Sardis Lake and/or the Kiamichi River) which would result in harm to my legally protected interests as listed below:

**Two sections of land loosely designated as where dams could be placed in Moyers, have an optimal earthquake fault within them, and I feel that it could adversely affect all of the Kiamichi River Basin, and the waters within it, if disturbed.**

According to Oklahoma Geological Surveys (Open File Report OF3 and Open File Report OF4-2015, Preliminary Optimal Fault Orientations) there are spidery networks of fault lines in Pushmataha County, many of which are optimal for an earthquake. I believe previous earthquake tremors have already affected water sources in this area.

Larinda McClellan letter of protest

My property is near Big Cedar, a tributary of the Kiamichi River, which is the water source for the properties in my area. In the last 10 years, the flow and quality of water in our area has noticeably decreased for my neighbors and me. A few years ago my well water had become so terrible tasting and odorous, I had a water test done. It was the basic test on dissolved solids. With 500 parts/million dissolved solids being the upper limits for safety, my water tested at 668 parts/million dissolved solids. I continued to use the water for bath and toilet, but not for drink/food. My neighbors also complain of really bad water, and we tried for quite some time to get a Rural Water line in our area, but no funding was available. Since then, my well stopped working and in trying to repair it, we found that something solid and impenetrable had shifted into the shaft about 8 feet down, and the other well on my property now only produces 36 gallons of water at a time, but recharges at different variations of time, making it a non-reliable water source.

An earthquake not far from us, near Stringtown, Oklahoma, in 2011 along with other Oklahoma earthquakes that we have felt in this vicinity, may have played a part in the water problems we now have in this area.

**Damming of the Kiamichi River would most likely result in blue-green algae bloom in the stagnant pools during the low flow summer months, which in turn is a health hazard for man, beast, fowl, and the aquatic population dependent on the normal flow of the Kiamichi River. Blue-green algae cuts off oxygen and sunlight to the waters below it, causes heat to be held in the water, and releases toxic pollen into both the air and the water.**

**Extreme heat, high sedimentation, and low oxygen in the dammed areas of the Kiamichi River, will likely extinguish several endangered and threatened species.**

We have several endangered species along the Kiamichi River which are vital to the survival of the river, and especially vulnerable to construction of reservoirs. The Ouachita (Washita) Rock Pocketbook Mussel is critical to the Kiamichi River, and the Kiamichi River is the critical habitat to the mussel. Other mussels on the endangered list that live along the Kiamichi River are the Scaleshell Mussel and the Winged Mapleleaf Mussel. Along with the Mussels, the survival of the threatened Leopard Darter fish is dependent on fresh, running water.

RE: Stream Water Application No. 2007-017  
(Kiamichi River)

page 3

Larinda McClellan letter of protest

Other vitally important endangered species that would be affected by depletion of the natural flow of the Kiamichi River are the Red Cockaded Woodpecker, Indiana Bat, and the American Burying Beetle. Red Cockaded Woodpeckers which provide habitat, not only for themselves, but for a host of other woodland birds, animals and insects are vital to our natural woodlands/forests. The Indian Bat is crucial to managing mosquitoes which often carry diseases such as West Nile and Zika.

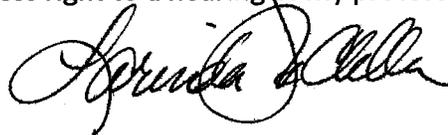
**Loss of the natural flow of the Kiamichi River, will cause loss of the flow of Big Cedar, affecting my use of land for cattle production and gardening, and the loss of animals that we (my family) hunt and fish, which is a not only a sport for us, but also a small, but important, food source. Loss of water will also cause my property value to decrease. I demand if this application is permitted, that I be fully recompensed for loss of income and loss of property value.**

*An impact study on dam building/major construction in an area that is geologically mapped for an optimal earthquake fault is essential before considering permitting an application to be approved for such activities.*

*A study on the ecological impact on the Kiamichi River Basin is essential before considering disturbing the critical ecosystem dependent upon natural flow of the Kiamichi River.*

*An economic impact study including loss of tourism, loss of other business, and loss of TAX DOLLARS, is essential before considering a permit for water redistribution.*

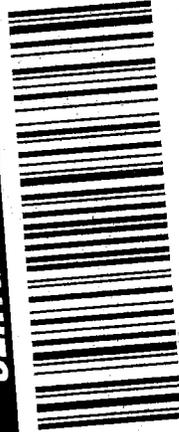
I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons state above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.



Cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

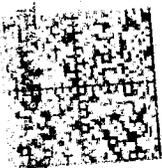
*harinda c. mellellan  
PO Box 89  
Finley OK 74543*

**CERTIFIED MAIL**



7015 0640 0000 4303 6908

TULSA OK 741



\$ 006.59

92 1P  
0004719067 APR 04 2017  
MAILED FROM ZIP CODE 74543

ATTN: Brian M. Nazaremus  
Special Counsel for the City of Okla. City  
Ryley Carlock and Applewhite  
1700 Lincoln St, Ste. 3500  
Denver, CO 80203

CLINT ERBY  
DISTRICT 1  
EPOYENSOW

AVERY THOMPSON  
DISTRICT 2  
ID-521

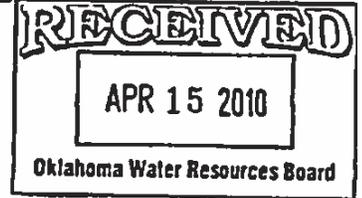
JIMMY WESTERCOCK  
DISTRICT 3  
WALLBENT

pm



**THE BOARD OF COUNTY COMMISSIONERS**

McCURTAIN COUNTY  
P.O. Box 1072 • Idabel, Oklahoma 74745  
530-230-7450 • Fax: 530-230-7495



**RESOLUTION**

**BE IT RESOLVED:**

WHEREAS, the McCurtain County Board of Commissioners protest the permitting of any further Sardis Lake Water to Oklahoma City; and

WHEREAS, the McCurtain County Board of Commissioners support Water Development and Economic Development for the benefit of the citizens within the six counties of the Kiamichi River Basin.

THEREFORE BE IS RESOLVED THAT THE McCURTAIN COUNTY BOARD OF COMMISSIONERS, protest the permit application by Oklahoma City for any Sardis Lake Water that is now before the Oklahoma Water Resources Board, and

THEREFORE, BE IT FURTHER RESOLVED that the McCurtain County Board of Commissioners, request and demand that the Oklahoma Water Resources Board deny Oklahoma City's water permit application for any further Sardis Lake Water.

NOW THEREFORE, BE IT FURTHER RESOLVED, that the McCurtain County Board of Commissioners officially do hereby file this protest with the Oklahoma Water Resources Board.

OWRB-Permitting Division  
3800 N Classen BLVD  
Oklahoma City OK 73118

APPROVED AND PASSED THIS 12<sup>th</sup> DAY OF April, 2010

McCurtain County Commissioners

ATTEST: *Karen Conaway*  
Karen Conaway, County Clerk

*[Signature]*  
Chairman



*[Signature]*  
Member

*[Signature]*  
Member

City of Oklahoma City c/o  
Brian M. Nazarenius, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL, ELECTRONIC MAIL AND FAX**

April 10, 2017

**RE: Stream Water Application No. 2007-017**

To Whom It May Concern:

We, the Oklahomans for Responsible Water Policy(ORWP), lodge our protest against granting the above-referenced application in the absence of data that is required by both the policy of the state of Oklahoma, the rules of the Oklahoma Water Resources Board (“the Board”), and United States federal law.

ORWP’s members include Oklahoma citizens and taxpayers, many of whom live in the Kiamichi Basin and use Sardis Lake and the Kiamichi River and its tributaries. The stated purpose of ORWP is to “protect and preserve the waters of Oklahoma for the enjoyment and benefit of its citizens.” The Board’s granting of Application 2007-017 prior to the gathering and analysis of the required data and completion of the mandated studies will directly result in waste of the state’s resources, both natural and monetary; economic damage to the citizens and landowners of the Kiamichi Basin; the illegal expenditure of public funds; threats to the health and safety of residents of and visitors to the Kiamichi Basin; destruction of the habitat of endangered and threatened species in violation of United States law; an illegal taking of property by the Board; and violation of Oklahoma law and their own policies by the Board. ORWP objects and protests said Application on these grounds and as further stated below:

- 1) **The application fails to provide required information.** The Oklahoma Administrative Code requires, at OAC 785:20-3-2(b), “If at the time the application is filed, the applicant has evidence regarding right of access to the diversion point and authority to cross lands of another with pipelines or other appurtenances related to the use of the water, *such evidence shall be submitted with the application*”.(emphasis added). The five diversion points are listed generally, (two are described as “Section 4 and the E/2 of Section 5, T3S, R16EIM”) and do not specify which lands the diversion points will impact. The applicant has provided no information regarding evidence of right of access to the diversion point(s) nor authority to cross lands of another with pipelines and appurtenances between McGee Creek Reservoir and the Kiamichi River other than stating “easements will be acquired where necessary.”
- 2) **The Notice published is vague and ambiguous.** The beginning of paragraph 3 of the notice for this application published in the *Hugo Daily News* states “Protests to this Application must be in writing and received by the Board at the address listed above no later than thirty (30) days of the date of last publication of this Notice (April 10, 2017), and...” It is unclear whether

April 10, 2017 is the date of last publication or thirty days “of” the date of last publication. It is also unclear what 30 days of the date of last publication means.

3) **The type and scope of infrastructure for Oklahoma City to access water has not been revealed.** The permit cites “Pumping facilities the design and configuration of which are yet to be determined.” Without knowing method or the type of equipment and/or facilities that will be used to gather, concentrate, remove and transport water from the Kiamichi Basin, there is no way to predict what impact the removal of water will have upon the area, its residents, the local ecosystem, the power grid or its transportation systems.

4) **The application, if granted, will result in threats to the health and safety of residents in the Kiamichi Basin.** The framers of the Oklahoma Constitution recognized “that to protect both life and property is the first duty of government.” *Board of County Commissioners of Muskogee County v. Lowery*, 2006 OK 31, ¶ 10, 136 P.3d 639, 646. Removing water from the Kiamichi will lower both the flow rate and water level to a point that waters become stagnant, promoting the growth of toxic blue-green algae and increasing breeding areas for mosquitos that spread diseases such as West Nile Virus.

5) **The removal of water from the Kiamichi and its tributaries will have irreversible negative impacts on the game fish population.** Many native species, such as smallmouth bass (*Micropterus dolomieu*), rely on smaller tributaries such as Buck Creek to spawn, away from larger predators that live in the river itself. The diversion point at Moyers will lower the level of these tributaries to a point they will no longer sustain these species, resulting in economic loss to the Basin and recreation loss to Oklahomans and out-of-state visitors.

