



Winter Edition

REFLECTIONS

Upon a Delicate Treasure!

January 2007

Safeguarding the Kings River for future generations.

Abandoned Gravel Mines: A Threat to Our Grandchildren's Safety

By Kent Kinney

Today we are witnessing dramatic residential and mining development along California's rivers. With continuing rapid growth in Fresno County population, the Kings River corridor is certain to undergo similar changes. As we anticipate changes along the river, we should insure that this resource is conserved. We should also strive to protect future generations from a degraded and hazardous environment.

Conversion from agriculture to gravel mines from Piedra to the City of Reedley seems inevitable. In the future, numerous

Mine pits are inherently dangerous. Excavation involves creation of shear drops, unstable surfaces, and poor water clarity. When gravel mines are abandoned increased occurrences of drowning will be a reality.

abandoned gravel mines along the Kings River will become a public safety problem. With only the currently proposed mines to consider, there will be hundreds of acres of submerged mine pits within the river corridor. This is bound to produce many unmitigated problems for those people who will live in Fresno County after us.

As gravel is depleted, each pit will eventually become a liability for citizens and local government. Environmental problems and safety hazards will have to be dealt with. When

gravel mines are abandoned increased occurrences of drowning will be a reality that the residents of Fresno County will live with forever.

According to the Centers for Disease Control and Prevention, drowning was third among the leading causes of accidental death in the 1990's. Four of the contributory factors identified by the World Health Organization will be inherent in the abandoned mine pits. These factors include:

- Underwater entanglement
- Impeded visibility
- Bottom surface gradient and stability
- Alcohol consumption

Mine pits are inherently dangerous. Excavation involves creation of shear drops, water inundation (in shallow water tables as are present near the Kings River), unstable surfaces, and poor

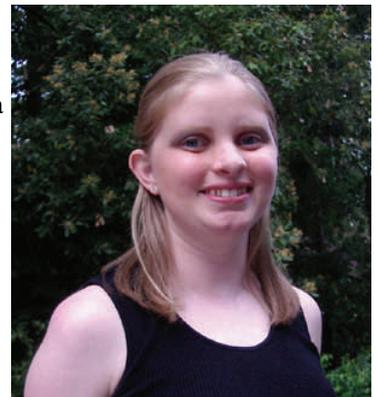
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Kings River Gravel Mines

By Rachel Barker (Guest Writer)

Introduction

The Kings River is a charming and useful little river that should be protected from exploitation. The segment that flows through the Kings Canyon Kings Canyon has been designated by Congress as a "wild and scenic river", while the area above the Pine Flat Dam has been designated as a Special Management Area, with focuses on boating, rafting, fishing, and other recreation. Downstream of the Pine Flat Dam, the river is a constant source of recreational activities. The summertime sees the river as the host for boating, floating, fishing, and wading. Families



Rachel Barker

escape the Valley heat on the river's banks, holding barbecues and enjoying the beautiful environment. When you also consider that the Kings provides irrigation water and hydroelectric power, it becomes obvious that this river is a very important resource to the surrounding communities (El Rio Reyes Trust).

California's population is expected to increase from 35 million to 55 million people by the year 2040, and those people must have someplace to live. Building materials are necessary in order

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to develop the necessary infrastructure, namely aggregate, sand, and crushed rock for concrete (U.S. Geological Survey, 1999). The San Joaquin River was a source of these materials for a time, but that supply has been exhausted. Thus, cement companies have sought an alternate source in the Kings River.

The Benefits

Mining the Kings River's aggregate and sand deposits will result in a sure and steady source of building materials. This assures the continued urban growth in the area, with the possible benefit of keeping costs relatively low since the materials come from a local source. Jobs related to the housing and

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water clarity. And, submerged aquatic weeds often wrap around the legs of unsuspecting swimmers.

Regardless of warnings and laws, people are drawn to bodies of water. We have only to consider the annual drownings in Avocado Lake to validate that abandoned gravel mines create perilous dangers.

An August 7, 2006 Sanger Herald newspaper article reported an all-too-common tragedy. The title read, "Avocado Lake search to resume...Man's possible drowning is first of year for Valley's

Why is Avocado Lake claiming so many lives? Avocado Lake is actually a deep-pit gravel mine.

notorious body of water." The writer quoted Fresno County sheriff Lt. Fernando Lopez as saying, "That lake is usually good for two or three drownings a year."

Why is Avocado Lake claiming so many lives? Avocado Lake is actually a deep-pit gravel mine. It was dug to extract aggregate used in construction of Pine Flat Dam. As with the currently-

proposed gravel mines near Sanger, Avocado Lake was not created with any provision for future recreational use. Future public safety was not a priority. But after the gravel extraction was complete, the pit and adjacent land became a Fresno County park. It now attracts thousands of visitors each summer. Unfortunately, Fresno County barely has the financial resources to maintain this park, even without taking measures to make it safer.

