



Michael Sharps

# CHANGING PERSPECTIVES ON RUSSIAN RIVER GRAVEL PITS

by Don McEnhill  
Special to Living

In 2000, when I joined the board of Friends of the Russian River, I immediately learned one thing from my colleagues — that gravel pits were BAD. Fast forward to today and I have come to realize that these pits actually might be the most important element in restoring our salmon and steelhead, turning our old opinions upside down quickly.

The dozens of deep pits dug by gravel miners excavating historic river gravel deposits next to the Russian River created many negative impacts to the River. Some impacts were obvious such as permanent loss of farmland and loss of high value riparian habitat for fish. Despite the impacts, the pits were dug to supply gravel for building projects across the rapidly growing Bay Area. When county and state regulators approved the pits, mining firms were required to develop reclamation plans to remediate mining sites to reclaim them to open water ponds and maintain levees to keep pits isolated from the River.

Some other negative impacts of gravel pits are not so obvious, such as when the river floods the pits, endangered fish can enter them and then become stranded when floodwaters recede because of the levees.

Through the El Nino rain years of 1995 and 1997, the river flooded and breached the levees. When the flooding cascaded into the pits it eroded the levees causing a need for expensive repairs. These flood events and others in 2004 and 2006 showed us that the levees would not endure over time. Since the pits posed the potential to trap the fish and the fish are listed as endangered, federal regulators were not willing to sign off on final reclamation of the pits unless they abandoned the strategy to isolate them from the river with high levees.

In the last eight months we have been reviewing literature, talking to fishery scientists and have come to agree with local National Oceanic and Atmospheric Administration (NOAA) fisheries biologists that the biggest limiting factor for salmon is lack of abundant food sources during juvenile outmigration towards the ocean



photo courtesy of NOAA Fisheries

**A BIGGER FISH** — Two sets of juvenile salmon, with the smaller set raised in the river channel and the other in off-channel habitat, to illustrate growth differential between on- and off-channel habitat.



photo provided

**METAMORPHOSIS** — The Benoist Pond at Riverfront Regional Park is an illustration of how we can transition former gravel pits into productive habitat

when fish need to bulk up. The salmon and steelhead juveniles need to bulk up in order to survive in the ocean and avoid predators.

Today the River is very different than 50 years ago with the large forest areas lost to channelization and development. Past mining, lands cleared for farming and flood control projects have shrunk the river corridor width by almost 70 percent. This has eliminated the complex shallow water habitat where historic river meanders cut ox-bows and side channels that used to flood each year, which are collectively called off-channel habitat. These riparian areas not only buffered farms from the River's flood debris but also provided abundant food sources for juvenile salmon that channelization has eliminated.

After several months, juvenile salmon become old enough to swim and search for prey but are not strong enough to withstand the current. The food they are searching for from small crustaceans like copepods and cladocerans to small fly nymphs also do not survive well in the stronger currents of the main River. The present state of the River only has suitable habitat for salmon food sources at the slower margins along the stream edges. These areas cannot provide enough food for all our juvenile salmon, so many juveniles are lost to predators because, frankly, they are weaklings due to lack of adequate food sources.

In the middle reach below Healdsburg the vineyards surrounding the River mainly grow highly prized Pinot Noir grapes and the land costs are very high, preventing any conservation purchases of land. The only land available that could be converted to off-channel habitat is the over 1,000 acres of former gravel pits and associated areas.

Efforts to restore gravel pits to suitable fish habitat pose a win-win for mining firms and the River. Any new off-channel habitat would greatly increase odds of



photo provided

**LEVEE** — Hanson Pits along Eastside Road a day after the 2006 New Years Flood showing the river levee erosion at center. The Hanson project will have more shallow areas to support better fish food production.

restoring salmon populations. Mining firms win through a restoration focus, creating a more durable pit/river interface that would be more stable and reduce or eliminate future costs to repair levees after floods. Hanson Aggregate owns several pits along Eastside Road south of Healdsburg and saw this opportunity for a win-win and is working with the community to restore four pits they own.

In reality, converting the gravel pits to fish habitat presents more unknowns and possible unintended consequences as well as planned outcomes, as this is very much a pioneering effort. Riverkeeper has high hopes that the Hanson project will lead to a positive outcome. Our hopes are buoyed by the restoration planning process that has been established under the guidance of Supervisor Mike McGuire that has been very inclusive of a broad cross-section of interests from landowner representatives to environmental and fish restoration

groups.

