

# DRAFT

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Scenic River Joint Study Committee  
August 10, 2016  
10:00AM  
Renaissance Tulsa Hotel and Convention Center  
6808 South 107<sup>th</sup> East Ave  
Tulsa, Oklahoma 74133

I. Call to Order and Approval of Minutes of April 8, 2016 Regular Meeting – Brian Haggard

HAGGARD called the meeting to order at 10:03. Role was called and all member of the committee were present along with KING and the Attorneys General representatives.

Members present:

Arkansas Representatives	Oklahoma Representatives
Brian Haggard (HAGGARD)	Shellie Chard-McClary (CHARD-MCCLARY)
Marty Matlock (MATLOCK)	Shanon Phillips (PHILLIPS)
Ryan Benefield (BENEFIELD)	Derek Smithee (SMITHEE)

Contractor Ryan King (KING) present

Jamie Ewing (EWING), Arkansas Assistant Attorney General present

Clayton Eubanks (EUBANKS), Oklahoma Assistant Attorney General present

HAGGARD asked for public to introduce themselves. (See sign-in sheet for list of attendees)

HAGGARD reminded everyone that this meeting is a committee meeting but is open to public. He will allow public comments but he will keep us on track.

CHARD-MCCLARY stated that committee members' comments had been incorporated into the draft minutes, the minutes had been distributed to the committee in advance and there were copies available to the public if anyone was interested.

**MOTION 1: To approve minutes as presented.**

Representative		Yes	No	Abstain	Absent
Ryan Benefield	Motion	X			
Shellie Chard-McClary		X			
Brian Haggard		X			
Marty Matlock	Second	X			
Shanon Phillips		X			
Derek Smithee		X			

Approved minutes including KING's presentation and sign in sheet will be scanned and uploaded to the website by PHILLIPS.

II. Administrative and Budget Report regarding the SRJSC's Contract with Baylor University for Performance of Water Quality Study – Shellie Chard-McClary

## DRAFT

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CHARD-MCCLARY stated the billings were occurring according to the contract and payments were being made timely. There was a bill received and paid last month. KING verified the project was on time and on budget.

BENEFIELD informed the committee that Bruce Holland had replace Randy Young as the Arkansas point of contact for billing approval purposes.

### Report on Performance of Referenced Contract – Ryan King

KING stated that he would start off as he has done each meeting with a review of the "Study Framework" which summarized information from the Second Joint Principles document including that the study was "to determine the total phosphorus threshold response level...at which any statistically significant shift occurs in 1) algal species composition or 2) algal biomass production...resulting in undesirable 1) aesthetic or 2) water quality ...conditions in the Designated Scenic Rivers." He stated this is the driver of the study, data collection and committee members have vetted this. This has been the focal point of the study and that the committee had been involved in the development of the work plan and study design.

KING presented a slide that depicted the Oklahoma Scenic Rivers and reminded everyone that this is the region for the study. He stated that all Scenic Rivers except the Mountain Fork was part of the study and it was excluded due to its geography. Watersheds in Oklahoma and Arkansas were used to create the gradient so we can develop the threshold.

KING presented a slide on the sample location for the study and that these sites had historic monitoring data. He stated that this did give us a good gradient of high and low phosphorus levels.

KING presented a slide that contained the schedule for the study including final analysis and report writing, the current phase.

KING presented a slide on the Data Status Report. He said that the soft algae speciation was done and the diatom speciation was underway.

KING presented to slides showing graphs from Tahlequah one using a log scale. The samples were at base flows for all 12 events. In some cases it was at high base flow right after scour events. The spike is the historic flood that occurred in December 2015. In the two events that followed that high flow, the rocks were turned and we could see how quickly things came back.

KING presented a slide illustrating the benthic Chlorophyll-a vs total phosphorus at all sites. He stated that the scale is 0.02-0.2, each box is sample event, top row is year one and the bottom row is the second year. The graphs show that in Event 4 Chlorophyll-a is taking off. In Event 5 there is a large bloom and we see a scour between Events 5 and 6. Events 7, 8, and 9 chlorophyll-a is low due to scour events. Event 11 was after the flooding and we see increases in Event 12.