6) **The study attached to the application as Attachment G is dated outside the time frame required by the Board’s own policy.** As the application is for the transportation of water for use outside the stream system wherein the water originates, the Board must review the needs within such area of origin every five (5) years to determine whether the water supply is adequate for municipal, industrial, domestic, and other beneficial uses per OAC 785:20-5-6. Attachment G, “Regional Raw Water Study” is dated “March 2009”, over eight years prior to the date the application will be considered. The area from which the water will be withdrawn was significantly impacted by the drought of 2010-2015, but the effects of that drought are not reflected in Attachment G. A new study is required to ensure the OWRB considers the application based on accurate data.

7) **The removal would unduly burden Oklahoma taxpayers.** The construction and maintenance of the infrastructure necessary to move water from the Kiamichi to Oklahoma City is prohibitively high. The OWRB’s own Water Conveyance Study, published in January 2012 as the *Oklahoma Comprehensive Water Plan Supplemental Report*, concluded “therefore, it is reasonable to consider that these conveyance systems are also economically unfeasible to warrant the funding of construction.” *Ibid*, pg.57. The same study recommended, “to undertake a further study to evaluate both statewide and regional conveyance systems based upon the new water deficit data” and to “provide an analysis of the various alternatives to supply water to different regions of the state, leading to the ranking of viable concepts based on a cost/benefit measure. This will lead to a preferred conveyance concept (either regionally or statewide) for meeting the water deficit in

meeting the water deficit in each region." The Board should follow their own recommendations and complete such studies before burdening Oklahoma taxpayers. This is even more dire now, as since the time this recommendation was made, the state has amassed a deficit in excess of a billion dollars.

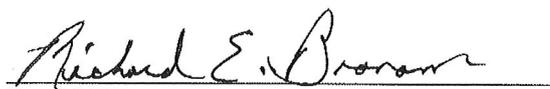
8) **Granting the permit would violate the National Environmental Policy Act (NEPA).** Prior to approving the permit, the Board must comply with 42 U.S.C. § 4332. This includes, but is not limited to, producing an Environmental Impact Statement and making it available for public viewing. We also note that 42 U.S.C. § 4332(e) requires the Board to "study, develop and describe appropriate alternatives" to granting this permit. The Board must also coordinate with local governments to formulate a plan for removing water from their area.

9) **Granting the permit would violate the Endangered Species Act.** Several endangered species, including but not limited to the Red Cockaded Woodpecker, Indiana Bat, and the Ouachita Rock Pocketbook Mussel, live in the proposed diversion areas and rely on the Kiamichi ecosystem. Granting the application would negatively impact all these species and possibly lead to their extinction. Many threatened species also inhabit the area. These species rely on instream flows and a proper, current instream flow study not been completed.

In summary, Oklahoma City has applied to remove 115,000 AFY of water from an ecologically sensitive and economically depressed area by way of an unspecified infrastructure at an unknown cost using an outdated study, which will result in consequences that are unpredictable due to the lack of adequate scientific evidence. To grant this permit at this time is in violation of the mandate given to the OWRB and against Oklahoma's public policy.

We ask the Board to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, until such time as the data and studies required by both state and federal law are completed, made available to the public for review and analysis, and an informed decision can be made regarding this permit. The Board has a plain legal duty to perform this action; it does not involve the exercise of discretion. We demand our due process right to a hearing of our protest.

Oklahomans for Responsible Water Policy's mailing address is 400 N. Main, Broken Bow, OK 74728. Our telephone number is (405) 686-8600. We can be contacted via e-mail at [chris@orwp.org](mailto:chris@orwp.org).

  
For ORWP

4-10-2017  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881  
Fax (405) 530-8900

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

**RE: Stream Water Application No. 2007-017**

To Whom It May Concern:

My name is NADÉAN OSBORN

My telephone number is (580) 982-6135.

My e-mail address is NA

My mailing address is PO Box 264

Mayor OK. 74557

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Nadean Osborn  
Name

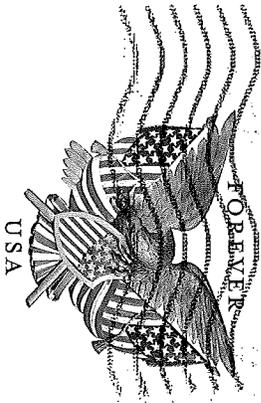
April 2  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

Nadeau Osborn  
P.O. Box 2604  
Mogus, OK.  
74557

TULSA OK 741

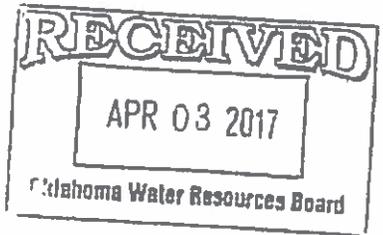
03 APR 2017 PM 54 T



City of Okla. City c/o  
Brian M. Nazarems, Special Counsel  
Riley, Carlock & Appleby, PC  
1900 Lincoln St., Suite 3500  
Denver, Co. 80203

802034533





City of Oklahoma City c/o  
Brian M. Nazarems, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900

March 31, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is Kevin Joseph Payne

My telephone number is (550) 743-0846

My e-mail address is \_\_\_\_\_

My mailing address is He 666 Box 316

Moyers, OK, 74557 Hwy. 2, Embarks

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below: *Along side with the list of reasons, f Protest, Endangered Species, Recreation, Hunting, Fishing, Wildlife Habitat, Loss of use of land, Community Schools, Future Economic development w/ my land, Endangered Archaeological site on my land, and future, harden my family come here with the railroad, and landrush, worked our rear. off to make it what it is today and to come in the future. To*  
I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone we own for making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest *this is to much. Our future for our families and our well being and way of life is not for sale*

Kevin Payne  
Name

3-31-17  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

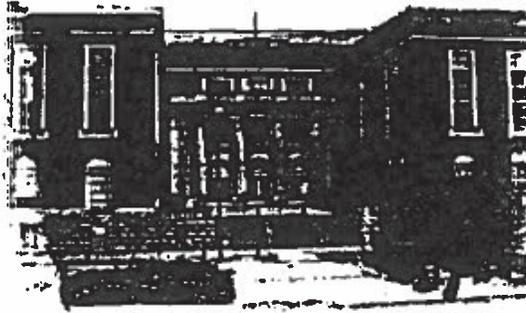


# **Pittsburg County Board of County Commissioners**

**GENE ROGERS**  
*District 1*

**KEVIN SMITH**  
*District 2*

**DONALD MATHIS**  
*District 3*

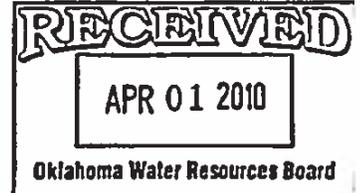


600 EAST CHOCTAW, SUITE C  
McALESTER, OK. 74501

**JANICE YOUNG**  
*Secretary*

**SANDRA CRENSHAW**  
*Secretary*

(918) 423-1338



March 31, 2010

Oklahoma Water Resources Board  
Permitting Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118

RE: Sardis Lake Water  
Permit – Oklahoma City

Gentlemen:

Enclosed herewith you will find the Resolution approved and passed by the Board of County Commissioners on March 29, 2010.

We are protesting the permit application of Oklahoma City for any Sardis Lake Water. We are requesting that the Oklahoma Water Resources Board deny the water permit application of Oklahoma City.

Also enclosed you will find another copy of the letter which was mailed to your office on March 30, 2010 advising the ACCO-CED #3 strongly opposes Oklahoma City's application to the Oklahoma Water Resources Board for any Sardis Lake water.

Thank you for your anticipated cooperation in this matter and if you have any questions or comments regarding this matter, please do not hesitate to contact me.

Sincerely,

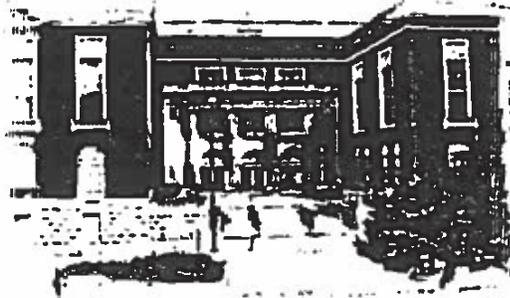
KEVIN SMITH, DISTRICT #2  
PITTSBURG COUNTY COMMISSIONERS

# *Pittsburg County Board of County Commissioners*

**GENE ROGERS**  
District #1

**KEVIN SMITH**  
District #2

**DONALD MATHIS**  
District #3

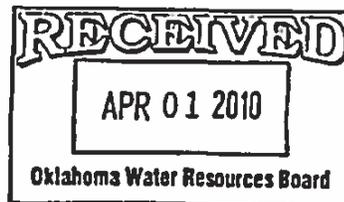


600 East Choctaw  
McALESTER, OKLAHOMA 74501

**JANICE YOUNG**  
Secretary

**SANDRA CRENSHAW**  
Secretary

918-423-1338



March 30, 2010

Oklahoma Water Resources Board  
Permitting Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2862

Dear Sirs,

ACCO-CED #3 strongly opposes Oklahoma City's application to the Oklahoma Water Resources Board for any Sardis Lake water. CED #3 represents Atoka, Bryan, Carter, Choctaw, Latimer, Leflore, Marshall, McCurtain, Pittsburg and Pushmataha Counties.

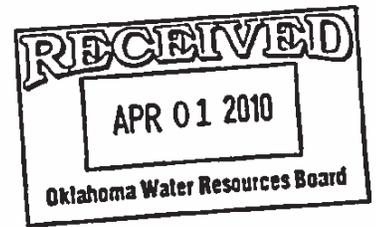
CED #3 is asking the statewide ACCO organization to oppose Oklahoma City's application for any Sardis Lake water.

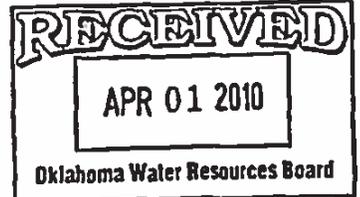
Sincerely,

Gene Rogers  
District #1  
County Commissioner  
Pittsburg County, Oklahoma

CC: Mick Cornett –Oklahoma City Mayor  
Honorable Kenneth Corn, District #4 Senator  
Honorable Jerry Ellis, District #5 Senator  
Honorable Jay Paul Gumm, District #6 Senator  
Honorable Richard Lerblance, District #7 Senator  
Honorable Johnnie Crutchfield, District #14 Senator  
Honorable Dennis Ray Bailey, District #1 Representative

Honorable Neil Brannon, District #3 Representative  
Honorable Brian Renegar, District 17 Representative  
Honorable Terry Harrison, District 18 Representative  
Honorable R. C. Pruett, District 19 Representative  
Honorable Paul D. Roan, District 20 Representative  
Honorable John Carey, District 21 Representative  
Honorable Pat Ownbey, District 48 Representative





**RESOLUTION**

The Board of County Commissioners, Pittsburg County, met in regular session on March 29, 2010.

**WHEREAS**, the Board of County Commissioners, Pittsburg County, supports Water Development and Economic Development for the benefit of the citizens within the six counties of the Klamichi River Basin.