Are we, as Fresno County citizens, going to allow this same type of mine to be propagated along our Kings River? In planning for the future we should be providing for resource needs of the next generation. We should be making decisions that will lead to wise land use. We should avoid actions, which will produce hazardous conditions.

Fresno County should require that all development within the Kings River corridor be restricted to environmentally sustainable and socially ethical uses. Gravel companies should be obligated to design their projects with reasonable plans for post-mining activities. If we do not have assurance that future abandoned mines will be left in a safe condition, we should not permit the initiation of these projects now.

Bob Frisch Memorial Ride

By Connie Krahn



El Río Reyes Conservation Trust hosted its eight annual ride on Saturday, September 8, 2006. This fundraising event was started by Bob Frisch and it is fitting the ride be named for Bob. The ride took place at the Reedley College Horse Unit. Thirty-five riders from around the valley assembled and were lead by Kent Kinney on a four-mile ride along the scenic Kings River Trail on the Reedley College campus. Upon returning to the horse unit, a tri-tip barbecue lunch, with all the trimmings, was served to all the riders. A great lunch ended with the "playing" of

the best poker hand won by Tommy Linder.

This year's *Bob Frisch Memorial Ride* will be held on September 8, 2007. Take time out of your busy schedule and come join the ride and have a great time — also a great lunch.



Tommy Linder (left) , Frank Fonseca (Right)
El Rio Reyes Conservation Trust director.

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construction industry, gravel mining, and cement will provide stable employment for many local laborers. A report from the U.S. Geological Survey says that California's non-fuel material production in 1999 brought a price of \$3.18 billion. Industrial materials, such as crushed stone, construction sand and gravel, and Portland cement accounted for 95% of non-fuel materials, and 79% of California's total industrial mineral value. Construction sand and gravel are the most valuable of these materials.

The economic benefits to a Kings River gravel mine are obvious. Sand and gravel for upcoming construction projects will have to come from somewhere, and the alluvial deposits are rich in this resource. Jobs will be steady and plentiful for those who want to work in construction, gravel mining, transporting materials, and manufacture. The possibilities are great. However, the exploitation of the Kings River comes with a price.

The Costs

In order to predict potential problems with the Kings River gravel mines, one has only to look at the past. While the Kings itself has not been subject to gravel mining in the past, the San Joaquin, the Snake, the Russian, and many other rivers have been mined, both in-stream and on the floodplain, and the results have

The issues that plague the Russian, the Snake, and the Rogue are found in rivers worldwide as a result of gravel mining.

been consistent. Below is a sample of rivers that have been mined in the past, providing perspective on what will happen to the Kings when the proposed gravel pits have been dug.

The Russian River provides drinking water for 500,000 people, and is part of the watershed that supplies water to Marin County. 70 to 80-foot-deep waste water pits are very close to the river and tend to trap sediment and prevent water from reaching the aquifer. The exposure of gravel has resulted in a drastic drop in the water table. Many wells that reached water in the 1950's are now dry. Unsightly pits dot the landscape abutting

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the river for many miles. Gravel mining has also resulted in the loss of a natural filter for drinking water (Hess, 2000).

The Rogue River was the subject of state, local, and national gravel mining operations as far back as the 1960's. It is now flanked by many pits of different depths, some up to 60 feet deep. These pits functioned as quiet ponds until 1997, when the Rogue punched through one of its banks and began to flow through some of the abandoned gravel pits before rejoining its usual path some distance downstream. The Rogue traveled almost a quarter of a mile from its usual riverbed, which some did not regard as a bad thing, until the entire river abandoned its previous path in favor of the new channel through the gravel pits. \$1.3 million, a lot of earth-moving equipment and a vegetation-planting effort has pointed the errant river back in its original direction (Freeman, 2003).

Water that was previously covered in sand and gravel is exposed to air during mining operations, which causes evaporation and a drop in the water table.

These are only a very small sample of the problem. The issues that plague the Russian, the Snake, and the Rogue are found in rivers worldwide as a result of gravel mining. Problems of different sorts occur regardless of the mine's proximity to the river itself. The most relevant issues are examined below.

Floodplain Pit Capture

Pit capture occurs when the river diverts from its channel and begins to flow through the gravel pits along its banks. The river may escape due to erosion or flooding, but in either case, shoreline pits become in-stream pits. Pit capture is unavoidable in the case of floodplain pits, either because the river will inevitably flood, or because rivers naturally tend to meander. The channel then has very deep sections that turn the moving water into still water, which changes the ecology of that section of the river. Depressed oxygen levels, stagnant water, and increased predation of salmonids are common results.

