

A Mosaic of Tumalo Creek

Perspectives on a Special Place

Produced by
REALMS - Rimrock Expeditionary Alternative Learning Middle School
www.realschool.org

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Beauty, elegance, grace, near perfection... All great traits for a dancer.
The water would make a wonderful dancer. But what becomes of that dancer when she is polluted
or when all of her water is taken? For a river, it is not a matter of changing what she does, but what she is.
What can stop our dancer from losing all that makes her what she is? The answer is us;
we can stop her from becoming the ugly image of a former river.
We can prevent future generations from missing the beauty, from missing the smells that help the
earth itself keep turning. We can let them, too, feel the love for a place,
a love so strong that nothing could tear it apart.

- Katie, 10-08

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REALMS 8th Grade 2009



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Perspectives on a Special Place: Our Process

There are many factors that might influence a person's sense of place. REALMS 8th graders have learned and experienced this through an in-depth study of the Tumalo Creek watershed. We collected data, researched, and helped restore various parts of the Tumalo Creek watershed. This area has been used as an invaluable educational resource to teach us about numerous topics that cover a variety of fields.

We have had the chance to look at Tumalo Creek through several filters. We have observed through the eyes of geographers, ecologists, social scientists, artists and reflective journalists. By looking through a diversity of filters, one can learn the importance of experience, knowledge, bias and focus in their work. As we visited five different locations within the Tumalo Creek watershed, we learned about how diverse and special our watershed is. We started our study near the headwaters of Tumalo Creek, on the flank of Broken Top Mountain. We spent the most time in Tumalo Valley, both at the intake for the City of Bend's drinking water and at our study site, where we monitored plants and water quality and spent lots of time observing and reflecting. Finally, we visited Shevlin Park and the diversion for the Tumalo Irrigation District.

Throughout this project we have gotten the unique opportunity to work with various people and organizations, both in the field and in the classroom as they helped us research our topics and gave us feedback on our writing. We received help from the Upper Deschutes Watershed Council, Tumalo Irrigation District, the U.S. Forest Service, the City of Bend Water Department, and Bend Parks and Recreation and the Healthy Waters Institute.

After our 10 days in the field collecting data, observing, writing, and drawing, we went through several stages to create a refined product that summarized our Tumalo Creek experience. The product is this collection of writings and art done by 8th grade students looking through one of the five filters. We hope that it gives you an idea of what a diverse and special place the Tumalo Creek watershed is. Ultimately, this project has and will be a rewarding experience for students and teachers alike by providing us with skills that can be applied throughout our lives. We have also learned that one river can be very diverse, and that one single place can be seen in many different ways, depending on how you look at it.

- Jacob Kurzer, Social Scientist

Tumalo Creek - Our Special Place

I have a memory, as a very small child, looking out in to a dirt field with one of my closest friends.

"They're going to destroy it." He said, noticing I was looking out at it.

"What?" I asked.

"They're turning it all into houses. We're never going to get a chance to play out there again." He glanced out at the field and back at me.

"Is there anything we can do?"

"No. My parents say we should just let it be."

I almost cried. I was so flabbergasted at what I was hearing.

I closed my eyes, blinked away my tears, turned to him and asked, "Can we play on it now?"

"I'm pretty sure we can."

The last thing I remember that day is running out onto that field, and playing around until my mom came to pick me up. I was sad to leave, knowing I would never see that field again.

That field was one of the places that was strongly affected by Bend's growth. Tumalo Creek is another of these places. Bend's effect on Tumalo Creek varies greatly. In some places, you can barely tell that Bend has affected it, in others it's like a neon sign, giving away its secret, the secret that shouldn't be a secret.

The secret is that Tumalo Creek is in pain; the amount of pain has a wide range, but it's everywhere. Some places, we caused it, others, it was nature. Tumalo Creek has consistently suffered in silence, unnoticed.