**THEREFORE BE IT RESOLVED**, that the Board of County Commissioners, Pittsburg County, protest the permit application by Oklahoma City for any Sardis Lake Water that is now before the Oklahoma Water Resources Board, and

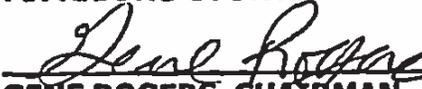
**THEREFORE, BE IT FURTHER RESOLVED** that the Board of County Commissioners, Pittsburg County, request and demand that the Oklahoma Water Resources Board deny Oklahoma City's water permit application for any further Sardis Lake Water.

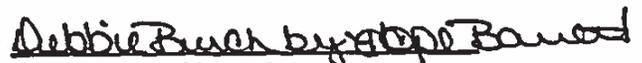
**NOW THEREFORE, BE IT FURTHER RESOLVED** that the Board of County Commissioners, Pittsburg County, officially do hereby file this protest with the Oklahoma Water Resources Board.

OWRB – Permitting Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118

**APPROVED and PASSED THIS 29<sup>TH</sup> DAY OF MARCH, 2010.**

**BOARD OF COUNTY COMMISSIONERS      ATTEST:  
PITTSBURG COUNTY**

  
\_\_\_\_\_  
**GENE ROGERS, CHAIRMAN**

  
\_\_\_\_\_  
**DEBBIE BURCH, COUNTY CLERK**

  
\_\_\_\_\_  
**KEVIN SMITH, MEMBER**

  
\_\_\_\_\_  
**DONALD MATHIS, MEMBER**

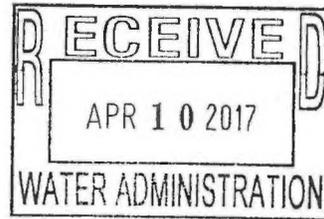


**POTEAU VALLEY IMPROVEMENT AUTHORITY**

Phone (918) 655-7500

25768 US HIGHWAY 270  
WISTER, OKLAHOMA 74966-9124

Fax (918) 655-7502



April 6, 2017

Oklahoma City Water Utilities Trust  
Council Chambers  
200 N. Walker Ave., Third Floor  
Oklahoma City, OK 73102

**RE: *Sardis Lake Permit***

To Whom It May Concern:

The Board of Trustees of the Poteau Valley Improvement Authority (PVIA) at its annual meeting on April 4, 2017, voted to file a protest regarding acquisition by the Oklahoma City Water Utilities Trust of Water from Sardis Lake.

The issues and concerns of the Trustees are as follows:

1. The information on sediment to the lake is based on the Corps of Engineers data that is dated and not supported by bathymetric study of the lake.
2. The point of diversion of water on Kiamichi River allows a large percentage of water to flow past this point and would be considered river run without any accounting. Further, it provides a greater opportunity for water to evaporate through the atmosphere.
3. Under settlement, Oklahoma City has top 115,000 acre feet of water and without regard to sedimentation, over time, this would reduce the non-consumption acre feet without any corresponding set off to water being taken by Oklahoma City.
4. To reduce evaporation and hydration of water from Kiamichi River and to allow more accurate accounting of water being taken by Oklahoma City, an intake should be established on Sardis Lake.

**POTEAU VALLEY IMPROVEMENT AUTHORITY**

Phone (918) 655-7500

25768 US HIGHWAY 270  
WISTER, OKLAHOMA 74966-9124

Fax (918) 655-7502



5. There should be implemented a program to reallocate water every 7-10 years based upon yield and sedimentation. This would be in keeping with the intent of the parties and avoid the issue of the top acre feet of water taken by Oklahoma City to the detriment of the surrounding counties and the non-consumption use without any regard to balancing.
6. Sardis Lake is a valuable asset to Southeast Oklahoma and in the future, the ten (10) surrounding counties will use water as either a primary or secondary source.

It is requested that consideration be given to these points and that they be incorporated in any allocation of stream water by the Oklahoma Water Resource Board.

Respectfully,

Mick LaFavers, Chairman for PVIA

cc: OWRB  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118

Don Faulkner  
Mayor of Talihina  
207 1<sup>st</sup> Street  
Talihina, OK 74571



**THE UNIVERSITY OF TULSA**  
*Department of Chemistry and Biochemistry*

April 4, 2017

To: Oklahoma City  
Brian M. Nazareus, Special Council  
Ryley, Carlock & Applewhite  
1700 Lincoln St., Suite 3500  
Denver, CO. 80203

From: Dr. William T. Potter, PhD  
Professor  
Chemistry and Biochemistry  
University of Tulsa  
800 South Tucker Avenue  
Tulsa, OK 74104-3189

**Re: Stream Water Application No. 2007-017**

Dear Members of the OWRB Review Board and other interested parties:

I wish to lodge a protest for the permitting of the Kiamichi River interbasin transfer of water to Oklahoma City (Stream Water Application #2007-017). I base my protest on the projections of 21<sup>st</sup>-century megadrought conditions which are predicted to occur throughout the American Southwest (See "Relative impacts of mitigation, temperature, and precipitation on 21<sup>st</sup>-century megadrought risk in the American Southwest", *Science Advances* 05 Oct 2016: Vol 2 no 10, e1600873).

Stream redistributions have a reasonable requirement to maintain sustainable flows without promoting or enhancing water quality degradation. As far as I understand, the water that is to be transferred for use in Oklahoma City will be used once before discharge into other non-potable, higher brine water sheds. This "one and done" usage of water does not promote the sustainable use of water. Unless Oklahoma City can plan (and demonstrate) better control of its ground and surface water systems which are now in use, I think it is premature to transfer this higher quality water from the East-side of the State. These issues will continue to be of extreme environmental and financial significance for our State in the 21<sup>st</sup> century.

The guiding principle should be simple. Demonstrate and improve the local use and reuse of the water before drawing the State into a more wasteful, short-sighted solution. The development of local, sustainable water plans will reduce wider environmental impacts.

Once the water is transferred, used once and then mixed with the higher contaminations of brine upon discharge, further use of water will require more expensive processing and desalination schemes. The reuse and downstream process systems that are necessary should already be in the

planning stages if the local OKC area and the State of Oklahoma are expected to remain viable in the 21<sup>st</sup> century. Interbasin transfers, which has the potential for much wider impacts for all of Oklahoma and Texas, should not be the primary method to fix poor water management in OKC. The protection of the Kiamichi watershed is essential.

Sincerely,

A handwritten signature in black ink, appearing to read "W. T. Potter". The signature is fluid and cursive, with a long horizontal stroke extending from the end of the name.

William T. Potter, PhD  
Professor of Chemistry  
The University of Tulsa



THE UNIVERSITY of  
**TULSA**

*College of Engineering and Applied Sciences*  
*Chemistry and Biochemistry*  
800 South Tucker Drive  
Tulsa, Oklahoma 74104-9700

04/05/2017  
04/05/2017

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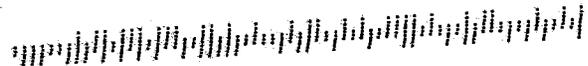
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City of Oklahoma City  
Brian M. Nazarenus, Special Council  
Ryley, Carlock & Applewhite  
1700 Lincoln St., Suite 3500  
Denver, CO. 80203

8020384535 0050



City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900

~~March~~ <sup>APRIL</sup> 2, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is Judy Fryor

My telephone number is (580) 298-2802

My e-mail address is jpryor5380@yahoo.com

My mailing address is 409514 E. 1880rd, Antlers, Ok. 74523-1315

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below: *A. Property Values (Beef Ranch); B. Loss of Drinking Water/Rural; C. Tributaries Flowing into Kiamichi River.*

*I have lived in my area for 71 years. I never studied hydrology, nor endangered species of animals, plants, etc. or how Kiamichi River effects my interests. I need time to study and learn and request*  
I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest. *postponement on this matter.*

Name Judy Fryor

Date April 2, 2017

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

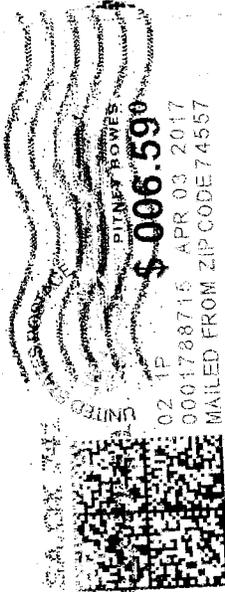
FAX NO. 405-530-8900

Judy Pryor  
409514 E. 1880 Rd.  
Antlers, OK 74523-1315

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City of Oklahoma City  
c/o Bryan M. Reynolds,  
Special Counsel  
Ryley Carlock & Applewhite  
1700 Lincoln St., Suite 3500  
Denver, CO



Michael Brittingham  
DISTRICT #1

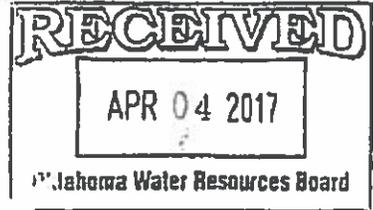
Brad Burgett  
DISTRICT #2

Rickie Briggs  
DISTRICT #3



PUSHMATAHA COUNTY  
BOARD OF COUNTY COMMISSIONERS  
304 S.W. 8<sup>TH</sup> STREET  
ANTLER, OKLAHOMA 74521

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WHEREAS, the Pushmataha County Commissioners are a unit of local government under the Constitution and laws of the State of Oklahoma, and

WHEREAS, the Pushmataha County Commissioners are charged with protecting the health and property and enhancing the economic opportunity of the citizens of Pushmataha County, and are further concerned with the detrimental effects a proposed withdrawal of water from the Kiwanich River basin by Oklahoma City and the Oklahoma City Water Utilities Trust could have upon the health, safety and welfare of our community, and

WHEREAS, the Pushmataha County Commissioners find that it is in the best interests of Pushmataha County to perform their duties by asserting coordination with federal and state agencies mandated by federal and Oklahoma law, and

WHEREAS, federal agencies are mandated to coordinate planning and land management actions with local government by statutes including the Federal Lands Management and Policy Act, the Forest Management Act, the National Environmental Policy Act, the Clean Water Act, the Clean Air Act, the Endangered Species Act, the Homeland Security Act, and by regulations and rules implementing those statutes, and by Executive Order of our President directing intergovernmental cooperation and coordination,

NOW, THEREFORE BE IT RESOLVED the Pushmataha County Commissioners hereby affirm our legal standing as a unit of local government of Oklahoma to formally assert our coordination authority with all federal and state agencies implementing policies and plans that affect and impact the residents, businesses, county property and industry within our jurisdiction, including the U.S. Army Corps of Engineers, U.S. Department of the Interior and Oklahoma Water Resources Board,

BE IT FURTHER RESOLVED the Pushmataha County Commissioners hereby agree to work together with the U.S. Army Corps of Engineers along with other agencies in a unified manner to protect our interests, citizens and community from policies and plans being implemented by the Oklahoma Water Resources Board.

