

Lake Maumelle Watershed Management Plan Policy Advisory Council Meeting Summary June 15, 2006

Attendees

See Attachment A.

Introduction

Following roll call and some general reminders, Trevor Clements of Tetra Tech began this eighth meeting of the Policy Advisory Council (PAC) by reviewing the agenda in context of the overall planning project. At the last meeting (May 18), Tetra Tech and the PAC decided to postpone the forthcoming public meetings in favor of another meeting to go over additional analysis and responses to several questions raised by the Council. Thus, on the project “road map,” we will continue evaluating management options through the July meeting. At the July meeting, Tetra Tech plans to provide PAC members with compiled input on highest endorsed options and outstanding issues so that the discussion can move forward on refined ideas for inclusion in the watershed management plan. The objectives for tonight’s meeting were to review responses to some key questions, and review and discuss some additional analyses and information to provide PAC members with a foundation for completing a survey on level of support for key provisions.

Preliminary information for the meeting was sent out in a series of three memos dated June 8, 2006 that built upon the first evaluation memo dated May 11, 2006 provided before the May meeting. Information provided in those memos and supplemented by the meeting slides provided the basis for the meeting discussion.

Questions Raised Since Last Meeting

Trevor went through a series of slides covering several key questions raised at or since the last meeting.

(1) The first question involved clarifying the meaning behind “high slope” and “low slope.” Trevor displayed graphics showing what slopes of 10 percent, 20 percent, and 30 percent look like from a relative perspective. For the purposes of the Lake Maumelle watershed management planning process, low slope has been defined as 0 to 15 percent, high slope is defined as > 15 percent to 24 percent, and very high slope is defined as being \geq 25 percent. He explained that approximately 50,000 acres are developable, with about a 50/50 split between low and high slope. A little over 5,000 acres are “very high slope” which is considered too steep for development to occur (i.e., undevelopable for the purposes of the management plan).

(2) The second question addressed was the technical basis for performance standards in Critical Area A. Trevor reminded the group that Critical Area A has the shortest travel time, significantly lower travel time than Critical Area B and the Upper Watershed Area. From a policy perspective, Tetra Tech received considerable input regarding having stricter requirements for areas closer to the water supply intake. This was validated by the technical information regarding delivery of pollutants to the lake. The main difference is between the Upper Watershed Area and Critical Area B—approximately 10-15 percent difference in pollutant delivery loss rates. Critical Area A’s travel time to the water supply intake is about 60-65 percent of the travel time for the closest subwatersheds in Critical Area B. These relative differences in travel time between the management zones are reflected in the relative differences in the proposed performance standards.

We are also concerned with other elements that could pose a threat to health, such as pathogens. Trevor explained that parasites like *Cryptosporidium* die off at a much lower rate than other parasites and bacteria, and can be lethal. So from a technical perspective, we are also concerned about the transmission rate of *Cryptosporidium*. Transmission from the nearest subwatersheds in Critical Area B is about 60 percent to 65 percent of the rate of transmission in Critical Area A. Tetra Tech evaluated how the risk might be equalized –increasing filtering and inactivation through higher watershed forest requirements and mechanisms such as biofiltration through raingardens. So the requirements proposed for Critical Area A are expected to create conditions that mitigate the risks.

Trevor said that Tetra Tech most recently evaluated risks associated with maintenance and administration/enforcement. In evaluating these risks, Tetra Tech looked more closely at the preliminary recommendation for Critical Area A to pump wastewater out of the watershed for any development that is allowed, and looked more closely at the risks of wastewater spills. He said the fact is that the collection pipes can break and pumps can fail, potentially spilling raw sewage. Trevor said the Team is concerned about discharges of wastewater potentially making their way into the raw water supply. Team members, in exploring if there were lower risk options to consider, began examining non-discharging systems to see whether they might pose a lower risk. Preliminary information from local sanitarians raised questions about the use of non-discharging systems as well. Therefore Tetra Tech will work with the TAC members and state and local regulatory staff to further analyze options to determine what is the least risk option. He said that Tetra Tech hopes to bring more information back to the group at the next PAC meeting.

(3) What is meant by requiring pilot demonstration projects? Tetra Tech answered that full-scale tests would be set up and performed by building structural engineering best management practices (BMPs) for the proposed design types on equivalent slopes and soils. The tests would be performed preferably outside the watershed, but at minimum outside Critical Area A. The BMP design and construction would be monitored, and monitoring would be performed on water quality performance for 3 years following construction. The results of the tests would be used to refine design and construction guidance, and to modify design requirements as appropriate.

(4) What if a development is proposed that has livestock? The management plan will recommend BMPs aimed at these practices. For example, this could include providing vegetated filter strips and stream buffers; locating waste away from streams and controlling its drainage; sizing paddocks properly; etc.

(5) What if a landfill or major animal operation is proposed in the watershed? A zoning ordinance could prohibit certain uses in the watershed. If zoning can not be achieved, then the power of eminent domain is very important.

