

Working
collaboratively to
protect and restore
the waters and lands
of Tomales Bay
watershed



WINTER 2004

Bulletin

NUMBER 3

From Planning to Action

A Restoration Milestone

Three years of work on behalf of the Tomales Bay watershed culminated in August 2003 with adoption of a 145-page Stewardship Plan. The Tomales Bay Watershed Council, whose members are listed on page 3, took the first steps toward developing this set of guidelines in January 2000. A product of our consensus process, the Watershed Stewardship Plan was unanimously adopted by the Council.

In the coming years, as we continue to work together, TBWC will strive to live up to the Plan's vision, taking steps toward improving the quality of water and native habitats while supporting healthy, rural communities and sustainable land uses in the watershed. Adoption of this Plan was just a preliminary step in protecting the bay and its watershed. Emphasis now shifts from planning to implementation.

The Council has changed in some significant ways during the last year. We have four new members: Marin

County Farm Bureau, Inverness Yacht Club, and two community members, Tom Baty and Carlos Porrata. We have adopted a three-person rotational system of Chair, Chair Emeritus and Vice-Chair, each with a one-year term. Stan Gillmar is our new Chair as of our annual meeting in October 2003; Michael Mery is now Chair Emeritus; and John Finger is Vice-Chair. We will now meet six



Arroyo Creek, San Geronimo Valley. Streams and ground water are the watershed's circulatory system.

Photo by Reuven Walder



Each summer since 1999, SPAWN volunteers have rescued juvenile coho salmon and steelhead trout from parts of the Lagunitas Creek watershed that dry up. In 2004, the project will surpass 10,000 young fish saved.

Juvenile Fish Rescue

times a year rather than monthly, on the third Tuesday of the month in January, March, May, September, October (the Annual Meeting), and December.

Plan implementation will require more committee work, where the focus is on specifics rather than policy. Council members' time commitments will be increasing during this phase but with less need for the entire group to assemble. As has been the case from our first meeting, all meetings are open to the public and the meeting dates are posted on the website. We hope to see you soon.

Our hopes are high, and the tasks we have outlined are complex and long-term. The greater the public involvement in this process, the better our chances for success. The quality of our environment is not an accident. It is the result of efforts by many who went before us, and now it's our turn. That 'our' includes you and all of the readers of this newsletter.

—Michael Mery, Council Chair Emeritus

Reuven Walder

The View Ahead



Photo by Richard Blair

Ocean, estuary, tidal marsh, freshwater marsh, stream, uplands: the Tomales Bay watershed is an intimate mosaic bound together by water.

Tomales Bay Watershed Council (TBWC) has built momentum during the last year, working to implement the programs and projects identified in the Stewardship Plan. The first of these action items is already under way. TBWC's Water Quality Committee prepared the Tomales Bay Water Quality Monitoring Plan, which the Council adopted in December 2003.

To support the development of this program, a Water Quality Technical Advisory Committee formed in 2003. It includes staff from Point Reyes National Seashore, U.C. Cooperative Extension, and the Regional Water Quality Control Board. The primary goal at this time is to obtain comprehensive and consistent data on water quality within the watershed. Later this spring, a database manager will come on board.

The Stewardship Plan also calls for the Council to support practices that will reduce nonpoint sources of pollution and enhance habitats in the Tomales Bay watershed. In 2003, the Council helped coordinate assessment and remediation activities in the Lagunitas

Creek watershed in cooperation with the Marin Resource Conservation District, SPAWN, the Regional Water Quality Control Board, Trout Unlimited, National and State Parks, and other partners. We will work with other stakeholders to develop sound management guidelines for a range of watershed uses.