KING presented a slide on the benthic Chlorophyll-a versus total phosphorus that had the y-axis truncated. He stated that there is a prevalent pattern of increasing phosphorous. He said that he was surprised by Event 11 and the linear increase in algal growth with total phosphorus. The grazers such as snails were essentially absent, thus this event illustrates unrestricted growth. In April the grazers were

## DRAFT

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coming back. The slide illustrates the algal biomass results from study. Row 1 is from the first year and row 2 is from the second year.

SMITHEE asked what the line would be on the y-axis.

KING said that it is not specified and he is not clear.

SMITHEE said he was looking for our “strike zone” of 0.027-0.047.

KING said the point of the graph was to show seasonality and at this point just a rehash of what is in previous reports.

KING presented a slide depicting the duration of exposure total phosphorus versus response to chlorophyll-a.

KING presented a slide on change point analysis. There are multiple ways to do the analysis, but this one is a simple way to identify threshold of phosphorus. The data is split into two groups, where algal biomass increases above the threshold of phosphorus.

KING presented an example of change point analysis. He is using binomial for illustration. The low level phosphorus answer is “no” and the high phosphorus answer is “yes.” Using bootstrapping gives a gray zone 0.011 to 0.021 and a change point of 0.016.

PUBLIC asked where the 0.016 came from in the study data.

KING replied that this is just an example for illustration purposes and it is not using exact data collected for this study.

HAGGARD explained again this is example to explain change point only. This is not directly related to our data.

KING said this is just a simple example to explain how the process works.

KING presented a slide on change point analysis explaining how the deviance is calculated based on probability distribution. He used normal and lognormal distributions for chlorophyll-a, poisson distribution for Cladophora, and binomial distribution for proportion of biovolume as nuisance taxa.

KING presented a slide on total phosphorus change point. This is the same slide as in the last report. Black is the change point splitting the data into two groups where chlorophyll-a changed the most. Gray is 25-75 percentile. Black is 5-95 percentile. Duration is across the top. The top is instantaneous and the bottom is the mean average chlorophyll-a. The dot and error shows us the statistically significant shift. The red is the 0.037 phosphorus standard and the black dashed line is the 0.027-0.047 outlined in the Second Statement of Joint Principles. At 6 months it looks similar and months 10 and 12 look almost the same.

MATLOCK said we need to look at ecological implications of instantaneous vs mean.

KING stated we need to know duration in order to see growth level and this is a very direct way.

## DRAFT

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KING said that the mean is a way to average away scouring events. There are other factors included in the conditions. The averaging period gives us an average condition based on average phosphorus and chlorophyll-a.

MATLOCK said this is very definitional. He asked what this implies to ecosystem for phosphorus for a mean or in terms of instantaneous. Which is appropriate to use?

KING said that there are good reasons to do it both ways and doesn't know that one is more appropriate than the other. There is value in both. Ecologically one may be better than others but there are co-variates.

SMITHEE asked if it makes a difference if hypothesis is framed inversely to how it is framed now. When is there an exceptional shift?

KING said where we see the greatest change is still within each side.

SMITHEE commented that the response at the toe and increase and the top. There is inflection in multiple points. Are you looking at range of change? When is the change that we are looking for?

KING said in the example it is gradual. In this case small incremental change occurs and then there is a significant rapid response.

SMITHEE asked how we avoid the change versus allowing the change to occur.

KING said it would be at the lower end. He is not certain until the change occurs. This could be conservative.

SMITHEE said that it might be changing at the bottom but we are looking for statistically significant shift.

KING said this tells the graphical change.

MATLOCK said it is not statistically significant change. It is statistical significant change in the nuisance species.

KING said the next part is the focus on the nuisance conditions.

KING showed a slide containing photographs of Cladophora glomerata biovolume versus total phosphorus. This is the dominant filamentous algae in the Scenic Rivers. The pictures were taken in the Illinois River during the study. This is clearly a nuisance condition. Measuring how much is important. KING has paid Stephen Porter to due taxa identification of events. Six of the 12 events are done. This is very expensive and very good data.