Juvenile salmonids are vulnerable to non-native warm-water fishes that are released or escape into rivers. Pit capture magnifies this issue, as it creates a larger habitat for predatory warm-water fishes. To further complicate things, salmonids become confused at the loss of water current in pits, which places them in further danger.

The Rogue, the Yakima, the Cowlitz, the Tuolumne, and many other rivers have experienced pit capture.

Groundwater Effects



There is a strong connection between rivers, the water table, and the aquifer. Therefore, a gravel pit that is dug away from the river channel may still have an effect on the river itself, and will definitely have an effect on the aquifer. Water that was previ-

ously covered in sand and gravel is exposed to air during mining operations, which causes evaporation and a drop in the water table. This has notably occurred in the Russian river aquifer.

Still Waters

Gravel pits tend to fill with water, which creates habitat for warm-water predatory fish. When the rivers flood, these pits connect to the main waterway, creating unnaturally large pools of warm, water with little current where salmonids tend to become confused and lost. This provides predators such as large and smallmouth bass the opportunity to diminish the population of juvenile salmonids.



FreeFoto.com

Offsite Impacts

Since the effects of mining in or directly next to the river channel are obviously deleterious, companies sometimes exercise the option to mine the floodplain. This may spare the river for a time, but these plans do not usually take future movement into consideration. As previously stated, rivers are dynamic in nature, tending to wander and meander over time, shaping and re-shaping their courses. This makes pit capture the major issue in the long term.

Floodplain mines tend to be numerous and deep, even though they generally are only in operation one at a time. The quantity of pits can amount to a great deal of riparian habitat transformed into pits or standing water.

Biological Effects

Wetlands along the Snake River floodplain were extensively mined for gravel. The property was then turned over to the National Park Service. Its condition was unsuitable as a National Park, as it violated public safety standards.

Machinery has very close access to the aquifer during excavation. This leaves the water supply open and vulnerable to contamination due to spills. Natural channel banks are diminished in integrity, weakening the riparian vegetation and leaving the area vulnerable to pit capture.

Post-Mining

Many organizations seek to restore riparian habitat after gravel mining operations have ceased. Wetlands along the Snake River floodplain were extensively mined for gravel.

The property was then turned over to the National Park Service. Its condition was unsuitable as a National Park, as it violated public safety standards. Land degradation was also a major issue (PHC-Reclamation, Inc. 2006). An organization known as PHC-Reclamation, Inc, a mining com-

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pany, was called in to restore the area to its natural state. They did such an exemplary job that they were granted a People's Choice award for their work. 350,000 cubic yards of topsoil and mined material were reshaped, wetland plants were re-introduced, and the project was declared a success. This project is held up as

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an example that riparian habitat can be restored to pristine condition.

The San Joaquin River Parkway and Conservation Trust was recently granted \$100 million through Proposition 84. This is intended to improve the water quality, restore the fishery, and enhance the 22-mile parkway that extends from Highway 99 to Friant. The San Joaquin River was a subject of gravel mining until its resources were depleted. Now, the Trust wishes to restore it.

The extent to which an abandoned mining site can be restored is debatable. Gravel deposits require many years to establish. Their very predictability and quality is what makes them so desirable for mining. Thus, it is short-sighted to assume that simply filling an excavation with dirt or water will restore the landscape. A pit that is dug on a floodplain will eventually become part of the river course, and the effects of pit capture have already been discussed.

Discussion

As the data shows, gravel mining has a substantial effect on the area in which it is practiced. The full impact is not yet known, but if the above factors are applied to the Kings River, it is possible to predict what will likely happen if the mine begins operation.

The mining company wishes to dig 100-foot-deep gravel pits on the Kings River floodplain. Once this takes place, the aquifer will be exposed to open air and sunlight, drying it out and lowering the water table. Public and private well owners may discover in time that their wells need to be re-drilled. Existing vegetation may not be able to cope with the increased difficulty in obtaining water, resulting in a die-out.

Over time, the Kings River will probably meander across the floodplain and fall into the deep gravel pits. This pit capture would result in decreased oxygen in the water, increased water temperature, and silt buildup in the bottom of the pit. Predatory fish will have a larger habitat from which to prey on salmonids, which get lost and confused in locations with no current.

The aquifer will be exposed to pollutants from machinery and mining byproducts. Groundwater will be in danger from contamination, as its layer of filtering sand and gravel will be removed. Pit water will have a definite impact on groundwater quality. The warm, standing water from abandoned gravel pits is often of poor quality, consisting of runoff and mining remnants. Since the river is connected to the aquifer and water table, the water quality in the river will be affected. The extent to which the water quality will be impacted is uncertain at this juncture.