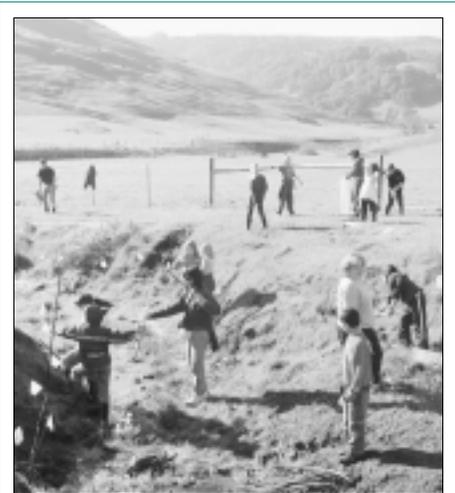
The Plan's third action item is to assess, protect and restore key habitats for species of local interest. TBWC's Habitat and Science Committees is working on a list of such species, and we have also prepared a report summarizing the last ten years of information on coho salmon and steelhead, to guide future activities.

Last but not least, the Council promotes and supports public outreach and education. Our Outreach Committee has created a wonderful website; please visit www.tomalesbaywatershed.org. The annual newsletter you are reading is another aspect of TBWC outreach.

Even with donation of thousands of volunteer hours by watershed stakeholders, preparation of the Stewardship Plan has required funding for rent, telephones, contract staff, printing and other usual costs. We have been very fortunate during the last three years to have the financial support of the County of Marin, Marin Community Foundation, State Coastal Conservancy, California Department of Fish and Game, and others. As we set about implementing actions in the Plan, we will adjust our operational structure to focus on achieving our goals; we'll also seek longer-term sources of funding.

On behalf of TBWC, I want to extend thanks to Michael Mery for piloting our group of watershed stakeholders through our first three years with skill and tenacity, and for his ongoing participation.

—Stan Gilmar,
Council Chair



Courtesy Marin RCD

Local private landowners have been working for the last 10 years with Marin Resource Conservation District and Students and Teachers Restoring a Watershed (STRAW), to restore riparian corridors in the Tomales Bay watershed. Agricultural land stewardship is critical to the protection of aquatic habitats, water quality, and the integrity of streams that flow through the landscape and into Tomales Bay. Financial and technical support to achieve these goals is provided by local, state and federal assistance programs.

Agricultural Land Stewardship

To be added to the mailing list, please contact us at:

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Funds for Lagunitas Creek Coho and Freshwater Shrimp

Lagunitas Creek Watershed Improvement Project

The Lagunitas Creek watershed supports the strongest wild coho population remaining in Central California and is a statewide priority for salmonid protection and recovery. In 2003, the State Water Resources Control Board awarded a grant of \$500,000 to the Marin Resource Conservation District for the Lagunitas Creek Watershed Improvement Program. To implement the new program, the RCD is working—through Tomales Bay Watershed Council—with Marin Municipal Water District, Regional Water Quality Control Board, Point Reyes National Seashore, SPAWN, Tomales Bay Association, and other organizations including Trout Unlimited.

What are the factors influencing population dynamics of salmonids and California freshwater shrimp in Lagunitas Creek? The search for answers will start with an evaluation of specific aspects of the stream system that may limit salmonids during different life stages. The assessment will consider, for example, scouring and loss of eggs from redds (nests) during winter storms and the

effectiveness of woody debris structures placed in years past as refuges for juvenile fish.

A major thrust of this program will be to identify and then implement priority projects, specifically to control erosion and sediment loading in San Geronimo and mainstem Lagunitas creeks.

To volunteer your time or request more information, please contact one of the local groups involved or the Watershed Council. Ongoing salmonid monitoring programs rely on volunteers, and your help is needed.