BE IT FURTHER RESOLVED the Pushmataha County Commissioners shall cause a copy of this resolution to be transmitted to the proper federal and state agencies and to all federal and state elected officials representing the residents and governments of Pushmataha County.

ADOPTED BY THE PUSHMATAHA COUNTY COMMISSIONERS ON THIS 4 DAY OF APRIL, 2017.

SIGNED  
  
COMMISSIONER, DISTRICT 1

COMMISSIONER, DISTRICT 2

COMMISSIONER, DISTRICT 3



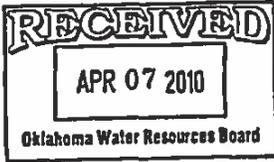
Pushmataha County Clerk

JACK MATTHEWS  
DISTRICT #1

JERRY DUNCAN  
DISTRICT #2

JIMMY LONG  
DISTRICT #3

PUSHMATAHA COUNTY  
BOARD OF COUNTY COMMISSIONERS  
304 S.W. "B" STREET - ANTLERS, OKLAHOMA 74523  
(580) 298-2512



*973-2010*

RESOLUTION

BE IT RESOLVED:

WHEREAS, the Pushmataha County Board of Commissioners protest the permitting of any further Sardis Lake Water to Oklahoma City; and

WHEREAS, the Pushmataha County Board of Commissioners support Water Development and Economic Development for the benefit of the citizens within the six counties of the Kiamichi River Basin.

THEREFORE BE IT RESOLVED THAT THE PUSHMATAHA COUNTY BOARD OF COMMISSIONERS, protest the permit application by Oklahoma City for any Sardis Lake Water that is now before the Oklahoma Water Resources Board, and

THEREFORE, BE IT FURTHER RESOLVED that the Pushmataha County Board of Commissioners, protest the permit application by Oklahoma City for any Sardis Lake Water that is now before the Oklahoma Water Resources Board, and

NOW THEREFORE, BE IT FURTHER RESOLVED, that the Pushmataha County Board of Commissioners officially do hereby file this protest with the Oklahoma Water Resources Board.

OWRB-Permitting Division  
3800 N Classen Blvd.  
Oklahoma City, Ok 73118

APPROVED AND PASSED THIS 1 DAY OF April, 2010

PUSHMATAHA COUNTY COMMISSIONERS

*Jack Matthews*  
CHAIRMAN PUSHMATAHA  
COMMISSIONERS JACK MATTHEWS  
*Jerry Duncan*  
VICE CHAIRMAN JERRY DUNCAN

*Jimmy Long*  
MEMBER JIMMY LONG

*Jane Dunlap*  
ATTEST PUSHMATAHA  
COUNTY CLERK JANE  
DUNLAP



STATE OF OKLAHOMA  
PUSHMATAHA COUNTY  
OFFICE OF THE COUNTY CLERK  
This is to certify that the within and foregoing is a  
true and correct copy of a file instrument now on file  
in my office.  
Witness my hand and official seal this the  
5 day of April, 2010  
Jane Dunlap, County Clerk  
By *Jane Dunlap* Deputy

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

April 5, 2017

**RE: STREAM WATER APPLICATION NO. 2007-017**

To Whom It May Concern:

Walter Myrl Redman  
(580) 271-8257  
[Myrl.redman@ameristatebank.com](mailto:Myrl.redman@ameristatebank.com)  
189016 N. 4170 Rd  
Antlers, OK 74523

I ask the Oklahoma Water Resources Board (OWRB) to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River. Approval of this permit will directly result in harm to my and our families legally protected interests and the interests of the community in which my family lives. Below are some of the issues that I feel would result in harm to me and my community, but not limited to:

- Loss of Water for Drinking and Economic Development for the Town of Antlers?
- Decrease in Property Values along the Kiamichi River?
- Decrease in Tourism and Future Tourism in Antlers OK and Pushmataha County?
- What Effect This Would Have On Endangered Species such as: Red Cockaded Woodpecker?
- What Effect This Would Have On Endangered Species such as: Scaleshell Mussel, Winged Mapleleaf Mussel, Quachita Rock Pocketbook Mussel and Other Fresh Water Mussel?
- What Effect This Would Have On Existing Permitted Water Rights Along the Kiamichi River?

I am asking the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. I, as a taxpayer and citizen of the State of Oklahoma, demand the OWRB **NOT** make a decision on said permit until all the information required to make a fully

informed decision can be made. I demand that research done by Caryn C. Vaughn, published in 2015 titled "Drought-induced changes in flow regimes lead to long-term losses in mussel-provided ecosystem services." be considered in this said permit and any other water permit requesting removal of water from the Kiamichi River. I demand my due process right to a hearing of my written protest.

Sincerely,

A handwritten signature in black ink, appearing to read "Walter Myrl Redman". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Walter Myrl Redman, Antlers OK

CC: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd  
Oklahoma City, OK 73118-2881



To: City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Riley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

April 4, 2017

From : Kenneth P. Roberts, Ph.D.  
21222 S. Keetonville Rd.  
Claremore, OK 74019  
(tele) (918) 631-3090

**Subject: Stream Water Permit Application No. 2007-017 Protest**

To whom it may concern,

I am writing to protest the Stream Water Permit Application No. 2007-017. I own land on the Kiamichi that is upstream from the proposed diversion site. I was born and raised on the Kiamichi River and have watched the River quality decline over the years from man-made activities, and the issuance of this permit will be the final blow to the River. Although a closed-door agreement was settled upon between the Choctaw/Chickasaw Nations, and Oklahoma City and the State of Oklahoma, if the permit is granted it will destroy what is left of a failing river.

When reading through the settlement entitled, "STATE OF OKLAHOMA, CHOCTAW NATION OF OKLAHOMA, CHICKASAW NATION, CITY OF OKLAHOMA CITY WATER SETTLEMENT, AUGUST 2016," I was extremely disheartened at how little scientific and economic evidence there was to support the diversion plan for the Kiamichi River Basin and its residents, and how the diversion point had been kicked down stream to a most environmentally susceptible location. The settlement only provides minimal in-stream flow which will have nothing but negative effects on the Kiamichi River water quality, the basin ecosystem, land values, and the endangered species that reside in the River for their survival. Moreover, the specific diversion methodology seems to still be uncertain by the permitting agency, with each diversion strategy creating its own unique problems. This should be addressed and clearly defined at the expense of the City and State **PRIOR** to consideration of such a permit; especially a permit of such long-term reach and magnitude.

In addition, the total lack of regard of how this river diversion permit would negatively impact any potential future development for the poorest county in Oklahoma for decades to come is clear evidence that the State and Oklahoma City have no regard for the rights of rural communities. By disregarding the voice, input, and representation of landowners and/or citizens of the Kiamichi River Basin, our rights have clearly been violated as "equal owners of the surface waters of Oklahoma." As an equal owner of Oklahoma surface water, I insist that before the State and Oklahoma City depletes our most precious natural resource, the Oklahoma Water Resources Board and other State agencies require Oklahoma City (OKC) to readdress their own regional water resources through rigorous conservation practices, and the clean-up and remediation of existing water resources that OKC has polluted through sheer neglect.

Therefore, as a land owner on the Kiamichi River, I demand that the Oklahoma Water Resources Board (OWRB) deny the City's permit as a violation and infringement of my legal rights to maintain land value and recreate on my Kiamichi River property. As this land will be passed on to future generations, it also violates their rights to a sustainable river-front property with intact ecology, water supply, and preservation of the rich cultural heritage of our land. The land value also includes the protection of

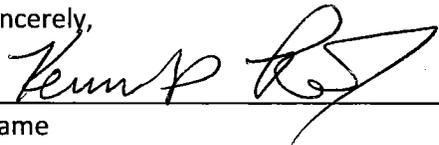
endangered and threatened species in the Kiamichi River, fishing/hunting availability, and the archaeological value of the Kiamichi River Basin.

Additional reasons for my protest to the Oklahoma City's Stream Water Application Permit Request, No. 20074-017 are among, but not limited to the following:

1. Decimation of the Kiamichi River quality with inadequate in-stream flow
2. Lack of thorough environmental impact studies of the "settlement"
3. Insufficient public disclosure and notification to landowners
4. The lack of input as a landowner on the Kiamichi River
5. Underground water depletion and quality for well-water access; a specific violation to my ownership rights as related to underground water
6. Poorly derived economic impact studies of the region
7. The lack of sufficient hydrological and geological studies of such a massive diversion plan
8. Loss of recreational ability of my family land
9. Loss of habitat for wildlife on the Kiamichi River
10. Diminished water quality from algae blooms toxic byproducts

As the poorest county in a poor State, the proposed diversion plan will destroy any potential economic growth opportunities for decades to come by destroying a major natural resource in the region. With this, and much more, I vigorously insist that the Oklahoma Water Resources Board deny the permit, and acknowledge my protest of Oklahoma City's Stream Water Application Permit Request, No. 20074-017 on the grounds of my legally protected interests. Furthermore, I demand the Oklahoma Water Resources Board and the State of Oklahoma provide my due process right to a hearing on the matter so that my protest can be part of the public record.

Sincerely,

  
Name

4-4-17  
Date

Cc: Oklahoma Water Resources Board  
Planning and Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

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 Kenneth Roberts  
 21222 S. Keetonville Rd.  
 Claremore, OK 74019

PHONE (918) 631-3092

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Time

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City of Oklahoma c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

March 31, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is Phillip Russo

My telephone number is: 239-470-9011

My email is: [xfire6@msn.com](mailto:xfire6@msn.com)

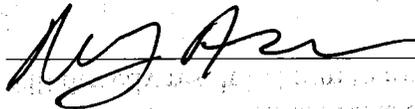
My mailing address is: P.O. Box 1057, Antlers, OK 74523

I ask Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma (Stream Water Application No. 2007-17) for withdrawal of water from Sardis Lake and/or the Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

As a stake holder, property owner, and resident of Pushmataha County, Oklahoma. I have major concerns with the proposed bill and the consequences that it will have on our lands. Restrictions on surface water will affect our economy. Pushmataha County's economy depends on the recreational usage of public parks and lands for fishing and hunting. As a rancher, agriculture and wildlife habitat is important to me. Riparian rights are also a concern. It is with utmost importance that these things are considered.

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-17, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Signed



Dated

3/31/2017

CC: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881



Mr. Phillip A. Russo  
PO Box 1057  
Antlers, OK 74523-1057

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*CITY OF OKLAHOMA  
% BRIAN M. NAZARENUS, SPECIAL COUNSEL  
RYLEY, CARLOCK & APPLEWHITE  
1700 LINCOLN ST. SUITE 3500  
DENVER, CO 80203*

80203+4535 0050

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900

March 31, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is JOHNNY C. SELF

My telephone number is (580) 587-2308

My e-mail address is ~~PO BOX~~ 5

My mailing address is PO BOX 55, RATTANOK, 74562

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Johnny C Self  
Name

3-31-17  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

The following is a list of the reasons why you, as a land owner or citizen of the Kiamichi river basin, should protest the permitting of surface water removal from the Sardis Lake and Kiamichi river to Oklahoma City. This permit by Ok.Cty. will remove much of the water flowing down the Kiamichi river.

