

Matilija

messenger

Spring 2002

Dedicated to the removal of Matilija Dam

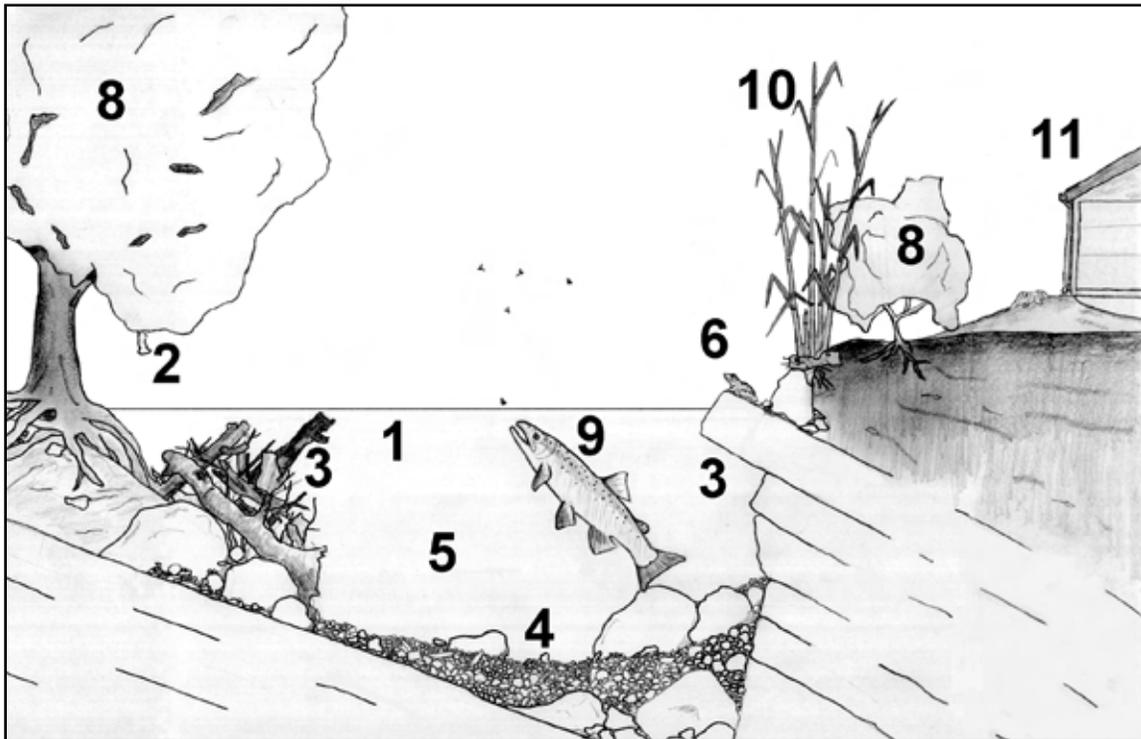


Habitat Evaluation is the Key component of the Matilija Dam Ecosystem Restoration Feasibility Study that began in June 2001. The multi-agency "Environmental Working Group" will use scientific methods to estimate the present and future habitat value of the Ventura River. This important analysis will predict the potential ecological benefits and feasibility of removing Matilija Dam from the Ventura River.

Placing a Value on the Ecosystem

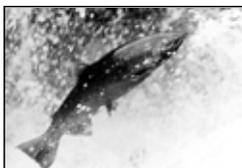
Habitat Evaluation Procedure (HEP) uses aerial photography, computer mapping, and field surveys to estimate the habitat value of an ecosystem. The Matilija Dam study area includes the entire floodplain of the river from the dam and reservoir downstream to the coast. Habitat values will be estimated based upon the project's objectives: the restoration of the ecosystem to provide renewed fish habitat and restored sediment transport to the coast.

How is this accomplished? GIS (Geographic Information System) maps like the one shown on the cover of this newsletter are computer generated from aerial photos. "Polygons" are drawn around distinct watercourse and vegetation areas, and each is given a numerical habitat value based upon the criteria illustrated below. The sum of all these values for the entire study area represents the total habitat value of the ecosystem.



