



# TRUCKEE RIVER CURRENTS

SUMMER 2014

## Working in the Watershed

### 1. WATER-QUALITY MONITORING

Our years of monitoring data, along with recent analysis, have established that the Truckee River is losing benthic macro-invertebrates (water bugs)—the very base of the aquatic food web.



### 2. RIVER-FRIENDLY LANDSCAPING

RFL homeowners are improving water quality and protecting our creeks by reducing erosion from their yards. Together they've already reduced 100 tons of soil erosion!



### 3. TRUCKEE RIVER DAY

Since 1996, over 5,000 volunteers have restored hundreds of acres of meadows and hundreds of feet of stream bank.



### 4. TRUCKEE WETLANDS

We're working with several partners to restore many acres of wetlands in the heart of Truckee. The wetlands start near Hilltop and continue to north to the Truckee River.



### 5. MIDDLE MARTIS

We'll begin working this year to re-water 50 acres of meadow, preserve wetlands, improve water quality, and protect Thompkins Memorial Trail, Sawmill Flat Road, and Highway 267 from flooding.



### 6. RIVER REVITALIZATION

To start revitalizing The River in downtown Truckee, the Town awarded \$310,000 to the Watershed Council and the Truckee Donner Land Trust.



### 7. WEED WARRIORS

To support native plant habitat along the Truckee River, in June 2014, Weed Warriors removed more than 10,000 musk thistle plants as well as thousands of other non-native invasive plants.



### 8. AQUATIC INVASIVE SPECIES (AIS)

We're helping protect Donner, Prosser, Boca, and Stampede from AIS. Infestation can damage boat propellers and intakes, facilitate invasions of more non-native species, and increase pollutants like phosphorous and algae.



Volunteer Opportunities	2
The Silent Offender: Sedimentation	3
Middle Martis Creek Wetlands Restoration	4
TRWC Donors	6
Truckee River Day	7
Together for the Truckee	7
Keep Donner Lake Blue	8
Special Thanks to Private Foundations	8



Truckee River Watershed Council  
Collaborative solutions to protect, enhance and restore the Truckee River Watershed

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### COORDINATING COMMITTEE

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Co-Chair, Truckee River Basin Water Group

**David Lass**

Chair, Projects and Assessments Committee

**Robie Litchfield**

Chair, Truckee River Day  
Steering Committee

**Joanne Roubique**

Chair, Watershed Issues Forum

**Laurie Soule**

Co-Chair, Truckee River Basin Water Group

**Jacqui Zink**

Vice Chair, Projects and Assessments  
Committee

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Organizations are for identification  
purposes only

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**Kathy Whitlow**

Green Bucks Program Manager

# Everyone Can Help the Truckee River!

*Do you love the river? Are you looking for something more that you can do? There are many ways to help the Watershed Council protect, enhance, and restore the Truckee River watershed.*



**Weed Warrior removes invasive Musk Thistle at a Weed Pull event.**



**Our Adopt-A-Stream volunteer measures the water's pH and temperature.**



**Sediment from an eroding bank at a Donner Lake property will eventually run into the lake, having a significant impact on water quality.**

## Become a Weed Warrior

Weed Warriors prevent and control invasive weeds in the Truckee River watershed. Weed Warriors support native habitat and water quality by searching the watershed for infestations, reporting them to headquarters, and then dispatching a brigade of other warriors to remove or otherwise eradicate the invaders.

*To become a Weed Warrior, contact Jeannette at (530) 550-8760 x6.*

## Join Adopt-A-Stream

### Chemical, Physical, and Habitat Monitoring

Join Adopt A Stream and commit to monitoring a stream four times a year, May through September. Volunteers complete chemical and physical monitoring (take measurements such as temperature, conductivity, pH, dissolved oxygen, turbidity and habitat characteristics, including sketching and photographing the stream/habitat). We train the teams and provide all the equipment and supplies.

*To join a team or adopt a stream, call Erin at 530-550-8760 x7.*

### Biological Aquatic Monitoring

Collect and identify benthic macroinvertebrates (aquatic bugs and organisms) from local streams. The types of bugs found in a stream are strong indicators of water quality. Volunteers participate in field sampling events each summer and twice monthly lab sessions each winter.

*To volunteer, call Beth at 530-550-8760 x1.*

## Become an Ambassador

One of the best ways to help is by spreading the word. We're looking for individuals who can invite 10 people to a River Talk to learn more about our watershed. Host a River Talk at your home or work, or invite friends and colleagues to our office. The River Talk is a one-hour virtual tour of a few of our projects. We won't ask for a financial contribution, but we will welcome comments and feedback.

