

ARKANSAS POLLUTION CONTROL AND ECOLOGY COMMISSION

IN THE MATTER OF GUY KING)
AND SONS, INC.)

DOCKET NO. 07-002-P
ORDER NO. 6

RECOMMENDED DECISION

Appearances: Mr. Ted H. Sanders and Mr. Roger L. Morgan for Guy King and Sons, Inc.; Mr. Richard H. Mays for Friends of the White and Norfolk Rivers, Inc. and Crooked Creek Coalition, Inc.; and Mr. Dara A. Hall for Arkansas Department of Environmental Quality.

INTRODUCTION

On February 5, 2007, Guy King and Sons, Inc. ("King") filed a letter requesting a hearing to review a January 5, 2007, mining decision issued by the Arkansas Department of Environmental Quality ("ADEQ").¹ The former director of ADEQ, Mr. Marcus Devine, suspended in-stream gravel mining permits 0470-MN-A1 and 0588-MN due to increased water temperatures in Crooked Creek.

JURISDICTION

The Arkansas Pollution Control and Ecology Commission ("Commission") has jurisdiction over this matter pursuant to Arkansas Code Annotated § 8-1-203(b)(4). This statute provides a proper party with the right to appeal a permitting decision.

¹ Commission Review and Adjudicatory Hearing

STANDARD OF PROOF

The standard of proof in administrative proceedings is the preponderance of evidence standard. *Johnson v. Arkansas Board of Examiners in Psychology*, 305 Ark. 451, 455, 808 S.W.2d 766 (1991).

FINDINGS OF FACT

1. Mr. Guy King started Guy King and Sons, Inc., fifty years ago. King's son, Mr. Jim King, is vice president and is in charge of the sand and gravel and ready mix operation.

2. During the last 50 years, King has done most of its mining on Crooked Creek between the bridge at Highway 14 and Ray Valley. The Highway 14 bridge is located in downtown Yellville. Ray Valley is east of Yellville just past the Cox mining site.

3. King does not mine in the creek when it is flowing with water but only when the creek is dry. Except for rainfall, the creek goes dry from April or May to February. There are no fish present when King mines in the creek and King does not take trucks into the creek.

4. King obtains sand and gravel from Paragould and Newport when it cannot acquire gravel from Crooked Creek. Paragould is approximately 120 miles from King's operation and Newport is 95 miles away. It is much more expensive to obtain gravel from these cities than it is from Crooked Creek.

5. King extracts gravel from four dry sites on Crooked Creek known as the Angel/McVey site, Ott site, Woods/Hudson/Smith site, and the Cox site. King extracts approximately 3,000 ten ton truck loads of gravel a year from Crooked Creek during the dry season. It has been extracting this amount for approximately ten years.

6. The Angel/McVey site is approximately one mile east of the Highway 14 bridge and the Cox site is approximately three miles east of the bridge.

7. King has been cited for violating Commission regulations three or four times. One violation was for mining without a permit.

8. The water quality standard for temperature for the Ozark Highlands Ecoregion is 29 degrees Celsius or 84.2 degrees Fahrenheit as set out in Regulation No. 2, Section 502. This is the maximum allowable daytime temperature due to man induced activities. Crooked Creek is in the Ozark Highlands Ecoregion.

9. ADEQ samples the water temperature once a month at monitoring stations WHI048A, WHI048B, and WHI048C as long as there is flowing water in the creek. ADEQ does not take a water sample if there is no flowing water.

10. Crooked Creek starts going subsurface just upstream of the Highway 14 bridge near monitoring station White 48A

("WHI048A") and remains a dry channel until right before it goes into the White River.

11. In-stream gravel mining makes a stream wider and shallower and allows the sunlight to heat up the bottom of the stream. The interaction between the warm stream bottom and the shallow water results in the water being warmer.

12. There is an assessment protocol for placing a stream on the Clean Water Act 303(d) list of impaired waters. The protocol provides that ten percent or more of all samples collected within a five year period must exceed the water quality standard for temperature which is 29 degrees Celsius or 84.2 degrees Fahrenheit. More than ten percent of the water samples taken at WHI048A during the period October 1, 2000 and September 30, 2005 exceeded 29 degrees Celsius.

13. ADEQ placed Crooked Creek on the 303(d) list because it exceeded the water quality standard for temperature. The segment placed on the list begins at Clear Creek and extends to the White River. This segment includes the four mining sites identified above that are operated by King.

14. On January 5, 2007, Devine suspended a total of five permits. Two of the permits were for King and three were for Mountain Home Concrete. The permits suspended for King's operation are: 0470-MN-A1 and 0588-MN.