**BE SURE THAT YOU CHOOSE WHAT WILL ACTUALLY IMPACT YOUR LIFE.**

Each of you has something to think about. Please choose carefully and only the **one/ones** that will really impact you. We all matter and this fight for our **MOST VALUED RESOURCE IN S.E. OKLAHOMA IS OF THE UTMOST IMPORTANCE.** Time is very short and we need all of us in on this battle, united by common cause, water and the right to it.

**A LIST OF SOME OF THE MOST IMPORTANT REASONS FOR PROTESTS:**

**ENDANGERED SPECIES**

**PROPERTY VALUES**

**LOSS OF EXISTING BUSINESS**

**RECREATION/HUNTING/FISHING**

**WILDLIFE HABITAT**

**TOURISM**

**LOSS OF USE OF LAND**

**RIPARIAN RIGHTS**

**PERMITTED WATER RIGHTS/IRRIGATION/CROPS**

**LOSS OF WATER FOR DRINKING/RURAL AND CITY**

**LOSS OF COMMUNITY/SCHOOLS**

**ECONOMIC DEVELOPEMENT**

**RECREATION**

**ENDANGERED ARCHEOLOGICAL SITES**

**LOSS OF LAND DUE TO DAMMING**

**LOSS OF TRIBUTARIES**

**EXISTING PERMITS APPLIED FOR BUT NOT YET PERMITTED**



City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900

March 31, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is Marcia L. Self

My telephone number is (580) 372-8897

My e-mail address is marciaself50@yahoo.com

My mailing address is P.O. Box 55

Rattan, OK 74562

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Marcia Self  
Name

March 31, 2017  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

The following is a list of the reasons why you, as a land owner or citizen of the Kiamichi river basin, should protest the permitting of surface water removal from the Sardis Lake and Kiamichi river to Oklahoma City. This permit by Ok.Cty. will remove much of the water flowing down the Kiamichi river.

**BE SURE THAT YOU CHOOSE WHAT WILL ACTUALLY IMPACT YOUR LIFE.**

Each of you has something to think about. Please choose carefully and only the **one/ones** that will really impact you. We all matter and this fight for our **MOST VALUED RESOURCE IN S.E. OKLAHOMA IS OF THE UTMOST IMPORTANCE.** Time is very short and we need all of us in on this battle, united by common cause, water and the right to it.

**A LIST OF SOME OF THE MOST IMPORTANT REASONS FOR PROTESTS:**

**ENDANGERED SPECIES**

**PROPERTY VALUES**

**LOSS OF EXISTING BUSINESS**

**RECREATION/HUNTING/FISHING**

**WILDLIFE HABITAT**

**TOURISM**

**LOSS OF USE OF LAND**

**RIPARIAN RIGHTS**

**PERMITTED WATER RIGHTS/IRRIGATION/CROPS**

**LOSS OF WATER FOR DRINKING/RURAL AND CITY**

**LOSS OF COMMUNITY/SCHOOLS**

**ECONOMIC DEVELOPEMENT**

**RECREATION**

**ENDANGERED ARCHEOLOGICAL SITES**

**LOSS OF LAND DUE TO DAMMING**

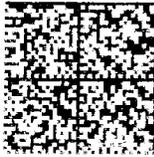
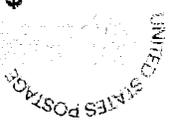
**LOSS OF TRIBUTARIES**

**EXISTING PERMITS APPLIED FOR BUT NOT YET PERMITTED**

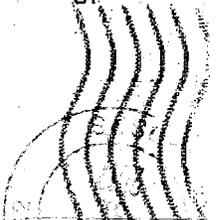
Marcia Self  
PO Box 55  
Roths, OK  
74562

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City of Oklahoma City 46  
Brian H Nazarems, Special Counsel  
Ryley, Corleck, and Applewhite  
1100 Lincoln St., Suite 3500  
Oklahoma City, Oklahoma 73102

To: City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Riley, Carlock & Applewhite  
1700 Lincoln Street, Suite 2500  
Denver, CO 80203

April 3, 2017

Cc: Oklahoma Water Resources Board  
Planning and Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

From : Diane Smith  
210 N.E. E. Street  
Antlers, OK 74523  
Telephone number: (580) 298-5367

Subject: Protest to Stream Water Application No. 2007-017

Dear Sir or Madam,

My name is Diane Smith, and I am a long term resident of Oklahoma, as well as owning land on the Kiamichi River. I am writing in protest to the proposed river diversion project permit (Stream Water Application No. 20074-017), as requested by Oklahoma City's permit application, to take water from Sardis Lake and the Kiamichi River. I request that the Oklahoma Water Resources Board deny the permit as the diversion of water will have result in irreversible damage to my legally protected interests. My protest is, in part, for the damage that will be done to the River flow from loss of well water and/or from damming the river in Moyers. The economic impact on my property will be affected by this diversion plan and without the adequate environmental, economic, and cultural impact studies are completed in their entirety, this permit should be denied without further consideration.

I request the Oklahoma Water Resources Board postpone and/deny any decisions on this above permit application, and I demand my due process right to a hearing on the matter so that my protest can be part of the public record.

Sincerely,  
Diane Smith

Diane Smith  
Name

4-3-2017  
Date

Cc: Oklahoma Water Resources Board  
Planning and Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

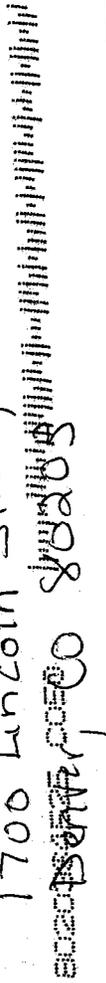
Diane Smith  
210 N.E. E Street  
Antlers, OK 74523



TULSA OK 743

NOV 21 10 21 AM '83

City of Oklahoma City C10  
Brian M. Nazarenus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 2500  
OKLAHOMA CITY, OK 73105



City of Oklahoma c/o  
Brian M. Nazarenus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

March 31, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is Pamela Smith

My telephone number is: 239-878-5467

My email is: pamnugent@yahoo.com

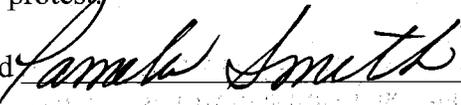
My mailing address is: P.O. Box 1057, Antlers, OK 74523

I ask Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma (Stream Water Application No. 2007-17) for withdrawal of water from Sardis Lake and/or the Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

As a stake holder, property owner, and resident of Pushmataha County, Oklahoma. I have major concerns with the proposed bill and the consequences that it will have on our lands. Restrictions on surface water will affect our economy. Pushmataha County's economy depends on the recreational usage of public parks and lands for fishing and hunting. As a rancher, agriculture and wildlife habitat is important to me. Riparian rights are also a concern. It is with utmost importance that these things are considered.

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-17, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Signed



Dated

3/31/17

CC: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881



Mr. Phillip A. Russo  
PO Box 1057  
Antlers OK 74523-1057

**CERTIFIED MAIL**

7015 0600 0000 8733 6058



CITY OF OKLAHOMA  
96 Brian M. Nazarenius, Special Counsel  
RYLEY, CHASE & APPLEWHITE  
1700 LINCOLN ST, SUITE 3500  
DENVER, CO 80202

866334535 COS 80202



1000



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To: City of Oklahoma City c/o  
Brian M. Nazarenus, Special Counsel  
Riley, Carlock & Applewhite  
1700 Lincoln Street, Suite 2500  
Denver, CO 80203

April 3, 2017

From : Wendy Sprague  
HC 66 Box 235  
Moyers, OK 74557  
Telephone number: (817) 999-1435

Subject: Protest to Stream Water Application No. 2007-017

Dear Sir or Madam,

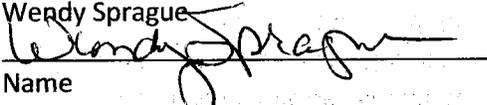
My name is Wendy Sprague, and I am a long term resident of Pushmataha County, as well as a landowner on the Kiamichi River, for which a water diversion permit is being requested by Oklahoma City to the Oklahoma Water Resources Board (Stream Water Application No. 2007-017). I request that the Oklahoma Water Resources Board deny the permit for diversion from Sardis Lake and the Kiamichi River as this diversion project will result in direct damage to my legally protected interests that include but are not limited to the following:

1. Property value loss from alternation in stream flow
2. Loss of land due to potential damming
3. Loss of Land use from flooding
4. Potential loss of underground water reserves that supply my drinking water.
5. Loss of economic development
6. Loss of recreation abilities for myself, my kids, and my grandkids.
7. Loss of tributaries that feed the Kiamichi River
8. Loss of hunting and fishing capabilities due to the negative impacts of such a diversion
9. Loss of critical wildlife habitat for the endangered species that exist on the Kiamichi River.
10. Lack of environmental and economic impact studies.

These are just a few of the many reasons why I implore the Oklahoma Water Resources Board to deny the permit. Moreover, I request that the Oklahoma Water Resources Board postpone any decision on the aforementioned permit until all the scientific and economic studies be conducted, and all residents along the Kiamichi River have been adequately informed. I demand my due process right to a hearing on the matter so that my protest can be part of the public record.

Sincerely,

Wendy Sprague

  
Name

4/3/2017  
Date

Cc: Oklahoma Water Resources Board  
Planning and Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

Wendy Spang  
HC Lee Box 235  
Mogers, OK 74557

TULSA, OK 741



City of Oklahoma City c/o  
M. Nazarenos, Special Counsel  
Brian Carlock & Appewhite  
Ryley, Lincoln Street, Ste 2500  
1700  
Denver, CO 80203

April 7, 2017

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

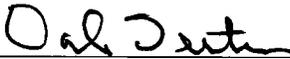
Dale Teeters, Ph.D.  
243 N. Ridge Ave.  
Sand Springs, OK 74063  
Ph: 918-504-0730  
E-mail: dale-teeters@utulsa.edu

**RE: Stream Water Application No. 2007-017**

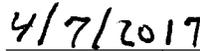
To Whom It May Concern:

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests in the state of Oklahoma. Let me explain my concerns. Dr. Caryn Vaughn of the Oklahoma Biological Survey of the University of Oklahoma states that flow changes in the Kiamichi River due to droughts have reduced the mussel populations by over 60% during these reduced water flow times. Withdrawal of water from the river by Oklahoma City can only severely exacerbate this problem. I refer you to Dr. Vaughn's peer reviewed, published research<sup>1</sup> to further support my apprehensions. Not only will this affect the mussel population, such as the endangered Scaleshell mussel and endangered Winged Mapleleaf mussel, but it will adversely affect other species as well. Such a drastic reduction of flowing water as will occur if Oklahoma City is allowed to withdraw water from the Kiamichi River will undoubtedly affect the threatened Leopard Darter fish by reduction in its native habitat. The habitat of the endangered Red Cockaded Woodpecker and the American Burying Beetle will also have to be affected. I have recently been made aware of several state archeological sites that could also be affected. The ramifications of this stream water application must be considered.