*To become an Ambassador, call Michele at 530-550-8760 x4.*

## Implement River-Friendly Landscaping

River-Friendly Landscaping helps homeowners improve water quality by reducing sediment flowing from our yards into the creeks and streams. Sediment is a major source of pollution in the Truckee River watershed, and an estimated 3 tons of soil can move off a residential property in a year! Get a free site evaluation to identify erosion sources on your property. A \$1,000 rebate is available to help off-set the cost of installing erosion control measures.

*To schedule a FREE site evaluation, call Erin at 530-550-8760 x7.*



# The Silent Offender: Sedimentation

At first glance, the winding 35-mile stretch of the Middle Truckee River and all of its tributaries may look pristine, but in fact they are classified as impaired (polluted) because of excessive sediment levels (Total Maximum Daily Load for Sediment – Middle Truckee River Watershed – Placer, Nevada, Sierra Counties, by the California Regional Water Quality Control Board, Lahontan Region, 2008).

The Truckee River Watershed Council has spent time developing and implementing a robust monitoring program to fully assess the condition of the Middle Truckee River. This set of monitoring data focuses on the relationship between the biological conditions, or the living components within the ecosystem, and sediment deposition within the river and tributaries.

Results from monitoring suggest that there are significant differences in biological conditions starting with sediment coverage of only 20%! There are two sets of differences: 1) a decrease in both the quantity and quality of food resources (aquatic insects) at the base of the food web, and 2) a shift toward aquatic insects more tolerant of poor water quality. At 80% or greater sediment coverage, there are significant decreases in the biological condition within the Truckee River and its tributaries.

What does this mean for *our* watershed?

***At 80% or greater sediment coverage, there are significant decreases in the biological condition in the Truckee River and its tributaries.***

Land and water uses from any part of the watershed—such as polluted run-off from highways, trails, yards, forests, ranches, and towns, eventually lead to increases of sedimentation in the river and streams. Through our monitoring, we have found this increase can cause a change and loss of aquatic organisms at the base of the food web which will then affect larger species, such as our fish. This trickle-down effect is what the Truckee River Watershed is working to stop at the source.

Each one of us can make a difference. Our Adopt-A-Stream and aquatic monitors are always looking for volunteers to continue valuable monitoring sessions. The River-Friendly Landscaping program works towards reducing the negative impacts that erosion and sedimentation can cause. Through these programs along with our restoration projects, the Watershed Council is working to reduce sedimentation and restore our watershed so that we can have a biologically rich ecosystem for the flora and fauna to thrive in.

*Thank you to the donors of the Truckee River Watershed Council, the Lahontan Community Foundation, and the California Natural Resources Agency for supporting our water quality monitoring programs.*

*See page 2 to learn how you can prevent erosion or help us monitor the water quality of the Truckee River.*



JON BAIOCCHI

**The supplies above are needed to monitor water quality.**



JON BAIOCCHI

**A volunteer collects a sample to test for turbidity, which impacts sedimentation.**

# In the Permits Phase: Middle Martis



TRWC

Restoration will reduce flood velocities, preventing further erosion near the Middle Martis Channel.

## History

Prior to the construction of Highway 267 in the 1800's, Middle Martis actively migrated among several channels in Martis Valley. When Highway 267 was constructed, the creek was confined to a single channel on the south side of the highway. The confinement of Middle Martis Creek to a single channel caused several significant problems including:

- Channel instability, erosion, and head-cutting in the streams and meadows of the Martis Wildlife Area;
- Degradation of 40-plus acres of meadow and wetland habitat;
- Moderate flows (vs. flood flows) overtopping the stream channel and flowing onto Highway 267 and eroding Sawmill Flat road.

## Restoration

The Truckee River Watershed Council, along with several partners and foundations, is taking part in restoring Middle Martis Creek. The Middle Martis Restoration project will restore an appropriate portion of the flow to the north side of Highway 267, while maintaining sufficient flow on the south side to support existing wetlands and riparian areas.

## THE LIFECYCLE OF A PROJECT

### PROJECT SCOPING

The first step in a restoration project is to identify the problem, what might be causing it, and what might be some solutions.

### INVENTORY AND ANALYSIS

Field surveys take place, historic and aerial photos are collected, hydrologic modeling is conducted, and historic and pre-historic sites are identified. The data are analyzed to understand root causes and constraints.