MATLOCK asked about the non-nutrient rich part of the life cycle.

KING said in low phosphorus you see growth in the spring with higher spring flows as temperature increases.

MATLOCK stated it generally blooms in spring but not always.

## DRAFT

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KING said in natural systems it blooms in spring but would not achieve high levels.

MATLOCK asked about the high phosphorus and the Cladophora levels in October.

KING said he did see a lot in some streams but did see spirogyra. They did see filamentous blooms occurring.

CHARD-MCCLARY asked if this was attributed to rain events.

KING replied that was correct. He said that all types of land will have runoff and impact and the POTW discharge may dilute the concentration.

KING presented a slide on Cladophora glomerata mean biovolume versus total phosphorus from June 2014 and April 2015. This is a slide we have seen before. This is from early in the early study.

KING presented a slide on Cladophora glomerata mean biovolume versus total phosphorus from June October 2014 and October 2015. This data is similar to first year.

KING presented a slide on Cladophora glomerata mean biovolume versus total phosphorus from April 2015 and April 2016. The biovolume of Cladophora starts to take off above 0.04. This is great example of a threshold response. Cladophora is absent up to 0.04, then we see it consistently bloom above that point. This is where the total chlorophyll-a biomass becomes primarily Cladophora.

HAGGARD asked what the high point was.

KING replied that he thinks it is Spavinaw 1.

SMITHEE stated that this doesn't seem wildly out of place.

BENEFIELD asked if this is a 12 month average.

KING said yes.

KING presented a slide on total phosphorus duration using Poisson distribution. The dots are the observed change point and the lines are uncertainty estimates.

MATLOCK stated that this doesn't dramatically change observations when compared to instantaneous values.

KING said he thinks this may make more sense.

MATLOCK said he wasn't sure at this point.

HAGGARD states that the mean compresses the confidence intervals.

KING said he doesn't have points for the early analysis. The confidence grows as the study continues.

## DRAFT

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PUBLIC asked if we know what the value of Cladophora is.

KING answered that the values of Cladophora are in biovolume; we aren't seeking a target level of Cladophora biovolume in our field assessments, but rather identifying a phosphorus level that leads to a sharp increase in the biovolume of Cladophora. The point of this study is to determine whether there is a threshold relationship between nuisance algae biovolume and total phosphorus.

MATLOCK said we are looking for where Cladophora biomass flips from been okay to nuisance.

KING said the mean is really low for the early points and then increases. The scouring events have impact.

PUBLIC said that on one side there is none and the other side we are tripping over it. It is important to know when you begin to trip not after you fall. It is an important lens. On the Cladophora graph there is a clear break. The other graphs show a different picture and biomass value is important.

KING said we are going to get to a different question that addresses this.

KING presented a slide on nuisance taxa proportion versus 12 month total phosphorus. There is a zone where Cladophora is taking off and there are other species. Based on this, there are different places where we could have a break.

KING presented a slide on total phosphorus change points using binomial distribution and proportion of nuisance taxa as the response variable. Nearly every time we see values above and on the low end we see values around the 0.037. For the most part, the nuisance value is in the zone. He said that even though the graph seems to show two possible change points, where the nuisance taxa take off and a second where they level off near 100% of the biovolume, there is not enough data to fit a two-change-point segmented regression model. Moreover, these data violate the assumptions of that technique.

PUBLIC asked about the nuisance algae. At the lower end it is likely natural. Then we see a natural increase.

SMITHEE said that he believes somewhere in there is when you see nuisance conditions.

HAGGARD read from the Second Statement of Joint Principles. He said he thinks the last part leaves some room for interpretation.

PUBLIC stated he is not sure the committee is agreement.

HAGGARD and SMITHEE said the Governors were clear about the charge in the Second Statement Joint Principles.

PUBLIC wanted to know what the method is that will be used to make the determination.

HAGGARD said we are trying to work on multiple lines to look at statistical change points. We are looking at various options and methods. This is what is being presented. We are looking at the weight of evidence to see if the numbers are consistently around a point or range.