You don't have to drive very far to visit Tumalo Creek. Tumalo Creek is where people go to run in Shevlin Park, its source begins in our local mountains near Broken Top, and Tumalo Falls sits at its core. It is even in every glass

of water that comes out of your faucet. Tumalo is everywhere, engulfing us in its secret, no longer suffering in silence as it has all these years. It suffers less and less as it gains new companions, new friends. The friends who have always been with it, just never heard it suffer, as we have.

I believe that love is the feeling that you can't leave something, that if you do, you will lose some part of you, the part of your heart you have given to them. You feel as if, if they were gone forever, that your mind couldn't take it, that it would be too much to lose that much of your heart. I have already found my true love. My true love is the gurgling, laughing, story-telling waters of Tumalo Creek.

- Katie Sargent, Social Scientist



A Fresh Start: The Source of Tumalo

Walking to a new place, a place wild,
natural, and full of life. Tumalo Creek's starting
point, the beginning, the beating heart. The
headwaters.

Water rushes from the mountain
face. The water coming from the
mountain is so clear that you can see
the bottom rocks in the stream. Little
islands scattered in the creek are making
you want to jump from one to the other.
Rustling of leaves comes from above, water
moving past. Trees all uniquely bent from
snow. Wind blowing by, giving me goose bumps. Water
droplets fall onto my face from my hair. It's calm here, but at the same
time so exhilarating. It seems like there is so much life even when it
becomes still and quiet. The stream is sometimes the only

The riffles are cold,
The rocks are "cool,"
And the sun is hot!

- Mac, 9-08

noise in the forest, just a soft rushing
noise.

The soft rushing noise gets
bigger and bigger, changing
into Bend's water source.

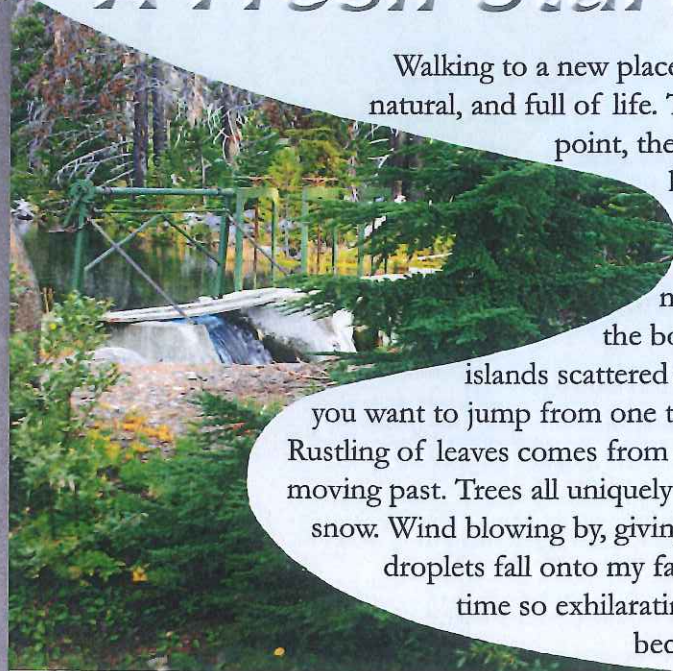
Getting taken and used by us.

Is that all Tumalo Creek is for?
Getting used? Yes, we drink it, play in it,
it gives us a cooling rush when we're hot. We
use it every day, even when we don't know it.
Knowing. Aware. Aware of our surroundings, where

we are, what we're doing.
We should be aware that we use
Tumalo Creek and should keep it clean.

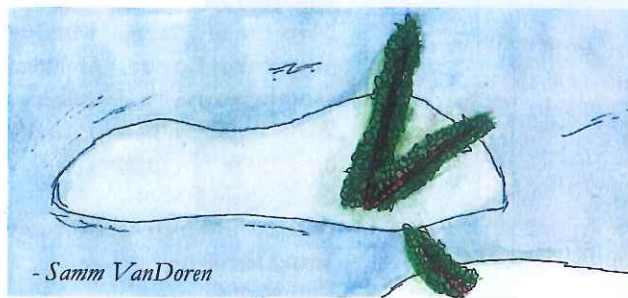
- Maddy Quinn, Reflective Journalist

The Headwaters



As I sit here, the bumpy rocks acting as a cushion
for my time alone, I think about the power of the river...

