Karen Telleen-Lawton: Story and Lessons of Horse Creek Dam

'Damolition' does wonders for the Santa Barbara waterway — as it could for Rattlesnake Creek, too

By Karen Telleen-Lawton, Noozhawk Columnist | Published on 11.30.2010 4:50 p.m.

Countless times I've rock-hopped the short distance up Rattlesnake Creek to the debris dam — a huge mound of concrete constructed for flood control after the 1965 Coyote Fire.

Karen Telleen-Lawton

Debris dams had their heyday in the mid-20th century, but they proved high maintenance and often ineffective. In the past quarter-century or so, different solutions have been proposed. One Santa Barbara creek beginning its post-dam history is Horse Creek in north county.

If you haven't heard of the Horse Creek Dam in the Sisquoc River watershed, you're too late. The story of its life, its spectacular end and the creek's renewal are told in a short film produced with funding from the Department of Fish & Game.

Despite the film's absence of drugs and sex, the violence of the "damolition" and the potential healing of the creek make the video a good watch.

The dam was insubstantial by Western standards, but gnarly if you were a steelhead trout trying to do what comes naturally. Its presence cut off nearly 20 miles of steelhead habitat — about one-10th of the Sisquoc River's reach. In the Santa Maria watershed of which it's a part, only 1 percent of the steelhead's primary habitat remains, according to ecologist Matt Stoeker.

Horse Creek Damolition- Restoring Southern Steelhead with Dam Removal fromMatt Stoecker on Vimeo.

Stoecker led a team up the Sisquoc River to survey in 2002. He determined that dam removal would allow "the natural revival of a free-flowing creek, wildlife migration and restoration of habitat for southern steelhead, red-legged frogs, pond turtles and other aquatic and riparian species in the Sisquoc River watershed."

California Fish & Game had been studying creek restoration, but doubted that fish runs could be restored until the heavy rain season of 1997 and 1998. Then steelhead navigated the Pacific and crowded around the local creeks, attempting to swim upstream to breed and hatch young. The fish were thwarted, but their appearance gave hope that restoration was a reasonable goal.

After five years of seeking permits and permissions, the dam's explosion too only a few seconds.

Stoecker returned after the rain season. The paltry seven inches of rainfall was too little to mobilize the sediments once trapped by the dam.

"There was no opportunity for adult steelhead to migrate to the former dam site," according to Stoecker's report.

He performed some hand-demo work, using large rocks to enlarge the opening through the former dam, and left again to let nature take its course.

Decent rainfall came the next season. After another trek to the remote area, Stoecker observed, "While demolition of the dam removed a significant impediment to fish passage, mobilization of the stored upstream sediment has yet to occur."

Moreover, a small wedge of sediment eroded and formed a new 3-foot-plus drop.

“At this time there remains a barrier to upstream migrating salmonids,” Stoecker reported, “but the knick point and associated drop should become more passable in time as additional material mobilizes and the headcut retreats upstream, reducing the channel gradient.”

More than 500 impediments in Santa Barbara County impede local creeks from doing what comes naturally. Horse Creek is still a creek in recovery. Time and weather will heal, providing lessons for future dam removals.

Restored to natural or near-natural state, creeks can provide flood protection, sand for our beaches, water quality and a highway for aquatic life of all kinds. Maybe even new life for Rattlesnake Creek.

— Karen Telleen-Lawton’s column is a mélange of observations supporting sustainability. Graze her writing and excerpts from Canyon Voices: The Nature of Rattlesnake Canyon *at www.CanyonVoices.com.*