## DRAFT

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SMITHEE said he is seeing a number. It is consistent. He said “all of god’s children” have nutrients. Somewhere around 0.03 something happens. We need to look at the next one and see where band occurs.

PUBLIC asked if there will be chlorophyll-a graphs.

KING stated that those have been shown already in presentation.

HAGGARD explained the duration and corresponding values.

KING presented a slide explaining the Threshold Indicator Taxa Analysis (TITAN). He stated that he and Matt Baker developed it. He said it looks at all the various components of the biovolume. It looks at the biovolume of all of the species that occur at least 3 time in the data set. This will tell us if there is a community change, some algae replaced by other based on phosphorus levels, and where the phosphorus loving algae are taking off. The slide data is an example from Texas to illustrate how this analysis works.

KING presented a TITAN slide based on this study data from June 2014 and April 2015. This slide was presented at the last meeting. Some of the taxa declines at low values of phosphorus and a lot pf the taxa increases around 0.03-0.04. Cladophora's change point is in the range 0.023-0.037. The z-declining taxa are in the 0.0119 to 0.0232 range and the z+increasers have a change point in the 0.0189 to 0.0349. He also stated that TITAN includes frequency of occurrence, not just abundance or biovolume, in determination of change points.

PUBLIC asked about the size of dot.

KING stated it was magnitude the change—big dots mean there was a very large change in the frequency and biovolume at that level of phosphorus.

KING presented a TITAN slide based on this study data from October 2014 and October 2015. In this time period we have more decrease. The cyanobacteria and periphyton tends to disappear when Cladophora takes off. The Cladophora is the only one that shows up of the nuisance bacteria.

KING presented a TITAN slide based on this study data from April 2015 and April 2016. In this time period spirogyra starts to disappear. Caldophora is higher at 0.042. This may be the result of the one data point.

MATLOCK stated that this is a compelling body of data.

KING presented a slide on the TITAN community change points versus total phosphorus duration. The decreasing species are still in the lower end of our strike zone and the increasing species are falling in around the zone. Those are the nuisance conditions.

PUBLIC asked why 0.037 is not shown on the graph.

KING stated that he could add it and will to make it clear.

BREAK 11:09-11:32

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KING presented a slide on the nuisance level of benthic chlorophyll-a. He explained that chlorophyll-a is the mostly commonly used species when identifying nuisance alga. The literature says around 200 mg/m<sup>2</sup> is a nuisance condition. This may not be best for an Ozark Highland River. We had high chlorophyll-a and low phosphorus at times. We have to recognize that we can get to those levels with long accrual periods and low phosphorus. There have been studies that were not clear about size of rock chosen for sampling nor specified other conditions, such as light levels, flow velocity, depth, etc. Our numbers in this study are based on certain rock size, riffle habitat of similar flow velocities, open to almost completely open canopy (full sun), and an objective, systematic way of selecting substrate (rocks) for determining algal biomass.

SMITHEE said this is typical condition in a standard river and not the nuisance conditions in scenic rivers.

KING referred to the Second Joint Principles language. He thinks we might get there if we agree Cladophora is the dominant nuisance species. We can use chlorophyll-a and compare it to Cladophora biovolume to see if there's a clear break where chlorophyll a starts to be dominated by Cladophora. Using segmented regression, he produced the next two graphs.

KING presented a graphical slide illustrating mean chlorophyll versus Cladophora biovolume for June 2014 through April 2015. This assumes there is a piecewise linear relationship. The Cladophora biovolume values are relatively constant (close to zero) until there is a sudden, linear increase in Cladophora biovolume beginning around 300 mg/m<sup>2</sup> chlorophyll and then the increases are remarkably linear as benthic chlorophyll-a increases.

PUBLIC asked what the TITAN z+ was that was causing the in nuisance shift. Also, did KING set a value for Chlorophyll-a?

KING said that it could be done fairly easily and that could help set that lower level.

MATLOCK said this is an analysis of a physical phenomenon. This is not a test. This is actual information.

Public asked if the benthic chlorophyll- a is visible.

KING said yes.