Questions and Discussion by the PAC

Members asked questions about whether the proposed site-scale allocation changed the targets. Tetra Tech answered “No.” The allocations were set so that they add up to the allowable loads that protect the water quality targets.

Another member asked if the Performance Standards could all have been set equal and met the targets. Tetra Tech said that there are many ways that the allocations can be set up. For example, we could establish performance standards for each of the 32 subwatersheds within the overall watershed, but this would be unnecessary and difficult to administer.

A question was asked if BMP design standards were set to mitigate the risks associated with *Cryptosporidium*. Tetra Tech said that a key mitigation measure was to increase undisturbed vegetated area and any biofiltration devices such as raingardens that increase *Cryptosporidium* inactivation rates. These design standards help mitigate the nonpoint sources but do not necessarily address the wastewater spill threat. Tetra Tech also pointed out that members would see a question on their survey form that asks

whether they think a cap on housing density should be set. Since higher population in an area increases the risks, a housing density cap might be one way to further mitigate risks.

Another member asked if the wastewater issue means “going back to square one.” Tetra Tech clarified that no matter the outcome of the additional research, Tetra Tech would not be recommending direct discharge. The loads and risks from that option are much too high and the targets could not be met. Those problems include imbalancing the nitrogen to phosphorus ratios and increasing the threat of harmful algal blooms. Septic systems and cap and fill systems would still be options where site characteristics are suitable, and these would pose lower risks than discharging systems.

A question was asked whether additional wastewater design requirements could be applied (e.g., encased pipe, standby generators, duplicate pumps). Tetra Tech reiterated that the Team would work with waste experts to try to determine the least risky options.

A member asked if regulatory agencies come up with new standards not covered by these performance standards, does the plan have to be rewritten. Tetra Tech said this is why the Team emphasizes that watershed management is a dynamic process. Circumstances change and the plan should be adapted as needed to continue to meet the goals. A follow-up question was, is there space in the allocation if there needs to be adjustment. Tetra Tech indicated that because the team was using buildout as a basis for allocations, we have built in space for adaptation. Buildout is not expected to occur for many years to come, so there is time to monitor how the first version of the watershed plan is working and to adjust it as needed based on future changing conditions.

Regarding BMP pilot projects, a member asked who pays for the tests. Tetra Tech said that would need to be determined. Under this proposal, there would be no development under the performance standards approach until the pilot projects are completed and the performance standards accepted.

A concern was raised that the pilot projects would take 3 years to complete, and in the meantime, no guidelines would be in place to follow. Tetra Tech indicated that this situation is faced with every plan before its adoption. During the interim, participants will need to use proposed plans and current mechanisms. CAW could adopt and enter into development agreements in exchange for providing water—if the developer abides by the plan. Additionally, a local government could adopt an ordinance and if it had two options (e.g., large lot or performance standards), the developer could either choose the large lot (or non-engineering) option or perform the necessary BMP studies before being able to use that option. Performance standards ordinances that we have seen or helped develop include a clause about locally approved BMPs—the use of the BMP must be recognized and approved by the local government. The list of approved BMPs can be added to as studies are completed.

Charles Nestrud, the Deltic representative, indicated that they would pay for these BMP studies if CAW would forgo the current condemnation effort. He indicated that they would not be willing to pay for studies if they did not have any property in Critical Area A to which it would apply.

Regarding BMPs for livestock, a member asked whether demonstration projects would be required before a landowner could use these BMPs. Tetra Tech said agricultural operations are exempt from most regulations, but agricultural extension agents work with them. Many of these practices are proven. Incentives are often offered including subsidies and cost sharing. If a landowner was not cooperative and an impact was believed to be egregious, this would be an example of where it would be important for CAW to have the ability to exercise its power of eminent domain. A follow-up question was, why would the plan treat a livestock owner differently from a developer with no livestock with regard to requirements. Tetra Tech answered that Lake Maumelle is not showing significant impacts from existing land uses including current owners of livestock. Most agricultural activities are exempt from regulation, so must use incentive and outreach. A local government could regulate a use of livestock through a zoning ordinance that prohibits having livestock in certain zones of the County. There are regulations proposed for large livestock holdings called concentrated feeding operations.

Additional Analysis of Non-engineering/Land Conservation Scenario

Based on analysis at the last meeting, Tetra tech conducted additional analysis and summarized findings in Management Evaluation Memo #2 sent to the members prior to the meeting. Trevor reminded the group that at the last meeting, we discussed how the Non-engineering/Land Conservation Scenario – the large lot option—only meets the performance standards if road improvements are required and offsite mitigation is required for conservation land. The PAC wanted to see more analysis for larger lots and different combinations of road and driveway composition.

Trevor reviewed tables summarizing the additional analysis. Key points include:

- Increasing lot size to 10 acres on high slopes cuts offsite mitigation in half.
- Paving roads cuts mitigation needed by 75 percent.
- Doing both (on high slopes) cuts the offsite mitigation needed to zero.