—Richard Plant, Marin Resource Conservation District

—Neysa King, Tomales Bay Watershed Council



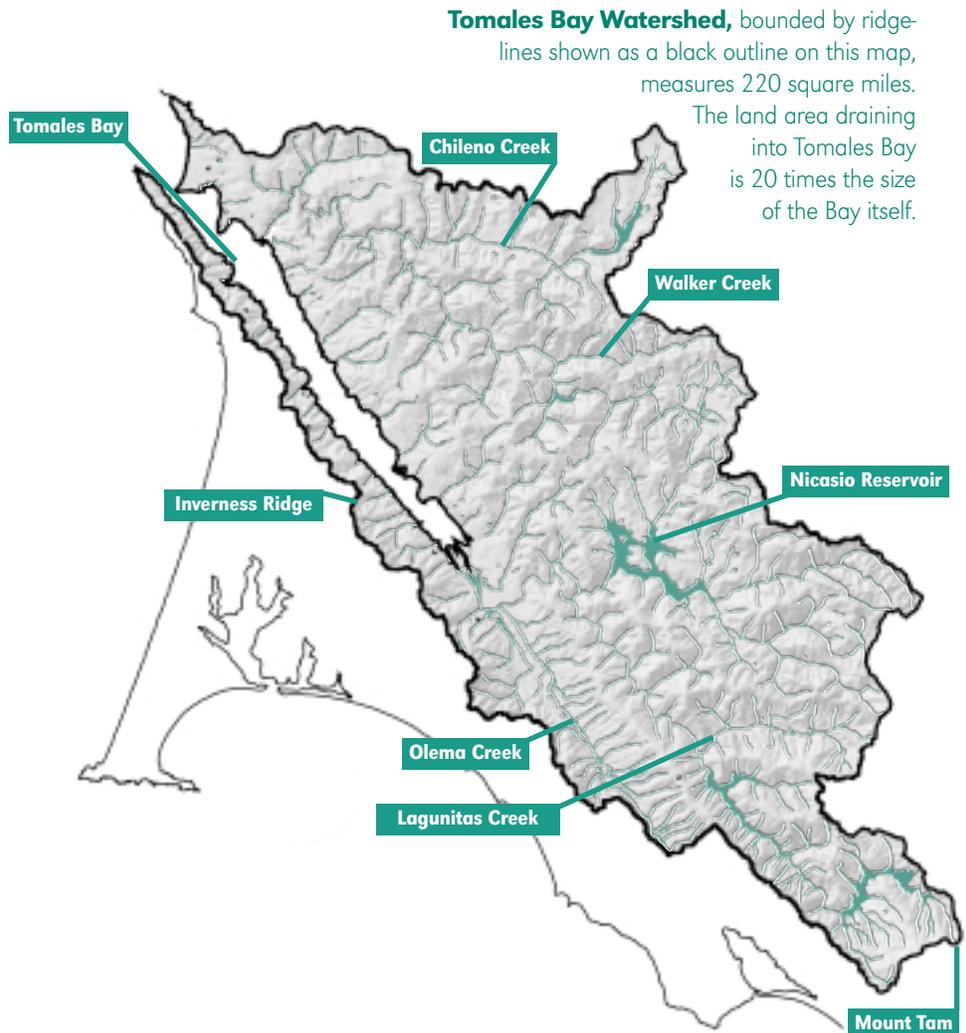
On May 17th, 2003, trained local volunteers took a “snapshot” of the water quality in the Tomales Bay Watershed. Snapshot Day, a coordinated annual effort throughout coastal California, provides a perspective on water quality in different watersheds.

Water Quality Monitoring

Tom yarish

Tomales Bay Watershed Council Members & Affiliations

Jerry Abbott, *Inverness Yacht Club*
Tom Baty, *Watershed Stakeholder*
Bob Berner, *Marin Agricultural Land Trust*
Catherine Caufield, *Environmental Action Committee of West Marin*
Liza Crosse, *San Geronimo Valley Planning Group and Aide to County Supervisor Steve Kinsey*
John Finger, *Hog Island Oyster Company*
Alex Forman, *Marin Municipal Water District*
Ken Fox, *Tomales Bay Association*
Sally Gale, *Marin County Resource Conservation District*
Robert Giacomini, *Tomales Bay Agricultural Group*
Stan Gillmar, *Inverness Association*
Ann Grymes, *East Shore Planning Group*
Alex Hinds, *Marin County Community Development Agency*
Dale Hopkins, *San Francisco Regional Water Quality Control Board*
John Kelly, *Audubon Canyon Ranch, Cypress Grove Research Center*
Marty Knapp, *West Marin Chamber of Commerce*
Gregg Langlois, *California Department of Health Services*
Tom Lindberg, *California Department of Parks & Recreation*
Kate McClain, *Blue Waters Kayaking*
Michael McClaskey, *Point Reyes Village Association*
Michael Mery, *Watershed Stakeholder*
Don Neubacher, *Point Reyes National Seashore*
Paul Olin, *U.C. Cooperative Extension, Sea Grant*
Carlos Porrata, *Watershed Stakeholder*
Sally Pozzi, *West Marin Farm Bureau*
Gail Seymour, *California Department of Fish and Game, Watershed Protection and Restoration Program*
Ed Ueber, *Gulf of the Farallones National Marine Sanctuary*
Bill Vogler, *Lawson's Landing*
Reuven Walder, *Salmon Protection and Watershed Network*