Fish Habitat: Steelhead spawning and rearing

- 1. Pools:** Provide spawning, rearing, and resting areas for migrating fish; perennial water during drought.
- 2. Stream edge cover:** Creates shade, keeps water cool.
- 3. In-stream cover:** Rocks and logs provide shade and hiding places.
- 4. Substrate type:** Gravel is required for spawning.
- 5. Water quality:** Fish need specific ranges of DO, pH, Temperature.
- 6. Exotic predators:** Non-native species like bullfrogs feed on steelhead eggs & young.
- 7. Barriers:** Migrating Steelhead cannot access high quality habitat above of the dam.



In their quest to reach spawning waters, steelhead can jump over waterfalls over six feet high!

Steelhead Habitat

To support a population of anadromous (ocean-going) Steelhead trout, a river must provide a "highway" for fish to migrate from mountain streams to the ocean and back.

Steelhead returning from the ocean may measure up to 36 inches long, yet can swim in as little as seven inches of water.

Once upstream, the trout need good spawning streams free from exotic predators, high dissolved oxygen levels, gravel in which to lay and incubate eggs, and adequate flows to transport fine sediments downstream. Low gradient riffles,

Riparian Habitat: floodplain vegetation

- 8. Native vegetation:** Native plants are the backbone of river ecology.
- 9. Threatened and endangered species:** Extra emphasis is placed on areas where special species exist.
- 10. Arundo Cover:** The giant reed *Arundo donax* displaces native vegetation and uses more water.
- 11. Adjacent Land Use:** Development or agriculture affects habitat potential.

Physical Processes:

- 12. Natural sedimentation:** Sediment trapping by the dam affects downstream geological processes.
- 13. Natural hydrology:** Natural flow is altered by dam.

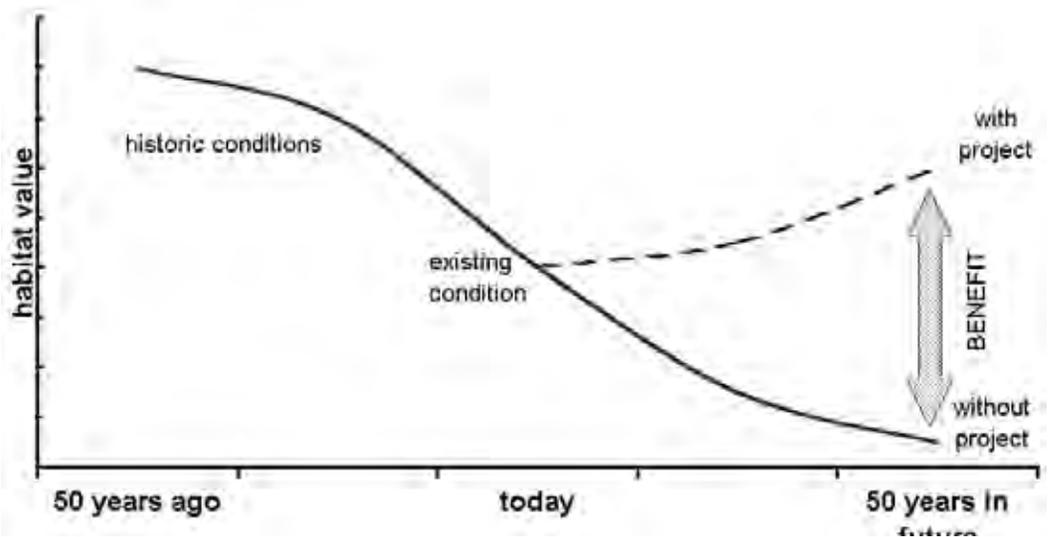
runs, and glides are ideal for juveniles, as are abundant rocks and woody debris that provide protection from predators. Native trees and plants provide shade that cools the water.

The greatest single threat to the future survival of this endangered species is man-made barriers that prevent migration to and from the critical habitat found in cool mountain streams. Removing Matilija Dam will re-open the upper Ventura River watershed, providing access to approximately nineteen miles of steelhead spawning and rearing habitat in Matilija Creek.

(Sources: Chubb, U.S. Forest Service. 1997; Finney, Kevin, and Edmondson, Jim, *Swimming Upstream*, 2000)

Showing the Benefits of Restoration

Placing a numerical value on the ecosystem allows for comparison of past, present, and future conditions within the watershed. This diagram serves to illustrate how Habitat Evaluation is used to determine the potential future benefits of a restoration project. In this example, the solid line indicates that the free-flowing river of 50 years ago had a relatively high habitat value as compared to today's conditions.