The tables show combinations of what meets the performance standards onsite for the Upper Watershed Area and for Critical Area B (both for high and low slope areas). For the designs that do not meet the performance standards, the tables also show the amount of offsite mitigation required per acre of developed land.

Policy Questions to be Addressed by the PAC

Trevor said that the PAC would be asked to address the following questions in the survey to be handed out at tonight's meeting.

- Should the management plan stipulate “fixed” requirements for the Non-engineering/Land Conservation approach? If so, what should the requirements be?
- If not, should the plan provide for flexibility under this option? If flexibility is desired, should there be a fixed menu of options or should there be “ultimate” flexibility in meeting the standards (as long as engineered stormwater BMPs are not used)?
- Should offsite mitigation be allowed?

Some questions were raised by PAC members for clarification:

Would mitigation be allowed outside the watershed? Tetra Tech indicated that it would have to occur in the watershed in order to meet the overall water quality targets.

Would offsite mitigation be allowed for development in Critical Area A? Tetra Tech answered, no, only for development in Critical Area B and the Upper Watershed Area. The mitigation (or purchase of land and dedicating it as permanent open space) would have to occur in the same zone as the proposed development or in a more protective zone.

Cost and Land Value Considerations

Kimberly walked through the cost evaluation for the two initial scenarios. She said that the costs will fall on different parties (e.g., public agencies, developers, CAW, landowners) depending on which options are ultimately selected. For the Non-engineering/Land Conservation Scenario, Tetra Tech estimated the costs for road improvements, offsite mitigation, and wastewater systems, as well as the hours for development review and inspection during construction. For the Performance Standards/Land Conservation Scenario, the costs were also estimated for constructing and maintaining Stormwater Best Management Practices.

Offsite mitigation costs were estimated from the range of vacant land sale values in Perry County in recent years since developers needing to buy offsite conservation area would likely purchase land in the more rural parts of the watershed where land is less expensive. The offsite mitigation cost estimates are for fee simple acquisition. To reduce costs, developers could purchase a conservation easement. Hours

for development review were estimated based on interviews with Pulaski County Planning staff and the planning and engineering staff in local jurisdictions that are currently implementing measures similar to those in the two proposed scenarios.

Kimberly then reviewed the costs for example developments in the three proposed watershed management areas as follows.

Upper Watershed Area

The first example was of a 100-acre development with nineteen 5-acre lots in the Upper Watershed Area on low slopes (i.e., less than 15 percent slope). Kimberly summarized how the costs vary depending on the type of road improvement:

- Gravel roads and driveways.
- Gravel with BMPs on roads and driveways.
- Paved roads and gravel driveways.
- Paved roads with gravel and BMPs on the driveways.

She pointed out that the construction costs for the first two options involving unpaved roads are less than half of the costs of the last two examples. However, the *annual* maintenance for the options with gravel roads is significantly more than for those with paved roads. In a short period, the *overall cost* of constructing and maintaining the gravel roads would exceed that of paved roads. In addition, if a developer were to use gravel roads and driveways or gravel with BMPs on the roads and driveways, the development would not meet the onsite loading allocations. Therefore, the developer would need to buy 130 acres offsite on low slopes (or 165 acres on high slopes) and dedicate it as conservation land at a cost likely to be somewhere between \$131,000 to \$1,179,000 (assuming fee simple acquisition).

If the landowner did not want to do offsite mitigation, he or she could build 10-acre lots using gravel roads and driveways or 9-acre lots using gravel with BMPs.

Kimberly next reviewed the wastewater system costs and administrative costs for the 5-acre, 9-acre, and 10-acre lot developments. For the 5-acre lot development, the wastewater system cost is estimated at \$71,000 (for conventional septic systems) to \$142,000 (for a tank and capping fill system), and the average annual maintenance cost would be approximately \$500 to \$700. She reminded the group that most areas in the watershed are not suitable for conventional septic systems, and alternatives such as capped systems would therefore be required. Because there would be fewer households in the 100-acre development with 10-acre or 9-acre lots, the wastewater systems would cost less: \$38,000 to \$82,000 with annual maintenance costs of approximately \$300 to \$400.

Finally, for this example, Kimberly reviewed the administrative time required. She said the existing amount of time the staff would likely spend in reviewing these developments under existing regulations would be about 45 hours. To review development plans in the future under the requirements shown in the example, it would take approximately 90 to 120 hours. The administrative time required per development review would more than double.

Critical Area B

The next example reviewed was for the same 100-acre development with nineteen 5-acre lots; however this time located in Critical Area B on a low-slope area. Although the costs change somewhat compared to the Upper Watershed example above, the bottom line is the same.