Tomales Bay Watershed, bounded by ridgelines shown as a black outline on this map, measures 220 square miles.

The land area draining into Tomales Bay is 20 times the size of the Bay itself.

Water Quality Report Card: Tomales Bay Watershed, 2004

Microorganisms found in the waters of the Tomales Bay watershed

Some small organisms found in fresh and saline waters in the Tomales Bay watershed pose a risk to human health. Several are profiled here. **Ways to reduce human-related loadings** of these organisms to the system: properly maintain your septic system; reduce agricultural run-off; reduce domestic animal contaminated run-off; and use restrooms and appropriate waste containers when boating and recreating on the Bay.



Norwalk virus

is named for the first recorded epidemic attributed to this virus in Norwalk,

Ohio, in 1968. Norwalk and Norwalk-like viruses are found worldwide, with humans the only known hosts: they are passed in the stool of infected persons. A number of oyster-related outbreaks of intestinal illness linked to Norwalk-like viruses have been reported in states where oyster harvesting is common. In 1998, approximately 170 people reported becoming ill after eating oysters that were harvested in Tomales Bay. Although the source of this contamination was never pinpointed, the Norwalk-like virus that caused the illnesses can only be attributed to human fecal contamination. As a result, sewage disposal via correctly functioning septic systems and from boating activities has become a priority issue of concern in Tomales Bay.

■ *An annual report to the citizens of and visitors to Tomales Bay Watershed.*

■ Problem: Watershed Health

Tomales Bay, Walker and Lagunitas creeks are recognized by the State of California as being impaired by excessive levels of sediment, nutrients, mercury and coliform bacteria. Elevated levels of these contaminants affect the health of the aquatic systems and human activities, and have resulted in posted advisories at local beaches to warn swimmers and kayakers of high bacteria levels, oyster harvesting closures, degraded salmonid habitats, and degraded marine habitats.

■ Action: Monitoring Water Quality

Developing and implementing a water quality monitoring program is the first step in implementing the Stewardship Plan for the Tomales Bay Watershed. This high priority program has been recognized by all partners as the only way to monitor trends in water quality in the Bay and its tributaries, as well as a way to measure the effectiveness of our efforts to improve water quality and watershed health through time.

■ Step One: Database

During the fall of 2003, many of the Council's partners (e.g. the Regional Water Quality Control Board, Point Reyes National Seashore, U.C. Cooperative Extension, Salmon Protection and Watershed Network, and local residents) participated in the development of a long-term trends and source area monitoring plan for the Tomales Bay watershed. The first step in implementing this plan will be to develop a database during 2004 where all of the existing water quality information that has been gathered in the Tomales Bay watershed will be input, and data analysis will ensue to identify priority issues and trends where possible. These results will be included in the next Council newsletter during winter 2004-05.

Water Quality Report Card: Tomales Bay Watershed, 2004

■ First Report: Beach closures due to *E. coli* and coliform excesses

Human health advisories were posted to warn against swimming at a number of popular swimming beaches on Tomales Bay and along Lagunitas Creek during 2003. The County of Marin has implemented a water quality monitoring program to evaluate conditions for recreational activities, and found that some of the most popular swimming spots were not meeting state standards. Chicken Ranch Beach, Inkwells, and spots along Lagunitas Creek in Samuel P. Taylor State Park and near the Green Bridge were frequently found to be in excess for total coliform, *E. coli*, and *Enterococcus* bacteria.