KING presented the same information for the time period of April 2015 and April 2016. It showed a similar pattern where the line really took off around 200 mg/m<sup>2</sup>.

SMITHEE asked why this was the case.

KING said that it was accrual time. He has looked at individual dates and in February 2015 the values were 400-500 and October 2015 they were extremely low.

MATLOCK said that we are trying to explore not just looking at the color but scientifically identifying nuisance condition.

KING presented a slide depicting the total phosphorus change point showing where there was a 25% exceedance (25% of the time) of different levels chlorophyll-a. In the first graph, the data showed that

## DRAFT

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above 0.016 mg/L total phosphorus, benthic chlorophyll a exceeded 200 mg/m<sup>2</sup> at least 25% of the time. Every point met this criterion, whereas below 0.016, no site exceeded 200 mg/m<sup>2</sup> at least 25% of the time. In the case of 250 mg/m<sup>2</sup> chlorophyll, most sites exceeded that value at least 25% of the time when TP reached 0.0285 mg/L, whereas the TP threshold for 300 mg/m<sup>2</sup> was near 0.044. He stated that we all can agree that beyond 300 mg/m<sup>2</sup> is a nuisance condition.

PUBLIC stated that 10% exceedance is a commonly accepted threshold.

KING stated that 10, 25, and 50% are commonly accepted.

MATLOCK stated that a 90% confidence level is essentially a swimming pool.

PUBLIC stated that longer duration means we don't have an excursion and that 10% is common exceedance rate used in implementation.

MATLOCK stated that all algae isn't bad and that we can't manage it like it is something that can be humanly controlled.

PUBLIC asked if we were looking at 1 in 4 exceeding. We need to look at protecting the Scenic Rivers. We are not talking about all rivers.

SMITHEE said we can change based on if we are talking about management or implementation. He is trying to cover his ears when we start talking about nonpoint source, assessment, permitting conditions, etc. He is trying to only look at what nuisance conditions look like in stream.

MATLOCK said this is not anthropogenic or man-made. But rather It is naturally changing. People may not be causing some of that, and it is unlikely people can control it. i The frequency of those naturally occurring algal growth exceedances is likely going to be more than 10%.

PUBLIC said that this 25% is only one but a range of 10-25% would be good.

HAGGARD said that this is only one line and there are other methods or ways to look at it.

KING presented a slide on next steps for this study including what additional analysis the committee would like in the final report, deadline for first draft of final report, deadline for completion of summary report by the committee and setting the next meeting date.

[NOTE: These items are discussed by the committee in IV below]

KING presented a slide acknowledging those on his team at Baylor University.

### III. Discussion on the study and fulfillment of the SRJSC charge – All

KING said he has presented the data and think the suggestion of using Chlorophyll-a as a predictor of species changes in TITAN is good.

MATLOCK stated that he is not opposed to using other criteria for the Tital correlations including 10 and 90%. He asked what the Water Quality Standards were. He asked what of that can be taken into account. A range of exceedance possibility would be good to evaluate.

## DRAFT

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SMITHEE stated that the end of the day we recommend an average or maximum. We could end up there. We need to see what the primary productivity range is.

KING said the 0.037 was derived from data using 25% exceedance.

SMITHEE stated that it was intersection of 75% of all data in the ecoregion or the 25 percentile of the reference streams. It is not an average of the ecoregion data.

KING restated that the 25 percentile of all and 75 percentile of the reference stream is what was used

SMITHEE said that at the time the number was set there was no correlation to primary productivity. It was simply looking at levels. However, it looks to be a pretty good number at this point.

KING agreed.

HAGGARD said he liked looking at percent exceedance. He asked if KING could do 10, 20, 30, 40, 50, 60, 70, 80, 90 and use 200, 250, 300 that way the committee could look at the range. This is his recommendation. He then asked what else the committee wanted to see.

SMITHEE asked KING go back to the TITAN slides. He said that they were powerful. Smithee asked of the z statistics if the “dirty five” if there was only Spirogyra in the decreaser group and no other “dirty five.”

MATLOCK said the Chlorophyll-a data would be helpful.