Kimberly said that if pilot projects show that BMPs perform adequately and a Performance Standards/Land Conservation option is approved, a landowner could use BMPs to help meet the performance standards. The memo evaluated this same development—assuming gravel roads and

driveways, with the addition of forested filter strips as an engineered BMP. The main differences between this development and the previous 5-acre lot example are:

- No offsite mitigation is required.
- BMP construction costs are estimated at \$47,000, with an annual maintenance cost estimate of approximately \$1,000.
- Additional staff administrative review time is required for BMP design and construction (approximately 25 additional hours).

This option appears to have the lowest infrastructure and mitigation costs over time for this example development.

Kimberly then reviewed the costs associated with a cluster design development on high slopes in Critical Area B. This is a 100-acre parcel with nineteen 3-acre lots, and it is assumed that roads and driveways are paved. The estimated construction costs for the paved roads and driveways are \$831,000, with average annual maintenance estimated at \$20,000. Offsite mitigation is required, but substantially less land is needed for offsite mitigation compared to the 5-acre lot example development. The estimated wastewater system cost is \$161,000 to \$240,000 in capital costs and \$7,000 to \$10,000 in annual maintenance costs. This assumes a drip irrigation system, which as noted earlier, is now in question. If drip irrigation can not be used, Kimberly said some other type of community non-discharging alternative would need to be identified or the cluster development design would not be an option in any of the management areas. Similar to the other examples, the administrative hours would more than double from the existing 45 hours to 90-120 hours to review a development.

Critical Area A

The final example was for a 100-acre development with nineteen 3-acre lots in Critical Area A. It was assumed that roads and driveways are paved. If a pilot project is performed for BMPs and they perform adequately, and local governments adopt a performance standard option, this development design might use 19 bioretention cells (one on each lot) and 3 extended dry detention ponds to meet the performance standards.

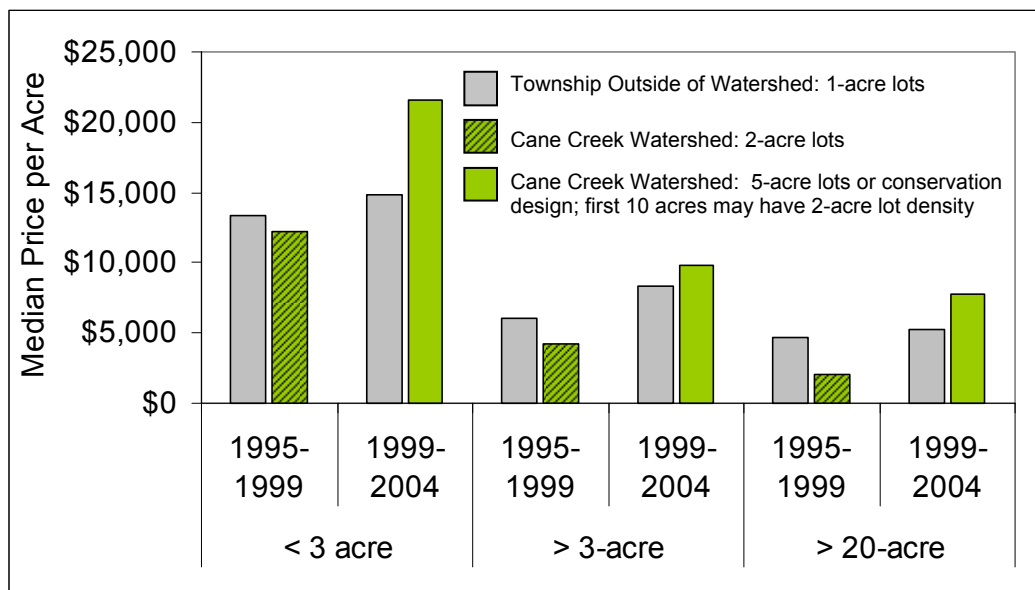
The estimated construction costs for the paved roads and driveways would be \$831,000, with average annual maintenance of \$20,000. Stormwater best management practices would cost an estimated \$256,000 with an annual maintenance of \$3,000. The wastewater system cost would reflect the requirement to pump wastewater out of the watershed and the methods applied. Thus, those costs are to be determined. Administrative hours would be expected to rise substantially, increasing from the existing 45 hours to 300-400 hours to review a development. Many of those hours would be devoted to reviewing BMP design and inspecting BMP construction.

Kimberly next reviewed the relative enforcement requirements for three types of development options: non-engineering, 5-acre large lot subdivisions with an option to cluster the houses; the non-engineering large lot with lots greater than 5 acres; and the performance standards approach allowing engineered stormwater BMPs. Tetra Tech evaluated the relative enforcement requirements for maintenance of stormwater BMPs, roads, wastewater systems, and open space. Because the performance standards approach is the only option that allows engineered stormwater BMPs, it had the highest enforcement requirements. This option also has high enforcement requirements for roads and wastewater systems. The non-engineering option that allows either 5-acre lots (minimum) or a cluster design, has the next highest enforcement requirements, primarily due to the cluster design having high maintenance requirements for community wastewater systems and for roads. The non-engineering large lot option with lots greater than 5 acres would have the least enforcement requirements. Research showed that enforcement of open space requirements could be minimal across all of these options.