Gravel pit owners Hanson and their partner EHC of San Diego have supported the inclusive process and deserve credit for their openness. The Hanson project has just secured a feasibility study grant from the State Coastal Conservancy to gather information, conduct studies and model a range of scenarios for restoration to determine the best direction. Riverkeeper and Sotoyome Resource Conservation District have been named project partners to keep our community informed on the project as it moves ahead.

This project has shown many of us that although creating "natural habitat" is a goal for fishery restoration, in a highly altered watershed such as the Russian River, we will often have to seek out not-so-natural opportunities for restoration. Stay tuned for more information as this project is developed.

## SCREENINGS

by Gil Mansergh

**Movies to celebrate the original 4th**

A few Fourth of Julys stand out in my memory, and you probably have similar recollections. I vividly remember being ten-years-old and burning my finger on a still-hot sparkler wire at my grandparents' house. The same night, my cousin gave me her copy of Johnny Tremain to read. Then there was the fireworks display over the Gloucester Harbor with my mother's relatives the summer before I went to college, and the great family picnic on a hillside in El Segundo I shared with my wife and little ones. Each of these memories remains indelible because they celebrated family more than the "rocket's red glare."

With families in mind, I have selected a few classic (and not always easy to find) videos for you to watch with a few of your loved ones.

**Johnny Tremain** (G—1957) Walt Disney based this tale of an apprentice Boston silversmith on Esther Forbes' Newberry Award-winning novel. Starring Hal Stalmaster, Luana Patten and Sebastian Cabot, and directed by Robert Stevenson (Old Yeller, The Shaggy Dog, Mary Poppins) it chronicles historic events before the Declaration of

Independence including the Boston Tea Party and the midnight ride of Paul Revere.

**Felicity: An American Girl Adventure** (G—2005) based on the books by Valerie Tripp which provide a back-story for the Mattel doll, this movie stars Shailene Woodley as a ten-year-old girl in Williamsburg, Virginia on the eve of the Revolution. Although her father (John Schneider) supports the cause, Felicity's grandfather (David Gardner) is a strong defender of King George III and the remaining British. In addition to showing lots of items that would make the folks at Antiques Roadshow happy, the realistic family dynamic at a time of historic upheaval is what fuels this film.

**Ben and Me** (G—1953) Walt Disney adapted Robert Lawson's delightfully illustrated children's book telling the "true" story of a Philadelphia mouse called Amos (voiced by Sterling Holloway). This talented rodent resided with Benjamin Franklin (voiced by Charlie Ruggles) and is the real inventor of bifocals, the lightning rod, and the Pennsylvania Gazette. When Ben's attempt to reason with King George III fails, Thomas Jefferson (voiced by Hans Conreid) recruits Amos to help write the Declaration of Independence. This film is only 20 minutes long, and would make a great double-feature with either of first two films on this list.

**Drums Along the Mohawk** (NR—1939) John Ford casts Henry Fonda and Claudette Colbert as newlyweds building a life in the wilderness of upstate New York. "Friendly" native

Americans are very curious about the ways of white folk, and the native Canadians (i.e. the Mohawks) are recruited by the British with the promise of cash money for "Yankee" scalps. It would be a good film to watch as a family and talk about afterwards—remembering that the British considered "American patriots" to be terrorists. John Ford liked his heroines to be feisty but subservient, and this portrayal of "two kinds of Indians" was actually considered "dignified" at the time this film was made.

**Roots: The Gift** (NR—1988) inspired by Alex Hailey's "Roots," this originally appeared as a TV Christmas Special and reprises the roles played by LeVar Burton as Kunta Kinte, a Mandinka tribesman stolen from Africa and sold as a slave in the colonial South, and Louis Gossett Jr. as Fiddler, an elderly man born into slavery. The miniseries earned nine Emmys, and didn't sugar coat the horrific living conditions slaves endured to survive. Set in 1775, this movie explores the start of what was to be called the "underground railway," where escaped slaves were guided North to freedom. Despite its Christmas theme, this is definitely a PG-13 level film, with lynchings, whippings, and sexual predation portrayed in memorably realistic scenes. These horrors only make the promised "gift" of freedom more poignant, as the United States strives to establish a "freedom" where about 15%-18% of the people living in the United States were enslaved.

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## Coming Next Week:

What may be new about the Bohemian Grove protest is not the demonstration itself but the high hopes pinned on its outcome.

by Frank Robertson



## Inside: Through the Garden Gate

The pleasures of a native plant garden.

by Judy Brinkerhoff

