

Back to School Days are Here

# STREAM LINE

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A PUBLICATION OF THE **KINGS RIVER WATERSHED PARTNERSHIP**

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## KRWP Mission Statement

*The KRWP is a cooperative effort, organized exclusively for charitable, scientific, and educational purposes; more specifically to protect the health, purity, and economic viability of the Kings River watershed, now and for future generations.*

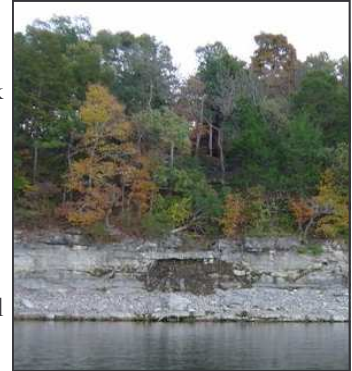
## KRWP PUBLIC MEETING AUGUST 30

The Kings River Watershed Partnership will host a public meeting August 30th, 7:30 pm at the Carroll Electric Cooperative in Berryville. Guest speakers will be David Casaletto of Table Rock Lake Water Quality and Richard Bowen of the Arkansas Health Department.

David Casaletto of Table Rock Lake Water Quality has had a lot of experience with waste treatment systems in our fragile and very rocky terrain. Many of the 20,000 individual septic systems around Table Rock Lake have failed due to faulty systems and soil conditions not suitable to septic tanks. Mr. Casaletto will introduce alternatives, additions, and precautions that can be taken to ensure that your waste treatment system works properly and that the effluent does not pollute local waterways.

New homeowners, local developers and contractors, and real estate agents will be particularly interested in a question and answer session with Richard Bowen. Bowen will discuss local health department regulations and answer all questions about onsite waste treatment.

Page Shurgar and Shawna Miller will also give updates of the aquatic macroinvertebrate study and the streambank erosion study that began in 2006. Refreshments will be served and lots of fun will be had. Hope to see you there!



Septic tank effluent (dark stain) entering Table Rock Lake

## SHOTGUN TO BE RAFFLED AT THE KRWP FAIR BOOTH



Accessorize your camouflage this fall with a brand new Remington 12 gauge pump shotgun. The KRWP is raffling off chances to win this handsome gun at the upcoming Madison and Carroll County Fairs. Chances cost \$2.00 a piece or 6 for \$10.00. Visit the KRWP booth at the Madison County Fair on August 24 and 25 or the Carroll County Fair on September 7 and 8 to purchase your tickets.

[www.kingsriverwatershed.org](http://www.kingsriverwatershed.org)



## MACROINVERTEBRATES—LITTLE BUGS WITH BIG IMPACT

### What in the world is a macroinvertebrate?

**Invertebrates** are organisms which lack an internal skeleton of cartilage or bone. **Macro** means large enough to be seen with the naked eye. Examples of macroinvertebrates include mayflies, stoneflies, snails, leeches, and dragonflies. Many of these organisms spend all or part of their time in water, usually during their immature phase (larvae and nymphs). Unless you are really looking for these creatures, you might never notice that they are right under your toes. Aquatic macroinvertebrates utilize the small spaces in between gravel in our Ozark streams.

### Why are macroinvertebrates important?

The most widely known role of macroinvertebrates is as a food source for fish, amphibians, and water birds. A crash in the invertebrate population would soon be followed by reduced numbers in these other species. Macroinvertebrates are also like the earthworms of the river, breaking down and recycling organic material and nutrients for use by other organisms. Finally, macroinvertebrates can be used to assess the health of their freshwater environment. Some kinds are very sensitive to stress produced by pollution, habitat modification, or severe natural events, while others are tolerant of some types of stress. For example, the caddisfly larvae is intolerant to low oxygen levels. If samples show a severe drop in caddisfly larvae numbers, it is possible that oxygen levels of the stream have been depleted for a lengthy period of time. A rise in the population of a tolerant species could indicate a drop in water quality. Rat-tailed maggots are very tolerant of low water quality and can be found even in highly polluted waters.

### Why is the KRWP doing both chemical and macroinvertebrate sampling?

The chemical monitoring program offers only a snapshot of water quality analysis for the minute that the sample is taken. Let's pretend that a waste treatment plant has a large spill on August 5. If the chemical monitoring program does not sample until August 20, it is unlikely that the spill would be detectable. However, the spill would substantially impact the macroinvertebrate population for months. By analyzing these populations, long term water quality can be more accurately evaluated.

In June the Kings River Watershed Partnership began its highly anticipated macroinvertebrate sampling program. The sampling will occur at the same ten locations as the chemical monitoring program. Sampling will be completed in the spring and fall of 2007 and 2008 (and longer if funding becomes available). Results of this study will be available on our website [www.kingsriverwatershed.org](http://www.kingsriverwatershed.org).

### Which bugs have you seen in the river?



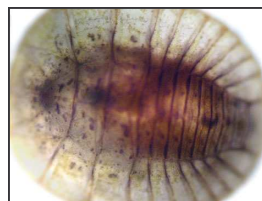
**Flat Headed Mayfly Nymph**  
Intolerant to pollutants



**Midge Larvae**  
Tolerant to pollutants



**Aquatic Earthworm**  
Tolerant to pollutants



**Water Penny Larvae**  
Intolerant to pollutants



**Crayfish**  
Somewhat sensitive to pollutants

The KRWP would like to thank the Carroll Electric Cooperative for printing this newsletter free of charge. This publication would not be possible without their generous gift.