15. On February 5, 2007, King filed a request for hearing on the director's decision.

16. On May 8, 2007, Friends of the White and Norfolk Rivers, Inc. and the Crooked Creek Coalition, Inc. ("Friends") filed a petition to intervene. On May 18, 2007, King filed a letter and ADEQ filed a pleading stating they did not object to the intervention. The administrative hearing officer ("AHO") granted the intervention.²

17. The AHO conducted an evidentiary hearing on May 29, 2007, and the parties completed filing briefs on July 27, 2007.

DISCUSSION AND CONCLUSIONS OF LAW

A. 303(d) List of Impaired Waters

The authority for listing impaired waters is explained in *Missouri Soybean Ass'n v. U.S. E.P.A.*, 289 F.3d 509, 511 (8th Cir. 2002).

The Clean Water Act requires states to identify and prioritize those waters within the state's boundaries that despite the use of technical controls for pollution do not meet the state's water quality standards. See 33 U.S.C. § 1313(d) (1994). States are to "assemble and consider all existing and readily available water quality-related data and information" when preparing the list of impaired waters within the state. 40 C.F.R. § 130.22 (2001). The list of impaired waters, known as the § 303(d) list, is then submitted to the EPA for approval. Once the EPA approves the list, the impaired waters undergo scientific study to establish the total maximum daily

² Order No. 5

load (TMDL) of specifically identified pollutants that may be released without violating state water quality standards. See also *Sierra Club, North Star Chapter v. Browner*, 843 F.Supp. 1304, 1306-07 (D.Minn.1993) (describing TMDL process). States may then use a variety of regulatory techniques to implement the TMDL standards.

Under the Clean Water Act, states must assess their waters every two years and determine whether the state is meeting applicable water quality standards. For temperature, the assessment methodology looks at five years of data and if greater than 10 percent of the temperature values exceed the standard, then the stream must be listed as impaired. T. 213-214. If the states will not determine which waters should be listed as impaired, the Environmental Protection Agency will do this for the states. After a stream is placed on the 303(d) list work can be done to repair whatever is causing the impairment. If the impairment is fixed, the stream can be taken off the list or the standard can be changed. T. 217.

Mr. Martin Maner made the decision to place Crooked Creek from Clear Creek to the White River on the 303(d) list of impaired waters.³ T. 213-214, 273, and *Joint Exhibit 1*. He determined Crooked Creek exceeded the temperature standard and the cause for it was "resource extraction" or gravel mining. T. 181-182, 214-215, 246-247. Although Maner listed Crooked Creek

³ Mr. Maner is chief of the Water Division.

as an impaired stream, he did not make the decision to suspend the permits. *T.* 255.

B. Temperature

1. Collection of water temperature measurements

The AHO must first decide whether ADEQ's measurements of water temperature were accurate. Two field inspectors for ADEQ collected the temperature data from Crooked Creek monitoring stations WHI048A, WHI048B, and WHI048C. *ADEQ Exhibits 1, 2, and 3.* These inspectors have been with ADEQ for over 20 years and they receive annual training on how to take field samples. ADEQ also has a quality assurance officer that does annual field audits. The audits have revealed no deficiencies with the data obtained by the two field inspectors that collected the temperature samples on Crooked Creek. *T.* 129-131.

King argues the temperature samples collected by ADEQ should have been measured differently. Mr. Floyd Cotter testified that how and when the temperature of water is measured could be very significant for a stream that goes dry.⁴ *T.* 40-41, 43. Temperature data is very sensitive and can vary greatly depending on how and when it is sampled. In a stream that goes dry, water temperature becomes even more erratic and less

⁴ Mr. Cotter is a principal in Aquaterra Environmental Solutions, Inc. He testified for King.

reliable as a parameter to gauge a trend on a stream. T. 65. Water temperature should be measured throughout the day and night in order to come up with a daily average. Measuring temperature at three o'clock in the afternoon will result in data that will be extraordinarily high. T. 50. Cotter provided no measurements of the water temperature to show a daily average.

Ms. Yvonne Huff testified about the temperature samples taken by ADEQ at the Highway 14 bridge.⁵ *Guy King Exhibit 1*. She reviewed information provided to her by ADEQ regarding temperatures from 1999 through the end of 2003. T. 90. She testified there are several proper ways to take temperature measurements. It should be taken in flowing parts of the stream, it should be taken at the same depth across different sampling points, and it should be taken at the same distance from the bank in several parts of the stream. In order to obtain a trend, sampling should be done at least twice a day over a two week period throughout several seasons. T. 95-96. The data points collected by ADEQ were measured once a month over a five year period and the data shows that temperatures

⁵ Ms. Huff is employed by Aquaterra Environmental Solutions, Inc. and is an expert in geology and hydrogeology. She testified for King.

vary a great deal with the high points exceeding the water quality standard. T. 113-114.