### DESIGN

From the analysis, detailed plans for completing the project are developed.

### PERMITS

Working with the local, state and federal agencies, we complete environmental reviews, such as CEQA (California Environmental Quality Act) and NEPA (National Environmental Policy Act) and obtain permits needed to begin work.

### CONSTRUCTION

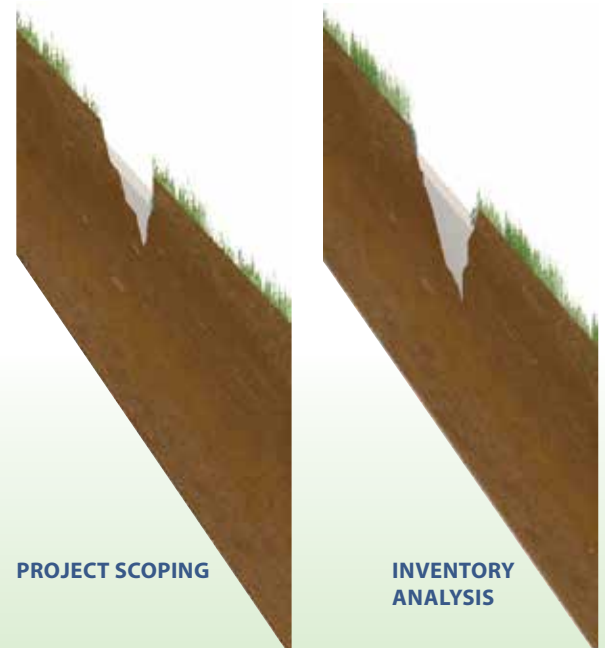
In this phase, the restoration work is implemented according to the project design and permits.

### MONITORING

Monitoring helps us understand compliance with the design and effectiveness of the restoration actions.

### ESTABLISHMENT

The restoration work is completed to the point where ongoing protection such as fencing is no longer needed. Revegetation and other success criteria have been met and the site is allowed to develop naturally.



PROJECT SCOPING

INVENTORY ANALYSIS



# Creek Wetland Restoration

## Implementation

Implementation of the project will be split into two seasons, beginning in 2014. When completed, the project will achieve significant watershed benefits including:

- Restoration of historic wetlands on the north side of Highway 267;
- Improvement in water quality through reduction of excessive sedimentation;
- Preservation of existing wetlands and riparian areas on south side of Highway 267;
- Elimination of erosion across the Waddle Ranch access road;
- Protection of existing infrastructure and reducing maintenance of Highway 267, Sawmill Flat Road, and the Northstar golf course.

The Watershed Council is the lead in coordinating the project and the partners. Project partners are Caltrans, Northstar at Tahoe, Northstar Community Services District, Truckee Donner Land Trust, Truckee Tahoe Airport District, and the U.S. Army Corps of Engineers.