Considering the results that will come from this Stream Water Application to Oklahoma's precious wildlife, as documented by scientific research, and other effects to our environment and cultural history, I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017. As an alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.



Dale Teeters



Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

<sup>1</sup>Caryn C. Vaughn, Carla L. Atkinson and Jason P. Julian, "Drought-induced changes in flow regimes lead to long-term losses in mussel-provided ecosystem services," *Ecology and Evolution*, volume 5(6), 2015, pp. 1291-1305

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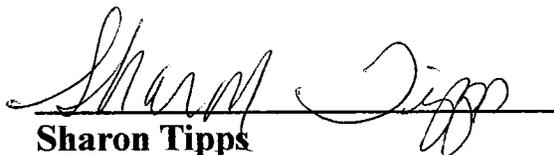
April 1, 2017

To whom it may concern

**I ask the Oklahoma Water Resources Board to deny the permit application submitted by the City of Oklahoma City, (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, approval of this permit will directly result in harm to my legally protected interests as described below.**

**As a result of Oklahoma City taking our water, will be detrimental to Southeast Oklahoma. It will hugely impact the economical development of this area. People in southeast Oklahoma will be forced to move else where. If we have no water it will effect our property value. We will have loss of live stock; cattle, horses, goats, domestic animals due to no water or shortage of water. This is just a few of my concerns as a citizen of this area.**

**I ask the OWRB to deny the permit, listed in the published notice as Stream Water application No. 2007-017 for the reasons stated above. In the alternative, I demand the OWRB post pone making a decision on said permit until all the information required to make a fully- informed decision is obtained. I demand my due process right to a hearing of my protest.**

  
Sharon Tipps

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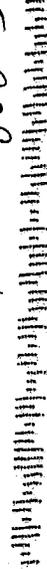
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Sharon Tygo  
190751 N 4111 Rd  
Antler, Ok 74523

City of Oklahoma City 5/0  
Brien M. Nazareno, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Dist 3500

Denver, CO 80203

80203#4535 C050



April 1, 2017

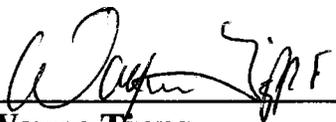
To whom it may concern

**I ask the Oklahoma Water Resources Board to deny the permit application submitted by the City of Oklahoma City, (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, approval of this permit will directly result in harm to my legally protected interests as described below.**

**I haven't seen an impact study on the results of this action. I can see it being very bad for this area and those of us that live here. We're business owners, ranchers, farmers and love our communities. The economic loss, loss of lands due to damming, loss of use of lands, property values would fall, this isn't in anyway good for us in S.E. Oklahoma.**

**There must be another way: Remember, we in the S.E. corner of the State are Oklahomans also.**

**I ask the OWRB to deny the permit, listed in the published notice as Stream Water application No. 2007-017 for the reasons stated above. In the alternative, I demand the OWRB post pone making a decision on said permit until all the information required to make a fully- informed decision is obtained. I demand my due process right to a hearing of my protest.**

  
\_\_\_\_\_  
Wayne Tipps

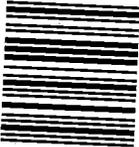
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*City of Oklahoma 90  
BRIAN M. NAZAREANUS, SPECIAL COUNSEL  
RYLEY, CARLACK & APPLEWHITE  
1700 LINCOLN STREET, SUITE 3500  
DENVER, CO. 80203*

80203#4535 CUSO



# Jerry Tolbert

P. O. Box 175  
Moyers Ok, 74557  
580-982-7412

March 30, 2017

City of Oklahoma City  
c/o Brian M. Nazareus, Special Counsel  
Ryley, Carlock, & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver. CO 80203

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

I ask the Oklahoma Water Resources Board ("OWRB") To deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from the Sardis Lake and / or Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

Recreation/Hunting/Fishing  
Loss of Water for Drinking/Rural and City  
Loss of Community/Schools  
Wildlife Habitat  
Endangered species

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, we graciously ask the OWRB to postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. As a member of this community, I ask for our due process right to a hearing of our protest.

Thank you for your consideration in this matter.

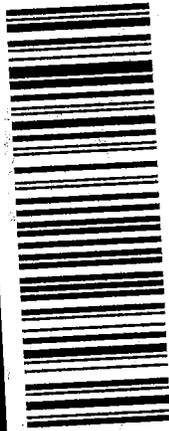
Sincerely,

  
Jerry Tolbert

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, Ok 73118-2881

Telbert  
PO Box 172  
Maywood  
7455

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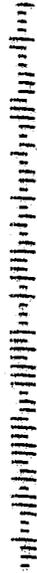
C/O Brian M. Margeremus Special Con.

Ryden, Carlock, Applewhite

1700 Lincoln St Suite 3500

Denver Co 80203

802034535 0050



# Mike Tolbert

P. O. Box 175  
Moyers Ok, 74557  
580-982-7412

March 30, 2017

City of Oklahoma City  
c/o Brian M. Nazareus, Special Counsel  
Ryley, Carlock, & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from the Sardis Lake and / or Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

Recreation/Hunting/Fishing  
Loss of Water for Drinking/Rural and City  
Loss of Community/Schools  
Wildlife Habitat  
Endangered species

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, we graciously ask the OWRB to postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. As a member of this community, I ask for our due process right to a hearing of our protest.

Thank you for your consideration in this matter.

Sincerely,



Mike Tolbert

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, Ok 73118-2881

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74523

City of OKC  
c/o Brian Nagaremus Special Counsel  
Ryley Carlock & Applewhite  
1700 Lincoln St Suite 3500  
Denver, CO 80202

8020314535

To: City of Oklahoma City c/o  
Brian M. Nazarenus, Special Counsel  
Riley, Carlock & Applewhite  
1700 Lincoln Street, Suite 2500  
Denver, CO 80203

April , 2017

From: *Mitchell Tompkins*  
*271-1339*  
Telephone number: (580) ~~282-2387~~

Subject: Protest to Stream Water Application No. 2007-017

Dear Sir or Madam,

My name is *Mitchell Tompkins* and I am a long term resident of Oklahoma, with concerns re: changes happening on/about the Kiamichi River, for which a water diversion permit is being requested by Oklahoma City to the Oklahoma Water Resources Board (Stream Water Application No. 2007-017). I request that the Oklahoma Water Resources Board deny the permit for diversion from Sardis Lake and the Kiamichi River as this diversion project will result in direct damage to my legally protected interests that include but are not limited to the following:

1. Property value loss from alternation in stream flow
2. Loss of land due to potential damming
3. Loss of Land use from flooding
4. Potential loss of underground water reserves that supply my drinking water.
5. Loss of economic development
6. Loss of recreation abilities for myself, my kids, and my grandkids.
7. Loss of tributaries that feed the Kiamichi River
8. Loss of hunting and fishing capabilities due to the negative impacts of such a diversion
9. Loss of critical wildlife habitat for the endangered species that exist on the Kiamichi River.
10. Lack of environmental and economic impact studies.

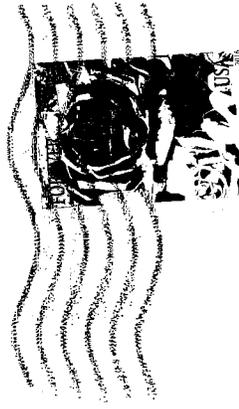
These are just a few of the many reasons why I implore the Oklahoma Water Resources Board to deny the permit. Moreover, I request the Oklahoma Water Resources Board postpone any decision on the aforementioned permit until all the scientific and economic studies be conducted, and all residents along the Kiamichi River have been adequately informed. I demand my due process right to a hearing on the matter so that my protest can be part of the public record.

Sincerely,  
*Mitchell Tompkins*  
Name

*3-3-2017*  
Date

Cc: Oklahoma Water Resources Board  
Planning and Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

Michelle Tompkins



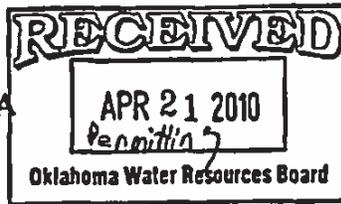
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City of Oklahoma City c/o  
Brian M. Nagarsimus, Special Counsel  
Rydy, Carlock & Applewhite  
1700 Lincoln Street, Suite 2500  
Denver CO 80203

802034525



TOWN OF TALIHINA  
P.O. BOX 457  
TALIHINA, OK 74571  
(918) 567-2194  
(918) 567-3242 Fax



April 8, 2010

Dear Sir:

The Board of Trustees of the Town of Talihina, Oklahoma purpose in writing this letter is to express the concerns in regard to the availability of water, both quality and quantity for our various users in Southeastern Oklahoma. The Board of Trustees of the Town of Talihina are opposed to selling water from Lake Sardis to Oklahoma City.

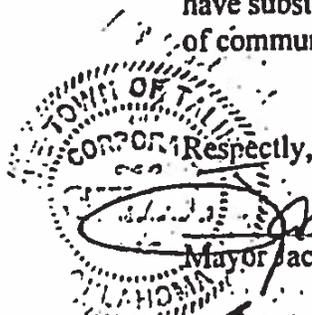
In the past there have been discussions for several towns, including Talihina to unite in this purpose as also looking to Lake Sardis as a water supply.

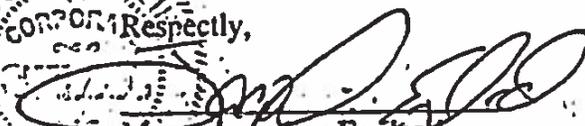
It has been brought to our attention that there is a pending request for requisition of Sardis water by Oklahoma City and offers have been made by the City to pay off federal debts on this reservoir in return for favorable consideration of the City's request.

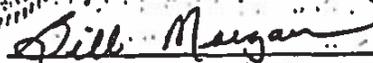
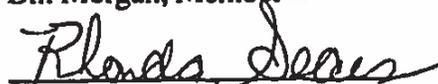
The State of Oklahoma has admitted the Choctaw Nation has a substantial right in the waters of Lake Sardis and the Board of Trustees of Talihina, Oklahoma share in the mutual feeling that the water should be preserved for use by the communities in Southeast Oklahoma.

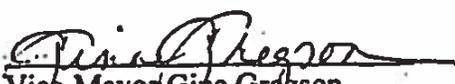
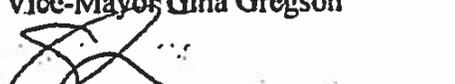
The Board of Trustees of the Town of Talihina, Oklahoma would like the record to be clear that we support the efforts of the Choctaw Nation in defending their water rights to Sardis Lake and encourage OWRB to limit any water rights in favor of Oklahoma City to normal run of river.