The AHO finds the two field inspectors for ADEQ have many years of experience collecting water temperature measurements. An audit has not found any deficiencies with the data they have collected. Cotter and Huff proposed other methods for gathering temperature samples but presented no temperature data based on their suggested methodology. The AHO finds the temperature data collected by ADEQ at WHI048A is valid and reliable.

2. Other factors affecting water temperature

King also argues that ADEQ failed to consider other factors that could impact the temperature of the water in the creek. Cotter testified about other factors that could increase the water temperature in Crooked Creek. One factor is the wastewater discharges from the City of Harrison, City of Bergman, and City of Yellville. He offered no evidence of sampling data from the cities regarding the temperature of the discharges that would have shown how warm the discharges were or whether they might impact the water temperature. Although he did not have enough data to evaluate the magnitude a wastewater discharge would have on temperature, he thought it could be significant. T. 44-45, 52, 56.

A second factor was storm water runoff from roofs and parking lots. Storm water runoff has an impact because the trees along the stream bank would be eroded allowing more sunlight to hit the stream and increase water temperature. *T.* 45-46.

A third factor was development along the stream which included industrial discharges. This will also influence temperature. *T.* 49.

Ms. Huff agreed the increase in temperature could be for reasons other than gravel mining but offered no evidence to support her belief. *T.* 115. She recommended that ADEQ look at the other factors impacting the stream so as to help assess the degree to which any of other factors played in impacting the stream. *T.* 121.

Mr. Maner testified that the wastewater discharge did not contribute to the higher water temperature at monitoring station WHI048A because the discharge is downstream from the monitoring station. This was undisputed. He also stated that industrial discharges will not increase the water temperature because ADEQ will not allow industrial discharges above 29 degrees Celsius. This was undisputed. Finally, storm water runoff would not be a factor because rainfall is cooler than 29 degrees Celsius so storm water runoff is going to be colder. *T.* 223-226.

King's witnesses did not produce any studies or data that looked at the impact seasonal streams, wastewater, storm water runoff, or development had on Crooked Creek. The AHO agrees with Maner that the factors addressed by Cotter and Huff will not impact the temperature of Crooked Creek. The AHO finds no evidence proving that wastewater discharges, storm water runoff, or development increased the water temperature in Crooked Creek.

3. Results of temperature measurements

ADEQ collected temperature measurements from monitoring station WHI048A, which is slightly downstream from the Highway 14 bridge in Yellville. There was not enough flow at WHI048B and WHI048C to collect temperature samples throughout the year. *T. 140, 142.*

Mr. Jim Wise testified about the collection of data during the five year period.⁶ The AHO finds that between the five year period of October 1, 2000 and September 30, 2005, 60 samples were taken at WHI048A. Nine samples, which are more than ten percent of the total, exceeded the water quality standard of 29 degrees Celsius or 84.2 degrees Fahrenheit. *T. 137-139 and ADEQ Exhibit 1.* The AHO finds the temperature data from WHI048A exceeded the water quality standard for temperature.

⁶ Mr. Wise is a technical assistant manager in the Water Division and is responsible for water quality assessments and preparation of the 303(d) list.

C. Cause of increase in temperature

Dr. Arthur V. Brown studied the effects of gravel mining on gravel bed streams in the early 1990's which included Crooked Creek and published his findings.⁷ *T. 187-188 and Friends Exhibit 1.* Based on his studies and scientific evaluations, Dr. Brown opined that gravel mining is one of the most destructive things that can happen to a stream. *T. 190.* Gravel mining causes streams to increase in temperature because they get more sunlight and are shallower so the sunlight has a greater effect on the water. *T. 192, 194.* Gravel mining has an impact upstream and downstream because the gravel to replace that taken out of the mine site comes from upstream. This is evidenced by the fact that trees collapse into the stream banks and this widens the stream banks. *T. 197-198.* Besides temperature, anything that removes streamside vegetation or makes the channel wider will affect the temperature of water. *T. 201.*

In 1998, Mr. Martin Maner published a report entitled: Assessment of Gravel Mining on Channel Stability and Other Factors.⁸ He concluded that past gravel mining practices on Crooked Creek makes the stream wider and shallower. *T. 213-*

⁷ Dr. Brown is a professor of biological sciences at the University of Arkansas. His area of specialty is stream ecology and he testified on behalf of Friends.

⁸ Mr. Maner is an environmental engineer and chief of the Water Division.