The PAC had requested information on how the proposed protection measures might impact land values, and Kimberly said this information is important to review alongside the cost, because in the research conducted by Tetra Tech, on the whole, there appears to be a positive impact on land values (and benefit to landowners). The exception was one case in Portland, Oregon where the local environmental protection overlay zone covering riparian areas, wetlands, and upland forest places severe restrictions on any development other than that proved to be “publicly beneficial.” Land in this zone sells for 3 percent to 8 percent less than other land. Kimberly said this might be analogous to the very steeply sloped—25 percent slope or greater—where we are recommending no development be allowed.

Other studies showed a significant increase in value for vacant lots and for developed lots. In the Chesapeake Bay area, vacant parcels increased up to 53 percent in value compared to control areas. In Indiana, the developed lots with conservation design added \$20,000 to the value of each lot. In Amherst, MA, a conservation design development was built at the same time as a conventional design development, both were identical in density, time of construction, and original sales price. After 20 years, the sales price for the conservation design lots were 13 percent higher than the conventional lots.

The Cane Creek Watershed in Orange County, NC, was rezoned in 1999 from 2-acre minimum lot zoning to 5-acre minimum lot zoning with a conservation design option (the first 10 acres of any parcel may have a 2-acre density, but the remainder of the parent tract must comply with the watershed protection requirements). Land outside of the watershed but in the same county/township was zoned for 1-acre minimum lots before and after 1999. The county studied the impact of the watershed rezoning on sales values for parcels less than 3 acres, greater than 3 acres, and greater than 20 acres. Comparing sales values before and after the time of the enactment of the watershed regulations, the study found that the land in the watershed increased in per acre value at a significantly higher rate than the land in the township outside the watershed (76 percent increase for lots less than 3 acres in the watershed compared to a 11 percent increase for the same sized lots outside the watershed; 128 percent increase for lots greater than 3 acres in the watershed compared to a 37 percent increase for land outside the watershed; and a 209 percent increase for parcels greater than 20 acres in the watershed compared to a 12 percent increase for such parcels outside the watershed). In every category, before the watershed protection rezoning, the land in the watershed was selling at a lower price per acre than that in the rest of the township. After the rezoning, the price per acre was more in the watershed than in the rest of the township. The study found that the smaller parcels (i.e., 3 acre or less) sold at a higher price per acre than the larger parcels, the same trend held comparing price per acre of the parcels greater than 3 acres and those greater than 20 acres.



Of the studies found in Tetra Tech's search, 5 of the 6 cases involving "green development" had a positive impact on land values.

PAC Discussion and Questions

One member asked for clarification on what the administrative cost covers—does it cover enforcement? Tetra Tech responded that the administrative cost covers the local government cost for staff conducting development application review, and taking the application through the approval process. It also covers inspections during construction. It does not cover long-term enforcement of the development requirements, such as making sure that wastewater systems, roads, and stormwater best management practices are maintained. Those would be additional costs.

Several members raised the enforcement issue as a concern.

Further Defining Development and Landowner Flexibility

Kimberly said that the PAC had asked for a clearer definition of "development" and had come up with a number of suggestions to provide more landowner flexibility that it asked Tetra Tech to evaluate. This section of the meeting addressed those requests.

Definitions of Development

Kimberly said that watershed protection regulations apply to new development. But what is considered new development? And what is considered existing development?

New development has been defined in various ways including:

Example #1: development and land disturbing activities within the watershed after the adoption of the Watershed Management Plan, unless exempted.

Example #2: development created by the addition of built upon area to land void of built upon area as of the effective date of the ordinance. Redevelopment was defined as rebuilding activities on land containing built upon area as of the effective date of the ordinance. (Note: Built upon area was defined as "that portion of a development project that is covered by impervious or partially impervious surface including, but not limited to, buildings; pavement and gravel areas such as roads, parking lots, and paths; and recreation facilities such as tennis courts. Built-upon area does not include a wooden slatted deck or the water area of a swimming pool.)

Existing development is considered to include any impervious surfaces (or built upon area) constructed before the effective date of the ordinance.

Landowner Flexibility

Tetra Tech identified exemptions to watershed protection requirements linked to:

- Land disturbance thresholds.
- Additions to existing single-family residences on single-family lots.
- Small subdivisions of land created by existing property owners.

To address the concerns raised by PAC members regarding legacy issues and impacts to individual property owners, Tetra Tech proposed two exemptions for the PAC to consider.

Proposed Exemption #1

Additions to existing residential buildings or driveways on single-family residential lots recorded prior to CAW's adoption of the Watershed Management Plan if the additions disturb less than 20,000 square feet and the renovation and/or construction costs do not exceed 100 percent of the tax value of the property.