Conclusion

The Kings River faces an uncertain future. Demands from the gravel mining industry, irrigation interests, and those who simply appreciate the river's beauty are all at odds. Chances are that the plans to mine for gravel will go on and leave the area irreparably damaged. This kind of short-sighted attitude has led to lamentable conditions on the Rogue, the Snake, the San Joaquin, and many other rivers. The interests of finance and development have trumped those of conservationists in the past.

Hope still remains for the Kings River. Educating the public is vital. Such a widely-enjoyed resource is not without its proponents, and the more people know about the gravel mine, the



greater the likelihood that the mining will be conducted according to legal standards. Public opinion has changed policy before. A great enough outcry could even cause policymakers to re-examine the subject.

It is unjust that a landowner, any landowner, would have the authority to have such a huge negative impact on the land, especially since the effects of the gravel mine will be felt throughout the river ecosystem. The damage will last for a long, long time, long after the sand and gravel have been extracted and the site has been abandoned. We will be left with less than we had before. A depleted and exploited river will be our legacy.

References

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- “A Bump in the Rogue – Rechanneling Aims to Point River Back in its Natural Direction” Mark Freeman (<http://www.oregongeology.com/sub/news&events/archives/MLRRRogue2003.htm>) Retrieved from the World Wide Web on November 1, 2006
- “Snake River Gravel Pit Reclamation” 2004 (http://www.phcreclamation.com/snake_river.htm) Retrieved from the World Wide Web on November 1, 2006

**PUBLIC NOTICE
NOTICE OF AVAILABILITY
AND
ANNOUNCEMENT OF PUBLIC MEETING
TO RECEIVE COMMENTS ON THE
DRAFT ENVIRONMENTAL IMPACT REPORT
FOR THE
SANGER-CENTERVILLE AGGREGATE OPERATION
EXPANSION PROJECT**

Pursuant to the requirements of the California Environmental Quality Act, notice is hereby given that a Draft Environmental Impact Report (DEIR) has been prepared for the Sanger-Centerville Aggregate Operation Expansion project, Unclassified Conditional Use Permit No. 3103, and is available for review.

The proposed project would expand the existing 220-acre Sanger-Centerville aggregate mining operation as permitted by CUP Nos. 1466 & 1656 onto an adjacent 440 acres. The project will change the method of extraction from dry mining to wet mining phased over a period of 50 years and increase sales from about one million tons per year to 2.5 million tons per year. The project proposes modifications to the reclaimed end use to create a series of ponds, wetlands and open space vegetated with native species. The project is located south of State Highway 180, west of the Kings River and east of Riverbend Avenue approximately 15 miles east of City of Fresno and one-half mile east of the community of Centerville in central Fresno County.

The DEIR identified potentially significant environmental impacts of the project in the following areas: 1) Aesthetics, 2) Land Use and Agricultural Resources, 3) Air Quality, 4) Biological Resources, 5) Cultural Resources, 6) Hydrology, 7) Noise, and 8) Traffic and Circulation.

The 45-day comment period began December 22, 2006 and ends February 5, 2007. A notice of availability was published in the Fresno Bee December 22, 2006. A copy of the DEIR is available at each of the following locations: (1) Fresno County Public Works and Planning Department, Environmental Analysis Unit, 2300 Tulare Street, Suite 110, Fresno; CA; (2) Fresno County Main Library, Reference Department, 2420 Mariposa Street, Fresno, CA; (3) Fresno County Library, Sanger Branch, 1812 Seventh Street, Sanger; CA; (4) Fresno County Library, Reedley Branch, 1027 E Street, Reedley, CA; and (5) Fresno County website: <http://www.co.fresno.ca.us/4510/4360/environmental/DevsServs-Environmental.pdf>

A public meeting will be held at 6:00 pm Thursday, January 25, 2007 at the Washington Academy Middle School Theater (old Sanger High), 1705 10th Street, Sanger, CA. Written comments on the DEIR will be accepted until February 5, 2007. Comments referencing "Sanger-Centerville Aggregate Operation Project" should be addressed to:

Rick Thaxton, Planner
Fresno County Public Works and Planning Department
Environmental Analysis Unit
2220 Tulare Street - 6th Floor
Fresno, CA 93721

Persons with questions or requests for a public hearing notice may call Rick Thaxton at (559) 443-5343 or email at: rthaxton@co.fresno.ca.us .

CDs containing the Sanger-Centerville Aggregate Operation Draft Environmental Impact Report are available free of charge by contacting Rick Thaxton at (559) 443-5543 or the Fresno County Public Works and Planning Environmental Analysis Unit at (559) 443-5340.