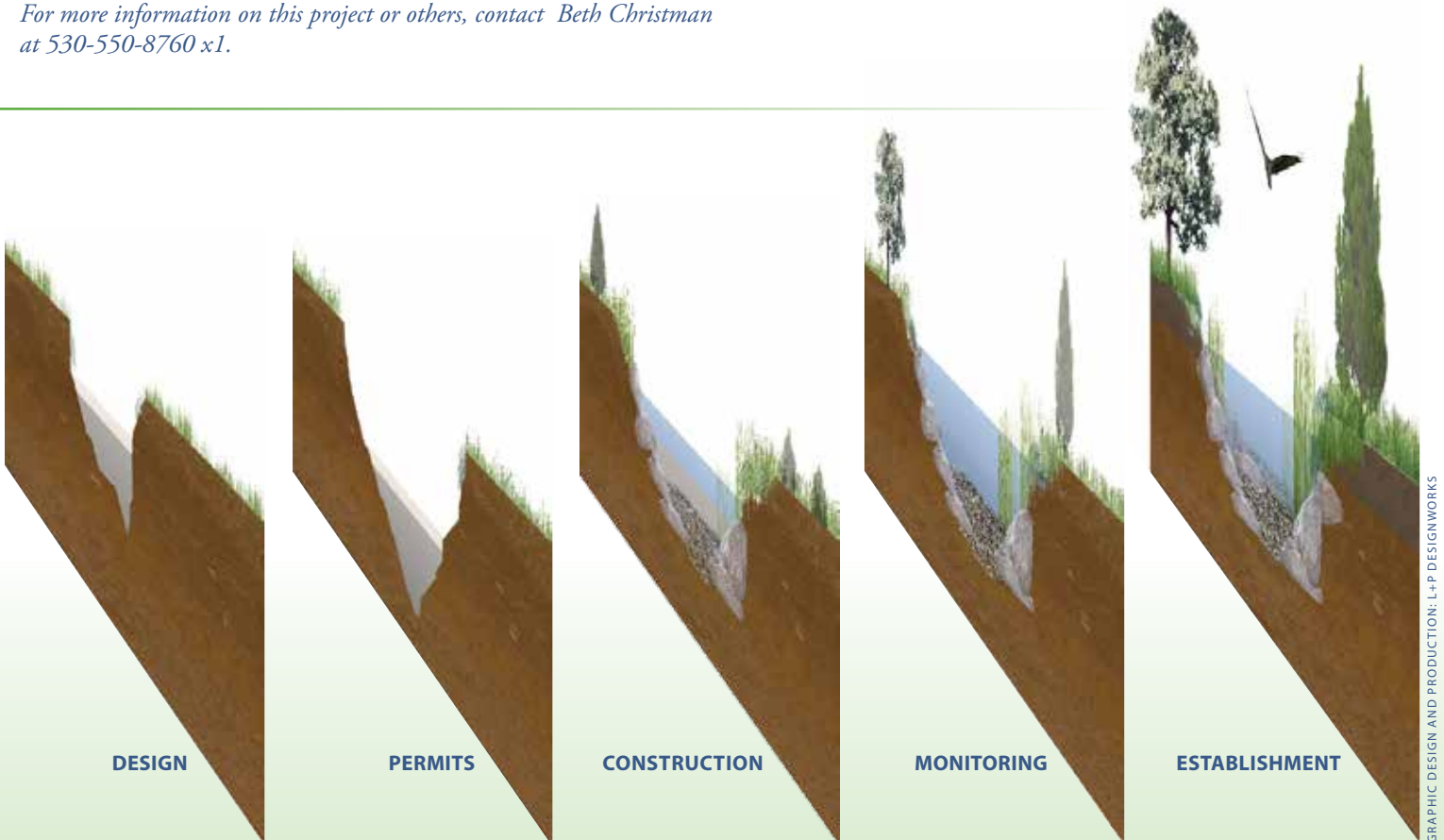
*Thank you to our generous funders! Funding for this project comes from the donors of the Truckee River Watershed Council, the Martis Fund, the Truckee River Fund, Placer County, and the State of California.*

*For more information on this project or others, contact Beth Christman at 530-550-8760 x1.*



TRWC

**Fill was placed in the channel during reservoir construction, causing downstream erosion. The fill will be removed to prevent future erosion.**



GRAPHIC DESIGN AND PRODUCTION: L+P DESIGNWORKS

# Donors to the Truckee River Watershed Council

We thank the following donors who made contributions since November 2013. They provide resources to find solutions to protect, enhance and restore the Truckee River watershed. Together we are making a difference. (Please see page 7 for pledges to the Together for the Truckee Society.)

## \$1,000 – \$2,500

Balance Hydrologics, Inc.  
Chris Beckstead and Richard Chew  
Habitat Restoration Sciences,  
a Dudek company  
The Integrity Coach  
Mary E Reilley and James Krieg  
Joanne Roubique  
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Richard Anderson  
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## \$100 – \$499

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Theresa May and Geno Duggan  
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Susan Williams  
Marty and Brad Woods  
Louise and Jan Zabriskie

## Up to \$99

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## GRANTS

Bella Vista Foundation  
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California Invasive Plant Council  
California Natural Resources Agency  
California State Water Resources  
Control Board  
Lahontan Community Foundation  
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National Fish and Wildlife Foundation  
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Tahoe City Public Utility District  
Tahoe Mountain Resorts  
Environmental Fund  
Tahoe Resource Conservation District  
Tahoe Truckee Community  
Foundation  
The Nature Conservancy  
Truckee Donner Chamber of  
Commerce  
Truckee River Fund of the  
Community Foundation  
of Western Nevada  
Truckee Tahoe Trout Fund

If we missed or misidentified you or your organization, please let us know: 530-550-8760 x4.