PHILLIPS recalled that early on we talked about data on diel DO. She asked if there were any relationships that might be helpful like DO standards, etc. Perhaps this can help us zero in on the value.

KING said he has the data and could extract some data from the data base. He stated that although there was never a drought flow condition there was low base flow. There were times of supersaturation for example February 14 the pH was 8.9 and phosphorus was 0.01 at Tahlequah.

PUBLIC asked if the change point information was available in tabular form.

KING said that would absolutely be in the final report.

HAGGARD asked if anyone wanted to see the total phosphorus values differently.

MATLOCK said he was not sure what else to do at this point.

SMITHEE said the current standard is geometric mean. We need to look and think about geometric mean versus arithmetic mean.

KING said he thinks they will be similar.

HAGGARD said as scientists we always want to see everything but we know we can't do it all. The confidence bands get closer when dealing with mean data.

## DRAFT

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PUBLIC said that the instantaneous values are important.

PHILLIPS and MATLOCK stated that both are important.

SMITHEE said we need to look at what drives nuisance algal growth. Is it high flow once per month or every day conditions? He said every day flow is a primary driver. The rain that happened this week does have an effect even if it is a delayed effect. We may need to develop a mean and maximum or a mean and rarely exceed language.

BENEFIELD asked if SMITHEE was referring to base flow conditions.

SMITHEE said “no” because what happens at higher flows impacts phosphorus.

HAGGARD said if you have higher phosphorus at storm flow you will have higher phosphorus at base flow.

SMITHEE said that it appears that the assumption that we are not assessing during base flow or low flow conditions has been made.

PUBLIC stated that the applicability is to all flows.

HAGGARD said that as a committee that we are not doing applicability.

PUBLIC said we have to look at Water Quality Standards at all conditions and aesthetics.

BENEFIELD said the committee didn’t design a study to address anything above base flow.

SMITHEE said we did because there were base and high flows during the study.

HAGGARD said we did seasonal base flow.

SMITHEE said the chlorophyll-a did not go away at high flow, that we didn’t scour every rock and start over after every event. He said the Cladophora existed at base flow and high flow and the reset button only reset once not for every storm event.

HAGGARD stated the reset is tied to size of rocks, etc. It happens based on substrate size and we focused on phosphorus concentrations by sampling during base flow conditions.

Public asked if scouring events are typical after storm event and not just 100 year flood condition. Also, is annual data being evaluated?

HAGGARD asked for clarification of what flow was being referenced.

PUBLIC asked if magnitude, duration and frequency would be consider to restart the clock.

HAGGARD stated that magnitude and the Joint Principles language is what the committee would be addressing in its report. We are not talking about standards or implementation.

## DRAFT

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HAGGARD read the charge of the committee from the language in the Joint Principles.

SMITHEE said he believes the number is X and the frequency and duration piece is monthly average never to exceed Y. There is a frequency and duration piece associated with that number.

MATLOCK stated that the way we should sample the river was reflected in how we designed the study – we should sample and manage the river at low flow conditions.

PHILLIPS commented that it was also connected to the money available. We will continue to sample monthly or something but because of constraints we could not mimic exactly what we do now or will do in the future.

MATLOCK said the conditions needed to match flow otherwise we would be chasing ghosts.

HAGGARD commented that we made a decision to collect at base flow to determine the number. Whatever that number is, it is based on a seasonal base flow. Some of the flow ranges include rainfall events. He is unsure of how to apply the value at a condition we didn't measure.

SMITHEE said that we use excursion allowance because we don't have phosphorus concentration for every condition that might exist.

HAGGARD stated that we have zero data to determine outside of base flow conditions.

SMITHEE said that this goes back to 100 year flood event that occurred around Christmas. We had nuisance conditions occurring after major scour.

HAGGARD said that it shows that the algae came back in that time frame.

SMITHEE said using that event we should be able to look at the 4-6 week timeframe rather than a 6 month timeframe.

HAGGARD said that we don't have the entire month to know everything. We just have instantaneous data and then it was back to base flow which is why the confidence level is spread out.