- Kyle, 9-08



- Samm VanDoren



A Cold Spring

It all started with a complaint in the Bend Bulletin in
1905 saying, "Bend's water is undrinkable." So the mayor
started the construction of a diversion over Tumalo Creek,
from a cold spring with some of the purist water in the
world, into Bridge Creek.

The upper Tumalo Creek watershed is currently being
used as one of the sources of Bend's drinking water, our
irrigation, a variety of recreation, and even water for
Eberhard's Dairy cows.

The spring on Broken Top Mountain is vital to
civilization in Bend, Oregon. The water percolates out of rocks with lush greens everywhere. There is a waterfall
bordered by trees, grass, and shrubs. When we were there, we saw moss and lichens growing on rocks in the stream
inviting us to step across them with the running sound of water surrounding us.

Since 1910, this water has been diverted for our drinking water. From a cold spring it flows through a tube,
which is supported by two concrete slabs and a green steel frame with a leaf buildup sensor and a solar panel. The
source of water would normally flow into the Middle Fork of Tumalo Creek, but now goes over Tumalo to join a
fully spring-fed stream called Bridge Creek. From here, it hurriedly meanders through the tall pines and fir for
about two miles into the City of Bend intake and is piped from there to Bend, taken from Bridge Creek just before
it would re-join Tumalo Creek.

In addition to drinking water, we also need the water from this place for irrigation on farms. Crater Creek starts
on Broken Top and is altered to flow into a manmade creek called Crater Creek Ditch. Crater Creek would flow
into Sparks Lake if it weren't diverted, but instead, the ditch takes it into Tumalo. The ditch was finished in
1917 and it is capable of delivering 75 cubic feet of water per second into the headwaters of Tumalo Creek. About
two miles long, it took two years to complete. Right after Tumalo Creek goes past Shevlin Park, we take the
diverted water out and pipe it to farms outside of Bend.

We also use the upper Tumalo Creek watershed for recreational purposes.
People love to bike in this area and love to hike for the scenes and sounds of
nature. However, we are only allowed to get within a certain distance of the
spring without a permit, and we have to go by foot only, nothing else!

Our class visit to this site was very rare. We were able to make it across the
diversion pipe to the other side and see the spring, which was probably the most
beautiful thing I've ever seen - covered in moss and lichen and sound. We
could not capture this beauty with anything but our eyes.

Our vital tap water and irrigation water both come from here. We
should preserve this place by staying away from the diversion, the
spring, and Bridge Creek. I feel that this is a very natural place
that we have made to be of use for Bend's source of water.

- Ben Heatherman, Social Scientist



- Samm VanDoren



The headwaters of Tumalo Creek is very steep. The gradient of the headwaters is 302 feet of drop per mile that the river flows. The topography of the surrounding land isn't consistent, though. It is steep, which speeds up the river in some places, and in other places it's gently sloping, which slows down the river. The changing slope of the land affected our hiking too; we sped up and slowed down just like Tumalo Creek. The changing slope reminds me of gas and brake peddles in a car. The river's path here is a mix of meanders and straight sections as it cuts the gravel, grass, and mud on top of the lava bedrock. I think the essence of this beautiful place is the natural feel of the green and swampy land; the more we appreciate the place, the healthier the water will be.