As the Environmental Action Committee of West Marin recently reported in their newsletter (see www.eacmarin.org), some of these testing sites exceeded state standards and were posted for over 100 days between April and October 2003. One-half of the sites (or 8 of the 16 West Marin swimming spots) tested on a weekly basis did meet state standards for recreational contact activities. For current Marin County beach water quality information go to www.earth911.org/waterquality.

■ Volunteer water quality monitoring: May 2003

TBWC participated in the coastwide Snapshot Day in May 2003. Snapshot Day is a one-day monitoring event where watershed groups partner with state and regional agencies and interested citizens to collect water quality data in their waterways, using standardized protocols. Council members and local volunteers collected samples at more than 15 locations in the Tomales Bay watershed. The following creeks exceeded the established standard for *E. coli*, which is 235 MPN/100 ml., per EPA Ambient Water Quality Criteria: Haggerty Gulch (2,419.20 MPN/100ml); Lagunitas Creek (261.30 MPN/100ml); Olema Creek (387.30 MPN/100ml); and Tomasini Creek (261.30 MPN/100ml). Miller Park Pier exceeded the transparency (clarity) standard of not less than 25 cm. (it was 12.10 cm).

■ Future comparisons

Each year the Council will distribute a watershed report card to evaluate the condition of fresh and marine waters in the watershed during the previous year. Please keep this card for future reference.



E. coli and other kinds of bacteria within our intestines are necessary for us to develop,

function properly, and remain healthy. Approximately 0.1% of the total bacteria within an adult's intestines (on a Western diet) is *E. coli*: billions of these creatures are actually helping to digest our food. The rare strain of *E. coli* is *E. coli* O157:H7. This strain appears to have been infected with a bacterial virus that inserted its own DNA into the *E. coli*'s chromosome, where it remained. This virus's genes unfortunately contained information for the production of a powerful toxin called Shiga-like toxin (SLT) or Vero toxin. Consequently, *E. coli* O157:H7 produces this toxin, capable of breaking down the lining of the intestine in humans and causing severe illness.



Giardia is a protozoan that can exist in surface water and infect the intestinal tracts of

humans, dogs, cats and a variety of wildlife. *Giardia duodenalis*, the cause of the malady giardiasis, is a one-celled microscopic parasite found in every region of the world—and one of the most common causes of waterborne illness. The illness it causes is characterized by nausea and fatigue, followed by severe diarrhea that can last more than 10 days. The tough *Giardia* cysts can survive in the environment for a long time, in extreme conditions, but can be killed by boiling, drying, and freezing/thawing.

Of Interest to You

www.tomalesbaywatershed.org.

The Tomales Bay Watershed Council **website** offers you added information on Bulletin stories, current events, upcoming activities, working documents, and local water quality information. We aim to frequently update documents and links to other organizations, agencies, and data sources. Summaries of the meetings of active committees are posted so that you can be aware of and participate in the Council's efforts.

All Council **meetings** are open to public, and we look forward to growing support and involvement!

Community members able to **volunteer** specialized fundraising, administrative, or scientific skills are invited to contact the Council office.

—Tom Yarish, Outreach Committee Chair

**To help cover TBWC operating costs,
you may make a tax-deductible contribution.
Checks are payable to Marin RCD/TBWC.**



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Ongoing monitoring of water quality in tributary creeks is just one of the actions under way for Tomales Bay stewardship.

Water Quality Monitoring

TBWC Collaborations

For Stewardship Plan implementation (see pp. 1 and 2), the list of active partnerships, fundamental to Tomales Bay Watershed Council, is expanding and includes:

- Participation in Council committees by local volunteers from numerous organizations and communities in the watershed, in addition to dedicated staff time by several agencies.
- Essential facilities support and staff expertise in habitat and water quality management from Point Reyes National Seashore.
- Local volunteers joining TBWC to assist in the state-wide coastal monitoring Snapshot Day on May 17, 2003. See "Watershed Report Card" in this Bulletin.
- Community volunteers, State Parks, local organizations, and businesses helping collect debris from the bay shores, in the Tomales Bay Clean-up, coordinated in the past two years by TBWC.
- Support from the Marin Resource Conservation District and the Inverness Foundation as fiscal sponsors for TBWC.

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