

# Matilija

messenger

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Volume 5

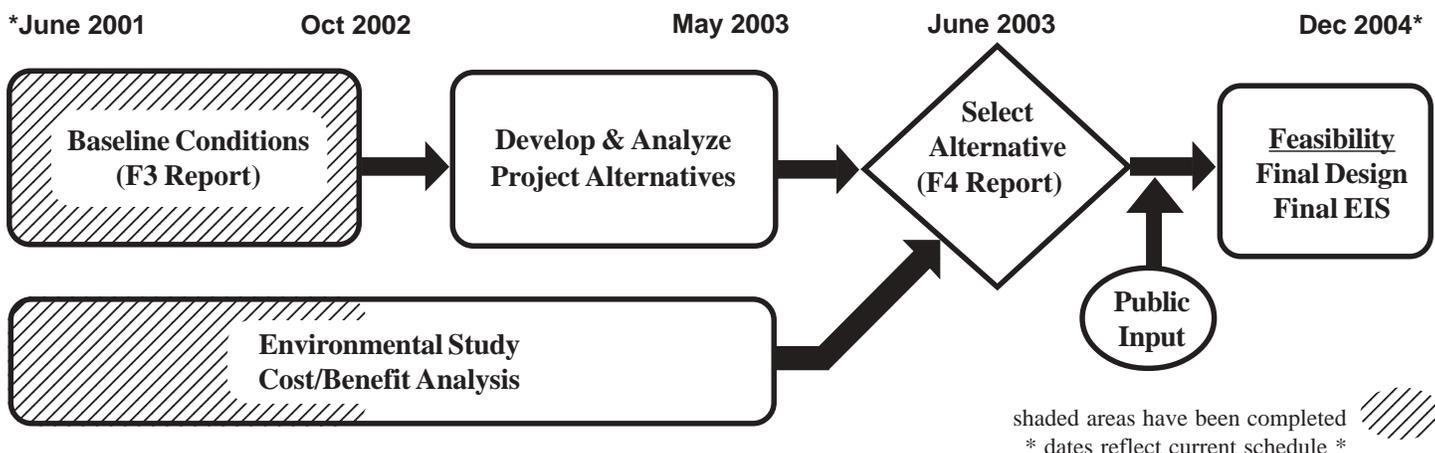
Dedicated to the Removal of Matilija Dam



**The Ventura River Watershed** reaches from the mountains to the sea. The connections between the steep coast range and the river delta are evident in this aerial view. The removal of Matilija Dam from the upper watershed will benefit the entire ecosystem and its many threatened and endangered species. Dam removal will allow the steelhead trout to once again swim upstream to critical habitat in the upper watershed. And renewed sediment flows will help to re-build the delta and restore eroding beaches in Ventura.

## The Path to Ecosystem Restoration

In June 2001, local, state, and federal government agencies began the Ecosystem Restoration Feasibility Study for Matilija Dam. The primary objective of the study is to determine the feasibility of removing this obsolete dam in order to achieve several important environmental objectives. The release or transport of the trapped sediment behind the dam has the potential for restoring both beach and river habitat. Removing this barrier will allow for the return of the endangered steelhead trout; a species that once made Ventura a valued sport fishing destination, and that today is seen as an indicator of the health of our coastal watersheds.



The flowchart above illustrates the phases of the Feasibility Study that will lead to a final plan for Matilija Dam. The first phase, a “**Baseline Conditions (F3 Report),**” was completed in October 2002. The main findings of this report are summarized at the right. The report concludes that since the watershed ecosystem will remain degraded with the dam in place, there is a need for a restoration project.

The completion of this report marks a major milestone in the Feasibility Study, and lays the foundation for the analysis of project alternatives. The baseline conditions will serve as a basis for comparing the current state of the watershed with future conditions if the dam were to be removed or modified.

The next phase of the feasibility study will evaluate various project alternatives for their ecosystem restoration potential and their cost and technical feasibility. A preferred project alternative is selected according to the environmental study and a cost/benefit analysis that places a value on future benefits to the ecosystem. (See Matilija Messenger Vol. 4 for more on Habitat Evaluation Procedure (HEP) analysis.)

Once a preferred alternative has been selected, there will be a public meeting with opportunities for public review and comment. Then the final design and Environmental Impact Statement (EIS) will be completed in preparation for the deconstruction of Matilija Dam. The current schedule is for completion of the study by the end of 2004. Implementation will depend upon funding.