Please note the Boards concern in this matter of the ability of the Choctaw Nation to be able to have substantial input as to the appropriation of Sardis Lake water being reserved for the benefit of communities in Southeast Oklahoma.



Respectfully,  
  
Mayor Jacqueline England

  
Bill Morgan, Member  
  
Rhonda Sears, Member

  
Vice-Mayor Gina Gregson  
  
Sheldon King, Member

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is Town of Tahleah  
Don Faulkner on behalf of the Town of Tahleah  
My telephone number is (918) 385-1037 (918-567-2194 Townhall)  
My e-mail address is don\_faulkner@sbcsbcglobal.net (Tort Finance@gmail.com)  
My mailing address is P.O. Box 354, Tahleah, OK 74571 (P.O. Box 457)

---

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below: Town of Tahleah

- 1) until a through study has been completed the yield of Sardis cannot be validated;
- 2) The Settlement w/ Choctaw/Chickasaw Tribes and OKE has not been finalized and could be challenged in court. NEED to be finalized before permitting

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Don Faulkner, Mayor  
Name

March 31, 2017  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73119-2991

**TOWN OF TALIHINA**

P. O. Box 457  
Talihina, OK 74571

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City of Oklahoma City c/o  
Brian M. Nazarenius, Special Council  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

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# United States Department of the Interior

**FISH AND WILDLIFE SERVICE**  
Division of Ecological Services  
9014 East 21<sup>st</sup> Street  
Tulsa, Oklahoma 74129  
918/581-7458 / (FAX) 918/581-7467



In Reply Refer To:  
FWS/R2/OKES/  
SWA 2007-017

April 21, 2017

City of Oklahoma City, c/o  
Mr. Brian M. Nazarenus, Special Council  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, Colorado 80203

Dear Mr. Nazarenus:

The U.S. Fish and Wildlife Service (Service) submitted a letter on April 10, 2017, regarding a pending application (Stream Water Application No. 2007-017) by the City of Oklahoma City to withdraw water from Sardis Lake and/or the Kiamichi River. This letter is to clarify that the Service's April 10, 2017, letter was submitted as comments on the pending application, and not as a protest or objection to the permit.

Thank you for considering this clarification of our previous comments.

Sincerely,

Jonna Polk  
Field Supervisor

cc: Executive Director, OWRB, Oklahoma City, Oklahoma  
Director, ODWC, Oklahoma City, Oklahoma  
District Engineer, USACE, Tulsa District, Tulsa, Oklahoma  
Director, Oklahoma Biological Survey, Norman, Oklahoma  
Regional Director, USFWS, Albuquerque, New Mexico  
Office of the Solicitor, Tulsa, Oklahoma

ADM: :OKC\_Water\_Appl\_2007-017\_201704021\_ADM



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Division of Ecological Services

9014 East 21<sup>st</sup> Street

Tulsa, Oklahoma 74129

918/581-7458 / (FAX) 918/581-7467



In Reply Refer To:  
FWS/R2/OKES/  
SWA 2007-017

April 10, 2017

City of Oklahoma City, c/o  
Mr. Brian M. Nazarenus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, Colorado 80203

Dear Mr. Nazarenus:

The U.S. Fish and Wildlife Service (Service) is the principal federal agency dedicated to the conservation, protection, and enhancement of native fish, wildlife, and plants and their habitats. The Service also helps ensure a healthy environment for people, through its work benefitting wildlife and by providing opportunities for Americans to enjoy the outdoors and our shared natural heritage. The Service is responsible for implementing and enforcing some of the Nation's most important environmental laws, such as the Endangered Species Act, the Migratory Bird Treaty Act, the North American Wetlands Conservation Act, and the Lacey Act.

The pending permit application (Stream Water Application No. 2007-017) by the City of Oklahoma City (City) to withdraw water from Sardis Lake and/or the Kiamichi River poses multiple significant environmental effects on native species and habitats that are protected as federal trust resources. Because those potential effects have not been adequately evaluated and addressed, the Service believes it would be premature to approve the pending application. Therefore, the Service requests that the Oklahoma Water Resources Board (OWRB) not issue the requested permit. In addition, the Service requests that the OWRB hold a hearing on this matter so that the potential ecological and environmental impacts can be better evaluated and addressed.

### **Federally-listed Species in the Kiamichi River**

The Kiamichi River is inhabited by at least two mussel species federally-listed as endangered: the Ouachita rock pocketbook (*Arkansia wheeleri*) and the scaleshell (*Leptodea leptodon*). A third endangered mussel, the winged mapleleaf (*Quadrula fragosa*), also has been reported from the Kiamichi River, but its current status there is uncertain. At least three of the eight other federally-listed species that occur in Pushmataha and Choctaw counties are aquatic-dependent and may occur in close conjunction with the river. The endangered mussels are elements of an unusually diverse, productive mussel community inhabiting the Kiamichi River, which also maintains a high diversity of other native aquatic species (Vaughn *et al.* 1996, Master *et al.* 1998, Matthews *et al.* 2005).

The endangered mussels have experienced extensive reductions in their historical ranges, and for each, the Kiamichi River is one of relatively few streams that remain sufficiently intact to support extant populations (USFWS 2004, 2010, Galbraith *et al.* 2008, NatureServe 2015). These species inhabit lotic (flowing water) systems and require habitats of a certain minimum size and permanence, as evidenced by their absence in tributary streams. These mussels do not inhabit waters impounded by reservoirs and also may be adversely impacted by reservoir operations, *e.g.*, flow regimes altered by releases from reservoirs into downstream reaches. The portion of the Kiamichi River that has been inhabited by the endangered mussels in recent times is an approximately 88-mile segment extending from near Whitesboro, Oklahoma, to just upstream of Hugo Reservoir. Headwaters of the river above this segment and tributaries of the river contribute valuable flows and appropriate bedload materials to the inhabited segment, even if they are not inhabited significantly by the endangered mussels. Jackfork Creek, on which Sardis Lake is impounded, is a major tributary and joins the Kiamichi River near the middle of the river segment inhabited by endangered mussels.

### **Proposed Oklahoma City Permit**

The proposed permit would provide for water withdrawals from the Kiamichi River, increasing progressively from 8,000 acre-feet/year (AFY) in 2035 to an eventual rate of 115,000 AFY in 2065 (Anon. 2017). The water would be taken from five potential points of diversion along the Kiamichi River in the vicinity of Moyers Crossing, Pushmataha County, Oklahoma. The diversion rate from all points (combined) would not exceed 250 cubic feet/second (cfs) and would be made only during river flows at or above 300 cfs, in order to meet a requirement (termed the Bypass Requirement) to leave 50 cfs in the river. Although the Service does not have a copy of the full permit application, details of the proposal appear to derive closely from a legal settlement (Agreement) reached in August 2016 among the State of Oklahoma, the Choctaw Nation of Oklahoma, the Chickasaw Nation, and the City of Oklahoma City. Sectional numbers stated in the following comments refer to corresponding sections of the Agreement.

Implementation of such a permit exhibits a potential to affect endangered mussels and other federal trust resources of the Kiamichi River in multiple respects. Reduction of river flows will reduce the spatial extent of aquatic habitats. The quality of other habitats could be reduced for certain species by decreasing depths and facilitating increased summer heating of those habitats. Many ecological processes in rivers are related to components of flow beyond minimum magnitudes, and those components (*e.g.*, peak flows, rates of flow change) would be affected in the Kiamichi River by the proposed withdrawals. Immature life stages (such as mussel glochidia) are likely to be entrained by the diversions under the proposed withdrawal rates. Significant reductions in lake levels are likely to increase exposure of aquatic and terrestrial species to mercury-contaminated sediments. These are examples of potential effects posed by the proposed permit, but do not constitute a complete list of the effects that should be considered.

### **Consideration of Environmental Effects**

Multiple laws (*e.g.*, the Endangered Species Act of 1973 (ESA), the Clean Water Act of 1972), require consideration of environmental effects posed by projects such as that authorized by the subject permit. The ESA established prohibitions against take of federally-listed animal species

and also established specific requirements for addressing potential take for actions that involve Federal agencies (section 7 of the ESA) or do not involve Federal agencies (section 10 of the ESA). For projects proposed to occur in Oklahoma, the Service has instituted an online project review process, found at

<https://www.fws.gov/southwest/es/oklahoma/OKESFO%20Permit%20Home.htm>, by which project proponents may evaluate and submit for Service review proposed projects that either include a Federal nexus or do not include a Federal nexus. We have no records in our system indicating that the City has submitted the proposed permit to the Service's online project review process in order to address potential take of listed species posed by the permit.

Implementation of the permit would require multiple component projects, some of which would involve federal actions. For example, construction of the diversion points is likely to require a Department of Army permit issued under Section 404 of the Clean Water Act. Construction of the pipeline between the Kiamichi River and Lake Atoka (see Section 1.49 of the Agreement) is also likely to require Department of Army authorization. The Agreement references other projects that may be part of or related to the City's permit (e.g., for a pumping station, new impoundments, or storage). The Service views the action area of a project to be all areas affected directly or indirectly by the action and not merely the immediate area involved in the action (50 CFR Sec. 402.02). In addition, in reviewing Federal actions associated with the permit, the Service will consider not only effects of those actions, but include effects of future State or private activities that are reasonably certain to occur within the action area (50 CFR Sec. 402.02). We believe it appropriate to conduct a cumulative effects analysis for all component projects associated with the permit, rather than consider those on a piecemeal basis.

The 2016 Agreement reflects consideration of some environmental effects potentially associated with the proposed permit but does this incompletely, in both its identification of significant environmental effects and its provision of measures to address those effects. For example:

Sections 5.3.1.2.2.1 and 5.3.1.2.3.3 identify water quality, ecological, and recreational needs as factors and inputs for determining adequacy of the hydrologic model to be used in permit evaluations. However, none of the water quality, ecological and recreational needs are defined in the Agreement definitions, and OAC Sec. 785:20-5-5(e) includes no specific reference to ecological needs of the Kiamichi River. Without definitions of these factors and an identified basis for measuring their status, it is not possible to judge the adequacy of the model for ensuring their protection. Sections 5.3.1.3.1.3 and 7.74 further identify these needs as elements of reaching decisions on individual permits, but do not define them or provide bases for measurement.

The introductory paragraph of Section 6 attributes City water conservation requirements with protecting Sardis Lake recreation and fish and wildlife benefits. Section 6.5.1 further specifies that the future water conservation program is to generally follow American Water Works Association Water Conservation Standards. However, the Agreement sets no measureable targets for expected levels of implementation of the conservation program, nor clarifies how the program will protect these recreation and fish and wildlife benefits.