The HEP analysis is first

used to evaluate the current conditions and compare them to the future "without project" scenario (i.e. leaving the dam in place). In this example, the solid line shows that the habitat value continues to decrease in the future if the dam is left in place. This indicates the need for a restoration project.

In the next phase of the study, the effects of various "restoration alternatives" are evaluated. Information from technical studies will be used to predict changes in the river's habitat value within each of the proposed project alternatives. The dotted line shows how a theoretical project may increase the value of the ecosystem in the future.

This procedure provides a framework to objectively evaluate the restoration alternatives. The final recommendation to the decision makers will depend upon this evaluation of the Ventura River ecosystem.

For more information on the Feasibility Study see www.matilijadam.org

(Note: This diagram is for illustration purposes only, and does not reflect actual data)

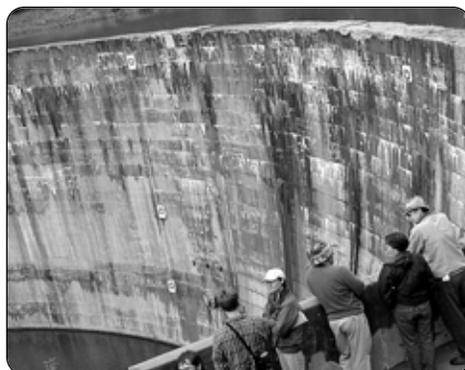


Sammy steelhead and Arundo Donax at the Ventura County Supervisors board room.

Board of Supervisors meets Sammy!

On April 8, 2002, the Matilija Coalition participated in "Our Wondrous Wetlands", a presentation to the Ventura County Board of Supervisors. Our PowerPoint presentation highlighted the value of the watershed approach to wetlands and ecosystem restoration. The event also included presentations by Joan Hartman of the Wetlands Recovery Project, and Peter Brand of the Coastal Conservancy.

The highlight of the morning was a surprise visit by Sammy the Steelhead, who was chased through the boardroom by Arundo donax (giant reed), our watershed's most invasive plant species. Comic relief made the point! Special thanks to Save Our Wild Salmon for lending the costume, and volunteer Julianna Krolack (above).



March Field Trip A Success

Damp weather did not deter over thirty-five people from enjoying our March 23 field trip to Matilija Dam.

Following an introductory talk at the Ventura County Public Works Storage Yard in Ojai, the participants made their way to the dam, where Joel Sturm of the Bureau of Reclamation further educated the tour participants on the sediment core sampling in Matilija Reservoir. Thanks also to Darla Wise and Bill Carey from Watershed Protection.

Community Events

Field Trip - Matilija Creek

August 10, 8:30 - 11:30 am
Join CalTrout Conservation Director Jim Edmondson for a short hike to the trout habitat above Matilija Dam. Jim will explain our watershed's value and the conditions needed for trout survival in California's rivers. Meet at the Forest Service trailhead at the end of Matilija Canyon Road. Be prepared to hike about 3 miles round trip. Wear hiking shoes and a hat, and bring water and a snack.

Ventura River Stream Team, 2002 Events

The Ventura River Watershed Volunteer Monitoring Program is now in its second year. Our monthly events gather water quality data that provides valuable information on the 'health' of the watershed. Our 2001 data is included in the baseline habitat evaluation, and ongoing monitoring will document changes in the watershed before, during, and after dam removal.

Where: Surfrider office
239 West Main Street,
Ventura

When: First Saturday every month,
9:00 AM - 1 PM

June 1, July 6, August 3,
September 7, October 5

Be prepared to get your feet wet

Surfrider Foundation

Ventura County Chapter

239 W. Main Street, 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 for 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

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The work of the Matilija Coalition is made possible by generous support from:

Great Pacific Ironworks

Looker Foundation

Patagonia Inc

Real Cheap Sports

Ventura County Chapter of the Surfrider Foundation

Wallis Foundation

and Many Individuals

We are pleased to announce the award of a 2 yr grant from the California Department of Fish and Game from their Salmonid Restoration Fund!

Very special thanks to Judy Greenstate who donated funds for a laptop computer!