SMITHEE asked if we are looking at avoiding or responding to algae. He has approached our charge as only a base flow condition.

BENEFIELD stated that the study was designed a certain way and committee decided to only look at base flow.

SMITHEE said that if we look at base flow and look at central tendencies we could have a recommendation of 0.027 mg/L long term average and never to exceed 0.037 mg/L. It is like a person, you don't eat too much to get fat at any one time. What we eat every day is a factor. How many exceptions can you gorge and remain the same weight? Only Thanksgiving or Christmas? There is an exceedance allowance. How much can the algae eat every day? How often can they gorge? We can be silent if we choose to be.

## DRAFT

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MATLOCK said that algae and phosphorus are different at base flow than at high flow. If we manage based on algae we have to manage based on base flow. If we have 6 samples at high flow we would not have high algae but we might have higher phosphorus. Some of the graphs show it. Smaller storms that occur once per month are often the phosphorus transporter. This flow condition doesn't reflect phosphorus levels at other flows. This is not ecologically the right number. We have to make our recommendations mirror one another.

SMITHEE said he narrowly agrees.

MATLOCK said he would like KING to finish study analysis and then focus on this for the next meeting.

HAGGARD asked what we want from KING.

SMITHEE asked for his vision for the final product.

HAGGARD said based on our last meeting we need an executive summary and KING's report of the scientific results.

CHARD-MCCLARY said that there should be no expressed opinion by KING just the scientific study information and that the committee would have to inset our conclusions and professional opinions.

HAGGARD said we are looking for a strictly scientific report that the committee will reference in our report. The committee will reference specific evidence that we used to determine number, frequency and duration. We may need to recreate a few of the graphs for ease of understanding.

SMITHEE stated that the transmittal to Governors would be a simple summary of the committee recommendation including: we met on these dates, reviewed data, had discussions, etc. He also thought that we should have all the tabular data available next time to start looking at the draft final technical report.

KING said he has most of the work done so he should have a draft report by mid-October.

MATLOCK asked if the document could be ready so that comments could be submitted before the October meeting.

SMITHEE said that October was a really bad month to schedule a meeting.

HAGGARD asked about late October.

CHARD-MCCLARY stated that for the November meeting maybe we would meet one afternoon for 4-5 hours and then have a dinner break and allow the state representative to talk and work through issues and then the committee reconvene the next morning.

COMMITTEE agreed to concept.

SMITHEE said we have to keep in mind Open Meeting Act requirements.

EUBANKS said he is OK with the description CHARD-MCCLARY laid out.

## DRAFT

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COMMITTEE discussed various possible next meeting dates and October 6 from 9-3 was decided. It was also decided that there would be no lunch break. The next meeting was set for November 17 afternoon and November 18 morning.

SMITHEE said he wants a note taker present at the next two meetings instead of CHARD-MCCLARY so she can focus on discussion. He would also like the committee members to review the Second Joint Principles document closely before our next meeting.

SMITHEE will find a place and get both scheduled.

HAGGARD asked if there was anything else in our charge that needed to be discussed.

SMITHEE said he would like an answer formulated and agreed upon November 18 if possible.

HAGGARD asked if KING was clear on what the committee would like to see in the coming weeks. KING said that he was. For the next meeting he will not do a review of the previously presented information and will give us hardcopy of draft of report.

HAGGARD asked if KING could have a draft of the report by October 3.

KING said he could do that.

SMITHEE said he would like for the committee member to consider each one making a statement for the record of what he/she believes are big deals and have it on the record.

### IV. New Business

HAGGARD asked if there was any unforeseen business items that the committee needed to address.

MATLOCK complement KING for his work on the study and the committee agreed.

HAGGARD asked if there was anything final from public. There was none.

### V. Adjournment – Brian Haggard

#### **MOTION 2: To adjourn meeting**

Representative		Yes	No	Abstain	Absent
Ryan Benefield	Second	X			
Shellie Chard-McClary	Motion	X			
Brian Haggard		X			
Marty Matlock		X			
Shanon Phillips	Second	X			
Derek Smithee		X			

Meeting adjourned at 1:36