The permit notice identifies the vicinity of Moyers Crossing as the location of the potential point(s) of water diversion from the river (see also Section 6.1.3). The Service has consistently expressed our concerns regarding the use of Moyers as a major diversion site, due to the impacts that site would pose for the endangered Ouachita rock pocketbook and for a high quality native mussel community in general (*e.g.*, see USFWS *in litt.* 1999). In fact, more recent Service approaches to conservation planning have reinforced our assessment of Moyers as an undesirable diversion site, and a conclusion that major diversions from the Kiamichi basin, if any are to occur, should take place at Hugo Lake or comparable downstream locations. This relates to an increased emphasis on providing for resiliency of imperiled mussel populations and from considering the likely effects of future climate change on river flows.

Section 6.1.5 *et seq.* outline provisions for the permit's proposed diversion rate, bypass requirement, and river flow rate. Section 1.15 also elaborates that the Bypass Requirement is to be measured within reasonable operational constraints. One formerly plausible means of measuring fulfillment of the bypass was discharge (stream flow) data collected at U.S. Geological Survey (USGS) station 07336200 (Kiamichi River near Antlers, OK), which is located downstream from Moyers. However, beginning in 2017, the USGS discontinued the collection of discharge data at that station. With this development, it is unclear how fulfillment of the Bypass Requirement is to be verified.

Section 6.4.1 states that the City shall not be obligated to release water from storage held by the City in Sardis Reservoir to maintain the Bypass Requirement when it is not withdrawing water at the point of diversion. Times when diversion would not take place include periods of extreme low flows in the Kiamichi River. Such periods have occurred in the past and have produced extensive mortalities of freshwater mussels, including the endangered Ouachita rock pocketbook (Vaughn *et al.* 2015). During some of these events, the Service has been able to request and receive releases of water storage from Sardis Reservoir to improve conditions for mussels downstream of the Reservoir (*e.g.*, see USFWS *in litt.* 2011). These releases have been arranged by coordination with the U.S. Army Corps of Engineers (Corps), the OWRB, and the City, although no lake storage is allocated for such purposes. We are concerned that the language of Section 6.4.1 indicates a lack of willingness by the City to support unallocated releases during extreme low flows in the future.

### **Effects on Species of Conservation Concern and Recreational Fisheries**

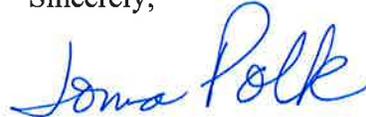
In addition to working on species known to be imperiled, the Service also strives to conserve vulnerable species and collaborates with states, local governments, tribes, and private citizens to conserve significant recreational fisheries. Species of concern are variably recognized vulnerable species, *e.g.*, what are designated in Oklahoma as Species of Greatest Conservation Need (SGCN). Species of concern receive no Federal legal protection; however, discretionary efforts taken to conserve such species may avert potential needs to list them in the future as endangered or threatened species. The Service encourages such efforts.

The Kiamichi River supports many species of concern including 16 fish species that are designated as SGCN. The latter are southern brook lamprey, paddlefish, alligator gar, mooneye, chain pickerel, plains minnow, cypress minnow, pallid shiner, blackspot shiner, Kiamichi shiner,

peppered shiner, rocky shiner, blue sucker, black buffalo, goldstripe darter, and orangebelly darter. The river also is a productive habitat for species that do not have vulnerable status but are popular sport species, such as channel catfish. We believe the permit's potential effects on SGCNs and sport fisheries should be evaluated and addressed to the extent possible, should a permit be granted. As in the evaluations of effects on listed mussels, evaluations of effects on fish species should extend beyond low magnitude flows to include ecological processes associated with other flow components, which may, for example, be important as spawning cues or in providing specialized habitats for certain behaviors or life stages. Because the permit proposes an out-of-basin transport of water, the potential for transport of aquatic invasive species also should be evaluated and addressed.

The Service appreciates your efforts to protect federal trust resources that may be affected by the development of Oklahoma's water resources. We look forward to working with the OWRB, the City, and other agencies in developing measures that will avoid adverse effects to these resources in the Kiamichi River watershed. If you have any questions or require additional information, please contact David Martinez of my office at 918-581-7458, extension 228.

Sincerely,



Jonna Polk  
Field Supervisor

cc: Executive Director, OWRB, Oklahoma City, Oklahoma  
Director, ODWC, Oklahoma City, Oklahoma  
District Engineer, USACE, Tulsa District, Tulsa, Oklahoma  
Director, Oklahoma Biological Survey, Norman, Oklahoma  
Regional Director, USFWS, Albuquerque, New Mexico  
Office of the Solicitor, Tulsa, Oklahoma

ADM: :OKC\_Water\_Appl\_2007-017\_20170403\_ADM

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- Vaughn, C.C., C.L. Atkinson, and J.P. Julian. 2015. Drought-induced changes in flow regimes lead to long-term losses in mussel-provided ecosystem services. *Ecology and Evolution* 5(6):1291-1305.

## **Terry & Lawanda Vaughan**

421628 E. 1920 RD

Antlers, OK 74523

580-298-7812 (Cell)

[lawandavaughan2174@gmail.com](mailto:lawandavaughan2174@gmail.com)

[terryvaughan6352@gmail.com](mailto:terryvaughan6352@gmail.com)

March 29, 2017

City of Oklahoma City  
c/o Brian M. Nazareus, Special Counsel  
Riley, Carlock, & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**RE: Stream Water Application No. 2007-017**

To Whom It May Concern:

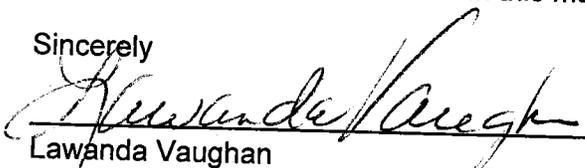
I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from the Sardis Lake and/or Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

Loss of Community/School  
Recreation  
Loss of Tributaries  
Tourism  
Recreation/Hunting/Fishing

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I graciously ask the OWRB to postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. As a member of this community, I ask for my due process right to a hearing of my protest.

Thank you for your consideration in this matter.

Sincerely

  
Lawanda Vaughan

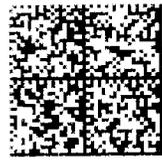
cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, Ok 73118-2881

Vaughan  
421628 E 1920 Rd  
Andover, OR 97452

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c/o Brian M. Mazarenius, Special Counsel  
Ryley, Carlock, + Applewhite  
1700 Lincoln Street, Ste 3500  
Denver, Co 80203

City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

**RE: Stream Water Application No. 2007-017**

To Whom It May Concern:

My name is Sue Ann Vaughan  
My telephone number is (580) 372-1303  
My e-mail address is SueAnnVaughan@gmail.com  
My mailing address is 4216 92 E 19 20 Rd  
Artlers, OK 74523

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Sue Ann Vaughn  
Name

3-31-2017  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

City of Oklahoma City c/o  
Brian M. Nazarenus, Special Counsel  
Riley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**AND**

Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

Also keep a copy for your records and I would attempt to fax and e-mail it to those entities as well.

SEND EACH LETTER BY EITHER

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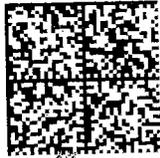


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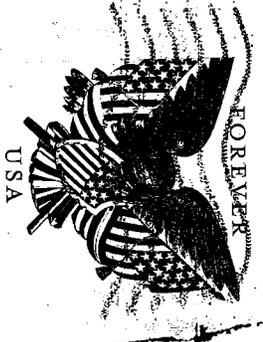
Vaughan  
421692 E 1920 Rd  
Antlers OK 74553

City of OK C/O  
Brian M. Nazarems, Special Counsel  
Rdley, Center + Apartments  
1700 Lincoln St. Suite 3500  
Denver CO 80203

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City of Oklahoma City c/o  
Brian M. Nazareus, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

**SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900**

March 31, 2017

**RE: Stream Water Application No. 2007-017**

To Whom It May Concern:

My name is Terron Vaughan

My telephone number is (~~580~~) 298-7048

My e-mail address is tdv31186@yahoo.com

My mailing address is 421692 E 1920 Rd

Antlers, OK 74523

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

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Terron Vaughan  
Name

3-31-2017  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

Denver, CO 80203

**AND**

Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118-2881

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SEND EACH LETTER BY EITHER

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Brian M. Nazarems, Special Counsel  
Riley, Carter, + Appabito  
1700 Lincoln St. Suite 3500  
DENVER CO 80203

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**Terry & Lawanda Vaughan**

421628 E. 1920 RD

Antlers, OK 74523

580-298-7812 (Cell)

lawandavaughan2174@gmail.com

terryvaughan6352@gmail.com

March 29, 2017

City of Oklahoma City

c/o Brian M. Nazareus, Special Counsel

Ryley, Carlock, & Applewhite

1700 Lincoln Street, Suite 3500

Denver, CO 80203

**RE: Stream Water Application No. 2007-017**

To Whom It May Concern:

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from the Sardis Lake and/or Kiamichi River. Approval of this permit will directly result in harm to my legally protected interests as listed below:

Loss of Community/School

Recreation

Loss of Tributaries

Tourism

Recreation/Hunting/Fishing

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I graciously ask the OWRB to postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. As a member of this community, I ask for my due process right to a hearing of my protest.

Thank you for your consideration in this matter.

Sincerely



Terry Vaughan

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.  
Oklahoma City, Ok 73118-2881



TERRY VAUGHAN  
421628 E 1920 RD  
ANTLERS, OK 74523-3154

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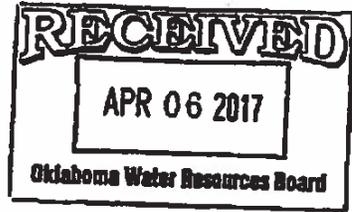
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*City of Oklahoma City  
c/o Brian M. Marckunas, Sp Council  
Egley, Carboel, + Applewhite.  
1700 Kincaid Str. Ste 3500  
DENVER, CO 80202*



City of Oklahoma City c/o  
Brian M. Nazarems, Special Counsel  
Ryley, Carlock & Applewhite  
1700 Lincoln Street, Suite 3500  
Denver, CO 80203

SENT VIA U.S. FIRST CLASS MAIL AND FAX TO (405) 530-8900

April 4, 2017  
March

RE: Stream Water Application No. 2007-017

To Whom It May Concern:

My name is Doug & Linda West  
My telephone number is (580) 236-9569  
My e-mail address is Linda@oioopro.net or Doug@oioopro.net  
My mailing address is P.O. Box 89, Moyers, OK 74557

I ask the Oklahoma Water Resources Board ("OWRB") to deny the permit application submitted by the City of Oklahoma City (Stream Water Application No. 2007-017) for withdrawal of water from Sardis Lake and/or the Kiamichi River, Approval of this permit will directly result in harm to my legally protected interests as listed below:

I ask the OWRB to deny the permit, listed in the published notice as Stream Water Application No. 2007-017, for the reasons stated above. In the alternative, I demand the OWRB postpone making a decision on said permit until all the information required to make a fully-informed decision is obtained. I demand my due process right to a hearing of my protest.

Doug + Linda West  
Name

4-4-17  
Date

cc: Oklahoma Water Resources Board  
Planning & Management Division  
3800 N. Classen Blvd.