The Baseline Conditions “F3 Report” and other technical studies may be downloaded off the internet at [www.matilijadam.org](http://www.matilijadam.org).

**Matilija Coalition** continues to play an active role in the Feasibility Study. We participate in the technical workgroups, drawing upon our collective expertise to provide comments and input to the study process. Our non-government partners include engineers, scientists, and policy experts with varied perspectives on this project of national significance. Please contact us if you have expertise to share.

Our comment letters on the study can be found at:  
[www.matilija-coalition.org](http://www.matilija-coalition.org)

### Baseline Conditions

**Flooding:** An examination of the historic flood records on the Ventura River revealed that Matilija Dam has never controlled peak river flows, and some localized flooding continues to occur with the dam in place. Levees have reduced the flood risk for much of the existing floodplain development.

**Sediment:** Surveys of the reservoir indicate that it contains approximately six million cubic yards of sediment, including about 1.8 million cubic yards of beach quality sand. While the sediments tested clean, much of the beach sand is intermixed with fine sediment that is not suitable for direct use for beach replenishment. Studies estimate that the reservoir will completely fill with sediment by 2020, but will continue to trap sediments until 2030, when some coarse sediment will begin to pass over the dam. At that time the impounded sediments will total over nine million cubic yards.

**Habitat:** The sediment trapped by Matilija Dam has significantly degraded the downstream river and coastal habitats. Surveys reveal that, downstream of the dam, sediment-starved “hungry water” has eroded the riverbed so that it now suffers a deficit of almost 2 million cubic yards of sand, gravel and cobble. The historically broad floodplain with many braided channels has become a single channel cut into the river bed. Sediment reduction has exacerbated beach erosion from the mouth of the river to the Ventura harbor. High quality habitat still exists in the upper watershed, but remains disconnected from the river and coast. *Arundo donax*, or giant reed, degrades the habitat value, and is spreading throughout the reservoir and floodplain terraces downstream.

**Dam:** Structurally, the dam suffers from extensive “Alkali Silica Reaction”, a chemical reaction that weakens the concrete. Despite this problem, there are no structural modifications needed for the dam to remain adequately stable for next the fifty years.

# steelhead

## Field Trip



Enjoying the show... participants "pull up a rock" and learn as Jim Edmondson explains trout habitat in Matilija Creek

**Saturday, Aug. 10, 2002** - Jim Edmondson, Conservation Director of CalTrout and chair of the Southern California Steelhead Coalition, and Paul Jenkin, Coordinator of the Matilija Coalition, led an informative field trip to the Upper North Fork of Matilija Creek. The topic of discussion was the endangered southern steelhead trout, their habitat, and their role as an indicator of a healthy watershed.

The group hiked up the canyon to a large pool where more than twenty participants gathered around, sitting on the rocks. Over the next hour and a half, Jim presented a clear picture of the lifecycle and habitat needs of native trout in Southern California watersheds.

Jim stated, "Steelhead in southern California live on the fringe of their habitat, on the edge of extinction. Their environment is built and maintained by violence; floods, fire, earthquake, and drought. They survive in the harshest type of environment."

Steelhead have evolved to "hedge their bets" and beat the odds for survival through three strategies:

- 1) Females may re-absorb their eggs and remain in the ocean until the next season if they are unable to reach spawning streams because of drought or other events.
- 2) Some fish may "stray" to other watersheds. Colonizing many rivers and small streams beats the odds of a local disaster such as fire.
- 3) Some fish may remain "resident" rainbow trout, spawning in the stream without migrating to the ocean. However, their offspring may choose to head downstream.

Although water quality, urban development, and other issues impact steelhead, dams are the biggest single limiting factor for this species. Without free passage to the critical habitat above dams, this species will soon become extinct.

Jim explained that our native trout are the ancestors of all rainbow trout. And the native fish in Matilija Creek are "resident" rainbow trout that have the genetics to swim to the ocean and return as steelhead - all they need is the opportunity.

## Events

### Native Plants and Habitat Assessment

**Saturday March 8, 2003 9:30am - noon**

Join David Magney, consulting botanist, for an overview of the vegetation mapping he conducted for the Feasibility Study baseline conditions report. We will walk the river between Hwy 150 and the Robles Diversion and learn the significance of native plants to the ecosystem.