# Truckee River Day

## Sunday, October 19, 2014

A day of river, meadow, and wetland restoration  
 Projects start at 9 a.m. or 11 a.m.  
 The River Fair begins at 3 p.m.  
 Registration required: [www.truckeeriverwc.org](http://www.truckeeriverwc.org)

### Join Us in Celebrating Our Love for the Watershed

Truckee River Day was born when Alice Berg, Jim Plehn and Sarah Trebilcock organized the "first annual" in 1996. When 300 hundred people showed up, the founders realized they had touched a passion with locals and visitors alike. Every October since, 400 to 600 volunteers have worked at 10 to 12 restoration sites each year. Projects have been completed from Squaw Creek to Donner Creek to Gray Creek to Perazzo Meadows.

The projects achieve tangible results. They inspire long-time community members to stay involved and recruit new community members to participate. Many of the creeks, meadows and wetlands of the watershed are within a landscape that includes the people who live, work and play here. Understanding the interdependence of land and water inspires all of us to become stewards of the watershed.

*Thank you to the donors of the Truckee River Watershed Council, Northstar California and Vail Echo, and the Truckee Donner Chamber of Commerce for support of Truckee River Day.*

*For more information on Truckee River Day, please visit [www.truckeeriverwc.org/events-a-programs/truckee-river-day](http://www.truckeeriverwc.org/events-a-programs/truckee-river-day) or call Beth Christman, Director of Restoration Programs, at 530-550-8760 x1.*



*The donors below pledged a minimum of \$1,000 a year for five years toward the long-term sustainability of the Truckee River Watershed Council. They're members of the Together for the Truckee Society. We deeply appreciate their confidence in our restoration and protection projects.*

#### Protect the Watershed – \$10,000 a year for 5 years

- Anonymous
- The Martis Fund
- Northstar California/  
Vail Resorts Echo
- Tahoe Mountain Resorts  
Environmental Fund
- Cathy and Tom Van Berkem

#### Protect the River – \$5,000 a year for 5 years

- San Francisco Fly Casting Club
- Sierra Mountain Mortgage
- Squaw Valley and Alpine Meadows

#### Restore a Stream – \$1,000 a year for 5 years

- Anonymous
- Balance Hydrologics, Inc.
- Alison Bermant
- Anne and George Birdsong
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- Betsy Cole
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- Robie and Dean Litchfield
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Laurence Heifetz
- Marti and Michael Park
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- Joanne Roubique
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- Michael Sabarese
- Sue Sage
- Lauren Schaake and Jake Hudson
- Sue and John Sorensen
- Jody and Bill Sterling
- Sarah Swan and Eric Brown
- Tahoe Oral Surgery and  
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- Tahoe Truckee Fly Fishers
- Teichert/Stonebridge Properties
- Kristi and Chris Thompson
- Alex Tolger
- Truckee River Winery
- Truckee-Tahoe Lumber Co.
- Lisa Wallace and Family
- Ward-Young Architecture  
& Planning
- Trinkie Watson
- Kathy and David Welch Fund
- Gisela and Ron Zech
- Janet and Chuck Zipkin
- Diane and Bill Zuentd

*If we missed or misidentified you or your organization, please let us know: 530-550-8760 x7.*



# Keep Donner Lake Blue

Often in the shadow of iconic Lake Tahoe, Donner Lake has finally gotten the recognition and support that it deserves. Beginning in 2014, watercraft inspections are mandatory before launching into the lake. The Truckee River watershed stakeholders saw the need to initiate a community wide approach to stop the spread of aquatic invasive species, such as the quagga mussel, New Zealand mudsnail and Eurasian watermilfoil. The collaborative process encompasses watercraft inspections (both mandatory and self-inspections), early detection monitoring, education and outreach.

This approach is in response to the detrimental effects that invasive species can have on an aquatic ecosystem. The introduction and establishment of invasive species can alter natural ecosystem function, displace native species, increase pollutants such as algal blooms, damage boat propellers, and cause economic losses for the community (Timothy J. Caldwell and Dr. Sudeep Chandra, 2012).

*Thank you to the donors of the Truckee River Watershed Council, the Tahoe Resource Conservation District, the Community Foundation of Western Nevada Truckee River Fund and the US Bureau of Reclamation.*

*For more information on aquatic invasive species, please call Erin at 530-550-8760 x 7 or visit the Tahoe Resource Conservation District's website at <http://tahoercd.org/truckee-aquatic-invasive-species-program>.*



Zebra mussels are an example of an aquatic invasive species.

TRCD

## A SPECIAL THANKS TO THESE PRIVATE FOUNDATIONS

*We want to express our sincerest gratitude to the private foundations that have made contributions since November 2013.*

