

Subject: Report on Gravel Mining Rules For Missouri Streams

By: Robert Temper, OFF Conservation Director

Summary: OFF has participated in a work group under the Missouri DNR Land Reclamation Commission considering rules to replace guidelines adopted from the Corps of Engineers for in stream gravel mining. Many rural land owners and county commissioners oppose rules of any kind. Studies and professional opinions on adverse effects of gravel mining were heavily attacked on an emotional basis. Professionals from state and federal agencies were allowed to attend meetings but were not allowed to vote. In order to reach some agreement, the work group used the original guidelines and presented the top three alternate wordings for each guideline to present to the commission for consideration. 11 speakers and introduction of numerous resolutions and letters marked the Land Reclamation Commission meeting at which the work group report was introduced. The commission decided to have another day of hearings on the subject prior to their next meeting and will accept comments from the public until that time. On another front, state Senator Steelman has introduced Senate Bill No. 360 in the legislature that would exempt any mining operation from regulation if they removed less than 5000 tons of gravel per year. This would exempt approximately 74% of the current permit holders from regulations.

Recommendations:

1. Individuals should write to the MO Land Reclamation Commission to arrive before March 14th encouraging implementation of strong gravel mining rules to protect land and stream resources in the state.
Mo Land Reclamation Commission
PO Box 176, Jefferson City, Mo 65102
2. Immediately contact your local representatives in the Missouri state legislature opposing Senate Bill 360, which would exempt gravel mining, companies from regulations.

Conclusion: Without positive action by the public the Land Reclamation Commission and/or Missouri state legislature are liable to move forward with reduced regulation of gravel mining rules thus imperiling the condition of Missouri streams.

Background and discussion:

Until the early 1990's, the Missouri Department of Natural Resources' (DNR) Land Reclamation Program was the permitting and enforcement authority that oversaw removal of sand and gravel from streams. Regulation was taken over by the Army Corps of Engineers in the mid 90's. The American Mining Congress sued for a ruling that the Corps had no authority in this matter...and won. Authority passed back to the MO DNR, which held public meetings in early 2002 to propose a set of rules. The meetings were dominated by gravel mining interests that pushed for relaxing the rules. The MO Dept. of Natural Resources then established a workgroup composed of both mining and conservation interests to develop rules for gravel mining in Missouri. .

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Most gravel mining is done on the streams of the Ozarks. DNR issued permits, requiring use of the old Corps rules as guidelines, for about 200 different gravel mining sites. USGS data presented at the work group meetings indicates that this represents less than a third of the gravel mining sites in southern Missouri. DNR's authority does not cover private individuals mining gravel using their own equipment, or any political subdivision (this includes county road departments, etc.). The Corps guidelines were a compromise between gravel miners and conservationists. Many including state professionals do not believe the guidelines went far enough to protect the stream resource.

Gravel mining can adversely affect stream resources in many different ways. Improper mining practices can affect the water quality as well as causing bank erosion. Turbid water down stream from mining sites can result in loss of fish and aquatic habitat through sedimentation, warming and loss of oxygen. Where gravel is removed leaving holes in the stream bed, head cutting may occur. We were shown pictures of head cutting which significantly lowered the upstream channel causing bank erosion. One example was that of a pipe crossing the stream. Prior to downstream mining the pipe had been buried beneath the streambed and after mining the pipe was suspended nearly 10 feet above the stream. Other examples shown were of the damage done to bridges as a result of head cutting.

Digging away from the active channel of the river can result in the stream abandoning its old channel and moving into the new excavation. The action can result in deeper scouring and even bank erosion. Bar skimming during low flows can result in leaching or draining of fine sediment at slightly higher flows. This sediment not only muddies the stream but also affects spawning and feeding of game fish.

Gravel mining relies on the use of heavy equipment that results in disturbance to streamside vegetation and a starting point for erosion of the banks. Stockpiles of excavated material in or near the stream channel can cause serious alterations of the channel during high water, and finer materials can be washed downstream from such stockpiles. We were shown pictures where fill material was pushed high on tree trunks to create roads and stockpiles. These trees will die resulting in bank destabilization and more erosion. Impacts to the stream itself can cause the actual loss of land as banks are eroded, and thus loss of real estate values and farm revenue. The Arkansas State University study showed an annual loss of nearly \$800,000 in farm revenue and over \$800,000 in real estate attributed to gravel mining on the five Arkansas streams that were the subject of the study.

Some land owners want to have gravel removed from their streams. The owners benefit from the mining (estimated at 25 cents per ton) and believe removing the gravel

from the stream will protect their land from further erosion. They believe that gravel bars fill the channel and push the stream into the high bank causing erosion; therefore removing gravel must surely reduce the pressure on the bank. They give no credence to the bad land use practices that has removed trees and brush that initially protected the bank from erosion. As the channel cuts further into the bank, it also widens the bed allowing gravel to deposit on the inside. Piling gravel up at the edge of the high bank and moving the channel toward the inside of the bend does not work because the river will still cut into the outside of the bend, and the unstabilized gravel will be washed out by the current in high water.

Studies in Arkansas, Vermont, Wisconsin, Washington, Georgia, and North Carolina indicate adverse effects of gravel mining, however, property owners and county officials that attended the work group meetings are skeptical of scientific data and particularly of any government study. The Arkansas study is the one most applicable to Missouri Ozark streams, because it was done on three Ozark streams; the Illinois River, Kings River, and Crooked Creek. These streams are very similar to most Missouri Ozark streams. Continued mining resulted in changes in the stream structure resulting in a significant reduction in game fish populations in mined sites and downstream, along with an increase in large non-game fish such as carp. In addition, the study noted that mining sites were unattractive, and that access roads encouraged casual use with no control, which resulted in further damage by vehicles including ATVs, along with littering and illegal dumping.

Unattractive mining sites will reduce the number of tourists that come into an area thus reducing the economic benefits of the stream and surrounding areas.

The Missouri Department of Conservation is recognized as one of if not the top conservation departments in the country. It has worked with the public and private land owners to achieve success in conservation issues. Unfortunately, it is at the mercy of the management of land and streams by others. Gravel mining can have a very serious impact on the very programs that have worked so well. Yet, professionals in the department could not even express their scientific opinions on the issues in the gravel mining work group meetings unless asked for specific information. This is a terrible waste of tremendous resources by the state.

Senators Steelman, Klindt, Cauthorn, Russell and Griesheimer have introduced senate Bill No 360. This bill would repeal current regulation and replace it by regulations covering only those operators which mine greater than five thousand tons annually. Thus, 74% (109 of 146) of the current permit operators would be exempt from the proposed regulation. At the Land Reclamation meeting an aid to Senator Steelman suggested that the commission should be reducing or eliminating regulation because the current permit fees barely cover the cost of enforcement of the existing regulations. This kind of thinking is obviously based upon a narrow minded economic consideration. It has no regard for the environment or the value of state resources. If rules were established in lieu of guidelines, the state DNR could actually operate more efficiently than it currently does. With only guidelines in place the state must establish that a

grievous situation has occurred before going to court to try to correct it. With effective rules in place and an active enforcement program, the problems could be rectified before they got out of control, thus saving resources as well as huge department litigation efforts and costs.

For questions or additional details on this issue contact Bob Temper 314-894-0319 or by e-mail at rtemper@earthlink.net