Meet at the corner of Meyer Rd and Oso Rd. Take Rice Road north from Hwy 150, turn/jog left at Fairview. Turn Left onto Meyer Rd at the bottom of the hill. **Wear hiking boots. Contact Paul: 648-4005**

### Explore the River and Farmont Ranch

**Saturday Jan. 11 & Saturday Feb. 8, 2003**

Hike the Farmont Ranch property with Jim Engel. Watershed restoration depends upon preservation of open space lands. Once planned for housing and a golf course, this 1566 acre property will be the largest area protected by a nonprofit in the history of Ventura County! Limited to the first 30 people.

**Call 646-0251 or ovlc@ojai.net**

### Stream Team 2003 Calendar

The Ventura River Volunteer Watershed Monitoring program is now beginning its third year. Baseline water quality data is an important part of watershed restoration efforts, and a great way to get involved. The Ventura River Stream Team meets the first Saturday of the month (except where noted with asterisk), at the Surfrider office, 239 W Main St., Ventura.

**Jan 11\*, Feb 1, March 1, April 5, May 3, June 7, July 5, Aug 2, Sept 6, Oct 4, Nov 1, Dec 6**

Volunteers Needed! To get involved contact:  
Leigh Ann Grabowsky, Program Coordinator  
**(805) 563-5665 lag@sbck.org**  
on the web at: [www.sbck.org](http://www.sbck.org)

## What's Next? Alternatives Screening Analysis

In order to focus the next phase of the study, a preliminary screening of the full range of alternatives is being conducted. A total of 10 general concepts were ranked according to their effectiveness at accomplishing the key objectives of the study: restored habitat, fish passage, beach nourishment, and recreation. Also considered were relative cost and aesthetics. Each of the participating agencies submitted an alternatives ranking, and these were totaled and organized into a matrix. The four highest ranking alternatives (listed below) will most likely be carried forward for analysis during the next phase of the study:

**Full Dam Removal/Natural Sediment Transport:** Dam is completely removed all at once with some sediment removal adjacent to dam for access purposes. The majority of the deposited sediments would remain, for natural transport downstream over time.

**Full Dam Removal/Sediment Stabilization On-site:** Remove entire dam. Stabilize some sediment in place; remainder of sediment placed in upland areas and stabilized. Re-establish stream channel using natural topographic gradient (unlike pool and riffle system).

**Full Dam Removal/Mechanical Sediment Removal:** Dam and sediment is completely removed in one phase. Mechanical transport of sediments to disposal site via trucking, helicopter, slurry, or conveyor. Disposal site may include beaches, landfill, agriculture, etc.

**Incremental Dam Removal/Natural Sediment Transport:** Dam is removed in segments (horizontal notching) in phases, over an extended period of time. The dam will act as a spillway allowing for sediment removal by natural transport as it is notched over time.

Other alternatives being considered are; Pool & Riffle System, Partial Dam Removal/Full Sediment Removal, Partial Dam Removal/Natural Sediment Transport, Full Fish Ladder/No Dam Removal, Restoration of Dam, Fish Tunnel/ Bypass to North Fork Matilija. Each of these options will be described along with a rationale for their elimination in the Alternatives (F4) Report due for completion in June 2003. For more detailed information on the alternatives and screening process, see the matrix posted on our website: go to [www.matilija-coalition.org](http://www.matilija-coalition.org) and click on "feasibility study."



## **Surfrider Foundation®**

Ventura County Chapter  
239 W Main St, Ventura, CA 93001



### **The Matilija Coalition is a program of the Ventura County Chapter of the Surfrider Foundation**

committed to the environmental restoration of the Ventura River watershed

#### **Our Vision of the future is:**

- The Ventura River flowing free from mountains to the sea
- A thriving population of steelhead trout in its waters
- A healthy, native ecosystem
- A wide, sandy beach along the coast
- Opportunities for public enjoyment, education, and recreation for current and future generations

The Matilija Coalition serves as the public voice within the government Feasibility process - visit our website at:

**[www.matilija-coalition.org](http://www.matilija-coalition.org)**

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California Department of Fish and Game  
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Surfrider Foundation  
Ventura County Chapter

Wallis Foundation

and many individuals

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#### **Wish List:**

LCD Projector for  
our presentations