Proposed Exemption #2

Except in Critical Area A, parcels owned by private individuals and recorded prior to CAW's adoption of the Watershed Management Plan may be divided into as many as X (tbd) lots with minimum size of 2 acres. Any additional lots created from the parent tract must comply with the provisions of the Watershed Management Plan. (All lots must adhere to the no wastewater discharge requirement).

Regarding the first proposed exemption, Kimberly said that Tetra Tech estimated that there are less than 400 lots with existing houses on them in the watershed that would be eligible for this exemption. Tetra Tech considered the potential impacts on pollutant loading to the lake from adding this exemption and considered the additional loading to be insignificant in terms of impacts on water quality.

The impacts of allowing the small subdivisions, on the other hand, could be significant, depending on the number of 2-acre lots allowed to be created and grandfathered (or exempted) from the rules. Kimberly said that if only one 2-acre lot is allowed, there would be a 1.3 percent increase in TP load. This would require CAW or some other entity to purchase 700 to 980 acres of land in the watershed – land that otherwise could be developed – and dedicate it as permanent open space. If three 2-acre lots are allowed, then TP loading would increase by 4.8 percent and CAW would need to buy 2,280 to 3,200 acres of land for conservation in order to offset this additional pollutant loading. If five 2-acre lots are allowed to be created and exempted, then 4,060 to 5,730 acres would need to be purchased as conservation land – approximately 1/10 of the developable land in the watershed. During the policy discussion, Kimberly said Tetra Tech needed feedback from the group on the appropriate number of lots to allow in the small subdivision given the tradeoff in the number of acres that need to be acquired to offset the additional loading created by the small subdivisions.

Credit Banking

Policy Advisory Council members asked Tetra Tech to investigate a number of options for credit banking, including both public and private alternatives. For a public bank, it was suggested that CAW might install stormwater BMPs on existing development or pave unpaved roads to reduce existing loads of sediment or phosphorus. Alternatively, they might buy land or conservation easements on developable tracts and create permanent undeveloped open space – essentially paying landowners not to develop their property. Some PAC members expressed an interest in using this public credit bank to ease the burden on the existing residents in the watershed who would be facing these watershed protection requirements. For example, the credit bank would need to be established to offset additional loading if the exemption is made for existing residents to create small subdivisions as discussed above. It could also be used to share the burden of meeting the water quality protection requirements, by reducing some requirements on existing residents for driveway improvements, added impervious area, etc. Finally, the public bank could create added value to, and a market for, undeveloped land in the watershed.

How could credits be established for the public bank? Members of the PAC suggested two ways at the May meeting: identifying existing sources of pollution and remedying the sources (e.g., unpaved roads) or buying conservation land in the watershed and taking it out of the development potential. At the PAC's request, Tetra Tech evaluated the cost effectiveness of these two options. The largest source of existing pollutant loading is unpaved roads and sediment is the main pollutant coming off these roads. In comparing the cost per ton of sediment reduced for paving existing roads versus purchasing land and allowing no timbering, it was significantly more cost-effective to pave roads. Thus, this would be the "biggest bang for the buck" in building up a sediment credit for the public bank. However, unpaved roads are not a significant source of phosphorus. Therefore, to build up phosphorus credit in a bank, land would need to be purchased for conservation. This would also provide some sediment credit (see Table 1).

Table 1. Per-Acre Credits for Land Protection, No Timbering and Minimal Disturbance

Management Area	Slope	TP (lb/ac)	TSS (t/ac)
Critical Area B	Low	0.233	0.093
Critical Area B	High	0.179	0.078
Upper Watershed Area	Low	0.259	0.111
Upper Watershed Area	High	0.185	0.092

For a private bank, it was suggested that an entrepreneur might buy land or an existing land owner might dedicate land with a conservation easement to create a credit bank, then sell credits to developers who need them. The credits generated would be the same as those shown in Table 1 above. Another suggestion for a private bank involved establishing credits for those developers who do not use their entire load allocation – and allowing them to use those credits on another parcel or sell them. While the credits generated from this approach would not be as great as land conservation, this approach could cumulatively generate a large private bank. The purpose of the private bank is to provide more flexibility for development design. Like the public bank, the private bank could create added value to and a market for undeveloped land in the watershed.

PAC Discussion and Questions

A member asked for a clarification of the term “exemption.” What is meant by the term and who would be exempted?

Tetra Tech responded that the proposed watershed plan requirements would apply to all acres of developable land in the watershed, unless exemptions are provided.

Under the proposed exemption #1, an existing resident who owns a parcel that was recorded with an existing house that was built prior to the adoption of the plan would be eligible for the exemption. The exemption is for additions to the house or driveway if the addition disturbs less than 20,000 square feet of land and the cost of the addition is less than 100 percent of the tax value of the property. Additions that exceed these criteria would not be exempt and must comply with the watershed plan requirements. (Note: Only existing residents prior to the adoption of the plan would be eligible for this exemption. If the existing resident sold the property after adoption of the plan, the future resident would not be eligible.)