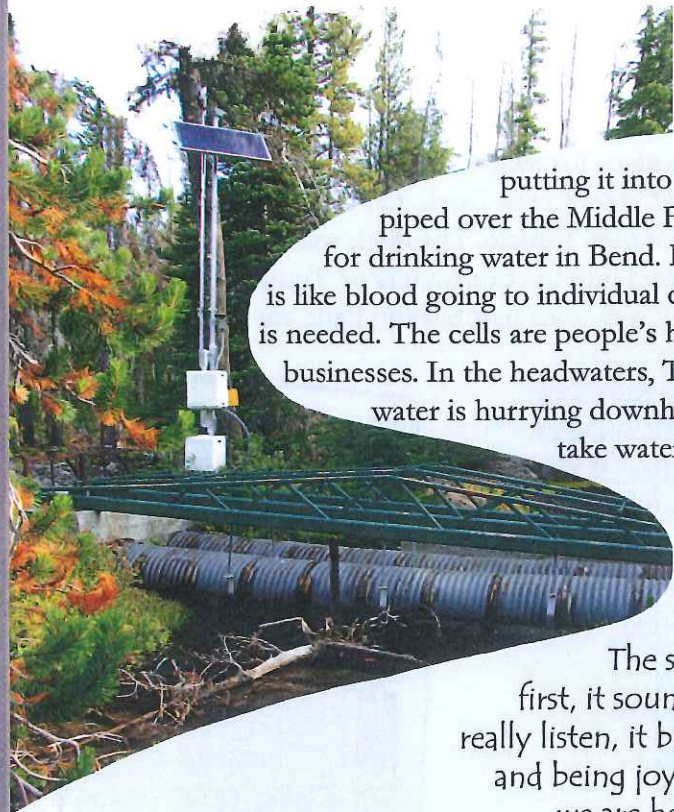
As natural as the headwaters is, people are present here – we are moving a lot of water within the Tumalo Creek watershed.

Crater Creek Ditch is taking water from Crater Creek in another watershed, and putting it into Tumalo to be used for irrigation. There is also a spring piped over the Middle Fork of Tumalo into Bridge Creek; this water is used for drinking water in Bend. I think the pipes are like veins and the water is like blood going to individual cells where it is needed. The cells are people's homes and businesses. In the headwaters, Tumalo Creek water is hurrying downhill where people take water out for their needs.

- Nichole Stevens, Geographer

The sound of the river... Oh, how I love this sound. At first, it sounds like a fierce and angry sound. But if you sit and listen, really listen, it brings a sense of joy. It sounds like millions of people clapping and being joyful. Why would Tumalo Creek be joyful? Because it knows we are here to gaze at its beauty and to restore and maintain it.

-Missy, 10-08



A Place for Preservation

The headwaters of Tumalo Creek is not a place for fish. The river would be a perfect place for them except there are waterfalls downstream that fish cannot climb.

At the headwaters, you have this feeling of peace and calmness because of the grassy surroundings and crystal clear water. This feeling will always stay here because it is preserved by the US Forest Service to keep our water pure. The water is clear because it has not been touched by human hands, it has either just come from a spring or has had a journey from the melting snow of Broken Top Mountain. Because it's coming from the mountain tops, it's cold, 41°F to be exact. The water is also rich with oxygen- about the same amount as in human blood and a good amount for the fish downstream. Tumalo Creek tumbles down waterfalls and goes through riffles (small rapids) so it gets thoroughly mixed with the air. The oxygen in the water is a key factor for the fish downstream and the riffles and waterfalls help create it.