214, and ADEQ Exhibit 5. His study showed that downstream from a mining site the width of the stream was very wide and pretty shallow and he compared the temperature in a wide and narrow stream to upstream sites with a more normal channel. He concluded that in-stream gravel mining made the stream wider and shallower and that it allowed sunlight to heat up the bottom of the stream because the water was not deep and this made the water warmer. T. 221-223.

Mr. Cotter admitted that sand and gravel mining would have an impact on water temperature. T. 54. It can cause a change in the stream banks upstream and downstream of a mining site. Gravel mining causes a widening of the stream and causes the velocity of the flowing water to change and the increase or decrease in water speed changes the bank characteristics. Through erosion the trees and vegetation lining the banks fall into the water and this causes more sunlight to warm up the water. The effect of the change in temperature would result in aquatic life moving elsewhere or it would kill them. T. 69-70. Gravel mining also causes the streambed to become shallower due to the widening and erosion. T. 71.

Ms. Huff agreed that in-stream gravel mining will cause stream bank erosion due to a loss of vegetation. Gravel mining

can cause shallower water which will make the water warmer. T. 103-104.

The AHO finds that the witnesses agree gravel mining causes an increase in the water temperature of a stream. However, King argues there is no proof that permitted in-stream gravel mining causes an increase in the water temperature. The studies performed by Brown and Maner were conducted prior to the issuance of in-stream gravel mining permits in 1997. T. 290. "While pre-law mining may have impacted water temperature, there is nothing in either report to validate the rationale that mining under current regulation increases such temperature. *King's Post-Trial Brief at p. 5.*

King argues that gravel mining, as regulated, would not contribute to an increase in the temperature of the stream. King relies on the testimony of Mr. James Stephens to support this claim.⁹ Stephens testified it is the intent of Regulation No. 15 that if a permittee complies with the regulation there should be a minimal effect on the stream. T. 292.

The AHO finds the intent of Regulation No. 15 is to allow gravel mining under certain conditions so that the removal of gravel will have a minimal impact on the stream. However, the

⁹ Mr. Stephens is chief of the Surface Mining and Reclamation Division at ADEQ.

intent of the rule is not the same as proving that this laudable goal has been accomplished. King presented no evidence to prove this and Stephens admitted that in some cases the removal of gravel was not done as required under the regulation. T. 295-296. The AHO does not know what impact Regulation No. 15 has had on gravel mining.

Based on the evidence presented by Maner and others, the AHO knows what impact gravel mining has had on Crooked Creek. The evidence proves that between 2000 and 2006 the temperature of the water in Crooked Creek exceeded the water quality standard enough times to warrant the stream being placed on the 303(d) list. The evidence proves that gravel mining causes a stream to widen and become shallower and causes the water in the stream to become warmer. The AHO concludes that King's argument has no merit.

D. Permit Suspension

Regulation No. 15 gives ADEQ the authority to suspend, revoke, or modify permits.¹⁰ Specifically, Reg.15.312 provides:

(A) The Department may revoke, modify, or suspend, in whole or in part, for cause any permit issued under the Act and this Code, including without limitation:

- (1) Violation of any condition of the permit or the bond; or

¹⁰ Regulation No. 15 is The Arkansas Open-Cut and Land Reclamation Code.

- (2) Obtaining a permit by misrepresentation or failure to disclose fully all relevant facts.

Mr. Maner placed Crooked Creek on the 303(d) list because the segment from Clear Creek to the White River was in violation of the water quality standard for temperature. Maner determined the cause of the increase in temperature was due to gravel mining. T. 213-214.

Mr. Stephens met with Devine about in-stream gravel mining permits on Crooked Creek and Devine told him to draft suspension letters, which he did. The director determined the mining permits should be suspended because Crooked Creek was on the 303(d) list. T. 282-283. The AHO finds the evidence has established that the cause of the increase in the temperature of the water was due to gravel mining in Crooked Creek. Therefore, the AHO concludes that former director Devine had cause under Reg.15.312 to suspend King's mining permits.

IT IS THEREFORE ORDERED THAT:

1. The decision of the Arkansas Department of Environmental Quality to suspend permits 0470-MN-A1 and 0558-MN issued to Guy King and Sons, Inc. is affirmed.
2. This docket is closed.

RECOMMENDATION

It is the recommendation of the administrative hearing officer that the Arkansas Pollution Control and Ecology Commission adopt and affirm, without modifications, the findings of fact and conclusions of law set out in the above Recommended Decision.

This 6th day of September 2007.



Michael O'Malley
Administrative Hearing Officer

CERIFICATE OF SERVICE

I, Patricia Goff, Commission Secretary, hereby certify that a copy of the foregoing Order No. 6, Guy King and Sons, Inc; Docket No. 07-002-P, has been mailed by certified mail or by first class mail, postage prepaid, to the following parties of record, this 6th day of September 2007.

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