Under the proposed exemption #2, parcels recorded prior to the adoption of the management plan and owned by an existing, private individual landowner (non-corporate) outside of Critical Area A would be eligible for this exemption. For each parcel, a maximum number of acres could be subdivided into 2-acre lots which would not be subject to the requirements of the watershed management plan (except the wastewater requirements). The rest of the land in the parent tract would have to comply with the watershed plan requirements. For example, if the parcel was 100 acres and up to 6 acres could be subdivided into three 2-acre lots, then the remaining 94 acres of the parent tract would need to comply with the watershed plan. The existing residents could do several things with the small lots: they could be handed down to family members, sold, or continue to be held. The subsequent owners would be exempted from the watershed plan requirements (except the wastewater requirements).

Regarding proposed exemption #1, one PAC member representing watershed residents stressed that this exemption would be very important to watershed residents. She urged other members to support the exemption. Another PAC member said he believed there would be a lot of resistance from watershed residents if this exemption is not provided, especially since the residents are not CAW customers and don't get to drink the water (supplied from Lake Maumelle).

Regarding Exemption # 2, a number of PAC members said this is a very important exemption, but needed more discussion before recommending the number of small lots that should be allowed on each parcel. John Bentley asked if a subcommittee could be formed to discuss the issue and bring back a recommendation. The following PAC members volunteered to serve on the subcommittee and to meet in the next two weeks to develop a recommendation: John Bentley (agreed to chair), Marge Brewster, Herb Dicker, Pat Dicker, Kate Althoff, Barry Haas, Ray Vogelpohl, and Wally Loveless.

A member asked if this proposed exemption would be part of the public presentations and discussion in July. Tetra Tech said, yes, we want to put a proposal on the table from the subcommittee if possible. If that is not possible, we will put the same question to the public as is being posed to the PAC.

A member asked if the grandfathered properties would be served by CAW—are those properties part of the CAW service area? Tetra Tech answered no.

A member asked if there could be more exemptions/grandfathered lots in the Upper Watershed Area than in Critical Area B since it is further away from the lake. Tetra Tech responded that the Upper Watershed Area has a higher load than Critical Area B, due to its topography and rainfall. Therefore, it should not be given more exemptions.

A member asked if CAW would have to agree to buy land to provide an offset. Tetra Tech indicated yes or a nonprofit organization or some other agency would need to buy land to offset the additional pollutant loading.

Another member stressed that property owners would hand down or sell property over a very long time frame, e.g., 50 years, so we would not have to provide the set aside (or off-set land) immediately. It could be purchased over a long period.

A member asked if the conservation land could have passive recreation, such as hiking trails. Tetra Tech said yes, as long as the trails were designed properly.

Next Steps

Trevor handed out and walked through the surveys to be completed by the PAC members. The survey asks about the degree of support for each of the two management scenarios (Non-engineering/Land Conservation and Performance Standards/Land Conservation). It then asks for a ranking of preferences for management options discussed tonight. Finally, the survey asks about the degree of support for each of the landowner flexibility options presented tonight (exemptions and credit banking options). Trevor said the three memos that Tetra Tech sent to the PAC in preparation for this meeting provide more details on each option and would serve as a good resource in addition to the meeting presentation. He asked each member to talk with his or her constituents in the coming week, and to mail the survey back to Tetra Tech for delivery no later than June 30. He said we would like a completed survey form for each organization. He reminded the group to keep the overall adopted goals and objectives in mind when scoring the options and when offering alternatives.

The surveys are essentially the Committee members' votes on the options. Tetra Tech will review and evaluate the surveys results. The third week in July, Tetra Tech will host several public meetings, sharing this same information and using the same survey with meeting participants. Tetra Tech will allow a 2-week comment period for the public. At the July meeting, Tetra Tech will present the results of the PAC survey and the comments received to-date from the public, and will work with the PAC to begin developing a consensus alternative that addresses the preferences and concerns raised.

The public meetings will be held on Monday night July 17 in Perryville, Tuesday night July 18 at the United Methodist Church in the Pulaski portion of the watershed, and Wednesday afternoon July 19 in downtown Little Rock. The meetings will have an open house format with display stations allowing people to browse and ask questions. Following an overview presentation, Tetra Tech will use small

discussion group and the survey forms to obtain input from attendees. The PAC will meet again on July 20th to discuss survey input and begin refining options for the plan.

A member suggested that the pilot study be started as quickly as possible if it will take several years to complete. He asked that the process be facilitated soon—if the community has the opportunity to get hard data on BMPs, we need to get started on the study.