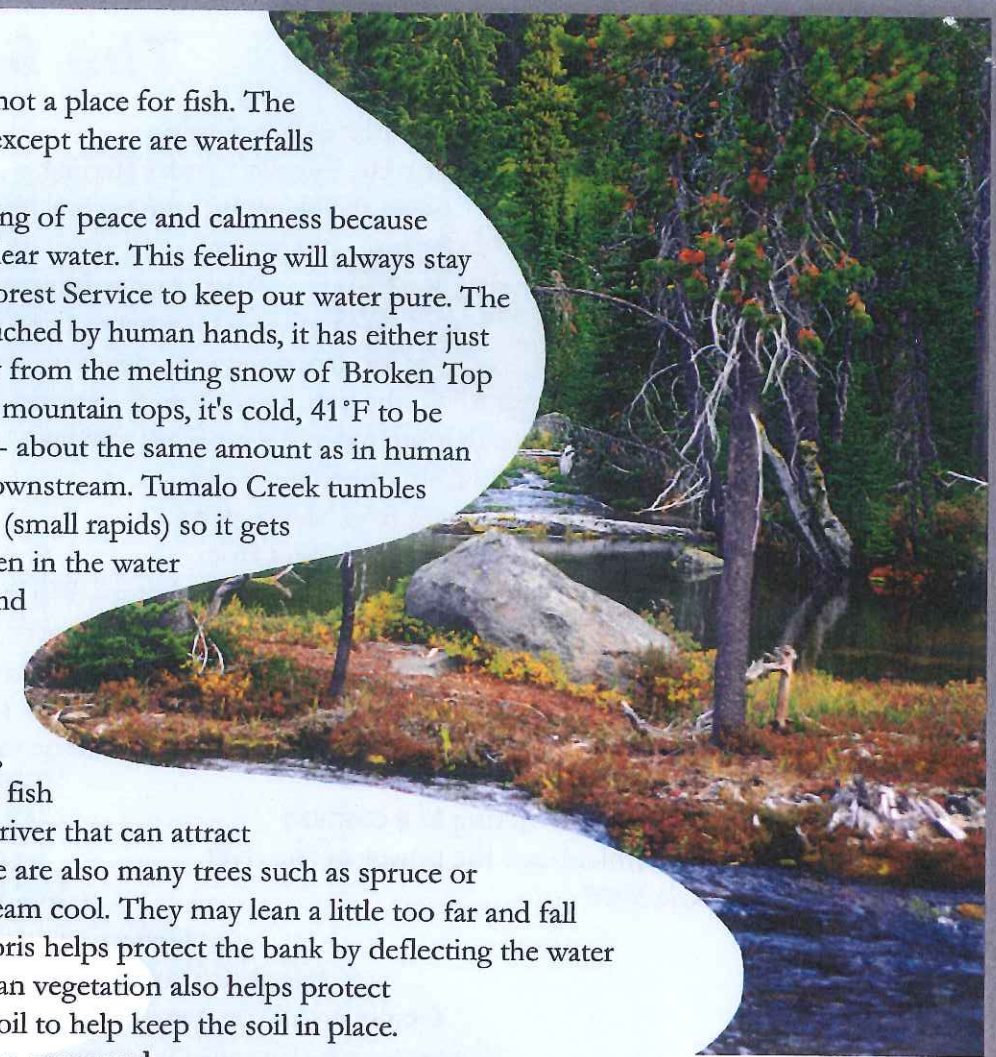
Other than the nice feel, the grassy area has a purpose, too. The grassy area around the river, called the riparian zone, is filled with small native plants that help fish downstream by dropping leaves into the river that can attract bugs, which will become fish food. There are also many trees such as spruce or pine that provide shade and keep the stream cool. They may lean a little too far and fall in and become woody debris. Woody debris helps protect the bank by deflecting the water from hitting and eroding the bank; riparian vegetation also helps protect the banks by locking the roots with the soil to help keep the soil in place.

The headwaters is a place that has been preserved for the future, protected by the US Forest service. The smallest change here can drastically alter the river downstream. Headwaters is not a place for fish. Headwaters is a place for preservation.

- Skyler Swenson, Ecologist



- Samm VanDoren



Site Name: Tumalo Creek Headwaters

Date: 9-22-08

Temp: 5° C Recent Weather: Snow and rain

Riparian Zone/Banks:

Maturity of Plants: Mature Medium Young

Vegetation Cover: Abundant Medium Sparse

Dominant Species: Conifers, grass, forbs

Bank Stability: Erosion in few areas

In-Stream Habitat:

Pool:Riffle Ratio: 1 to 1.8

Large Woody Debris: Abundant Moderate Sparse

Water Quality:

Temp: 4° C

Stream Bed Coating: Clear