Attachment A. Lake Maumelle Policy Advisory Council Attendance
Meeting Date: June 15, 2006

	MEMBER NAME	DESIGNATION	REPRESENTING
P	Herb Dicker	PRIMARY	Ratepayers (Little Rock Neighborhoods)
P	Kathy Wells	ALTERNATE	Ratepayers (Little Rock Neighborhoods)
P	Sue Corker	PRIMARY	Ratepayers (North Little Rock Neighborhoods)
NP	Jack Finnegan	ALTERNATE	Ratepayers (North Little Rock Neighborhoods)
P	Mike Simpson	PRIMARY	Ratepayers – Jacksonville Water Works (Master-metered Customers)
NP	Robert Stout	ALTERNATE	Ratepayers – North Pulaski Water Works (Master-metered Customers)
P	Tony Kendall	PRIMARY	Central Arkansas Water Commission (Vice Chair)
NP	Jane Dickey	ALTERNATE	Central Arkansas Water Commission (Member)
NP	Roby Robertson	ALTERNATE	Central Arkansas Water Commission (Member)
P	Ruth Bell	PRIMARY	Community (League of Women Voters of Pulaski County)
P	Kathleen Oleson	ALTERNATE	Community (League of Women Voters of Pulaski County)
NP	Steve Owen	PRIMARY	Community (North Little Rock Chamber of Commerce)
NP	James Dietz	ALTERNATE	Community (North Little Rock Chamber of Commerce)
NP	Randy Wilbourn	PRIMARY	Community (Little Rock Regional Chamber of Commerce)
P	Jay Chesshir	ALTERNATE	Community (Little Rock Regional Chamber of Commerce)
P	Kate Althoff	PRIMARY	Community (Citizens Protecting Maumelle Watershed)
P	Barry Haas	ALTERNATE	Community (Citizens Protecting Maumelle Watershed)
NP	Alderman Neil Bryant	PRIMARY	Elected Official (North Little Rock City Council)
P	Vice Mayor Barbara Graves	PRIMARY	Elected Official (Little Rock Board of Directors)
NP	City Director Stacy Hurst	ALTERNATE	Elected Official (City Director, City of Little Rock)
P	Justice Pat Dicker	PRIMARY	Elected Official (Pulaski County Quorum Court)
P	Justice Harrison Jones	PRIMARY	Elected Official (Perry County Quorum Court)
NP	Justice Charlie Clements	ALTERNATE	Elected Official (Perry County Quorum Court)
NP	Glen Hooks	PRIMARY	Environmental (Sierra Club)
P	Dale Ingram	ALTERNATE	Environmental (Sierra Club)
NP	Kevin Pierson	PRIMARY	Environmental (Audubon Arkansas)
P	Stephanie Hymel	ALTERNATE	Environmental (Audubon Arkansas)
P	Charles Nestrud	PRIMARY	Property Owners (Deltic Timber Corporation)
NP	Larry Hedrick	PRIMARY	Property Owners (U.S. Forest Service)

Attachment A. Lake Maumelle Policy Advisory Council Attendance
Meeting Date: June 15, 2006

NP	Jeff D. Allison	PRIMARY	Property Owners – Water Association within Watershed
P	John M. Bentley, III	PRIMARY	Property Owners – within Watershed – Western Watershed
P	Ray Vogelpohl	ALTERNATE	Property Owners – within Watershed – Western Watershed
P	Marge Brewster, Ph.D.	PRIMARY	Property Owners – within Watershed – Northern Watershed
NP	Earl Hillard	ALTERNATE	Property Owners – within Watershed – Northern Watershed
P	Wally Loveless	PRIMARY	Realtors (Arkansas Realtors Association)
P	Kenneth Gill	ALTERNATE	Realtors (Arkansas Realtors Association)
P	John Bryant	PRIMARY	Recreationists (Grand Maumelle Sailing Club)
NP	Nicole Claas	ALTERNATE	Recreationists (Grand Maumelle Sailing Club)
NP	Randy Day	PRIMARY	Recreationists – Fisherman (President of Maumelle Bass Club)
	OTHERS IN ATTENDANCE		
P	Trevor Clements		Tetra Tech, Inc.
P	Kimberly Brewer		Tetra Tech, Inc.
P	Bruno Kirsch, Jr., P.E.		Technical Advisory Council/Central Arkansas Water
P	Jim McKenzie		Technical Advisory Council/Metroplan Council of Local Governments
P	Shaní Canada		Central Arkansas Water
P	Marie A. Crawford		Central Arkansas Water
P	Nicole Lacy		Central Arkansas Water
P	Norvell Plowman		Attorney for Lee Bodenhamer, Watershed Property Owner
P	Lee Bodenhamer		Watershed Property Owner
P	Eddie Powell		Central Arkansas Water Commission
P	Scott King		A-V Arkansas, Inc.
P	Fred White		Watershed Property Owner
P	Judy White		Watershed Property Owner
P	Matthew Cate		Reporter with <i>Arkansas Democrat-Gazette</i> newspaper
P	Attendee		Declined to provide name at last meeting.