



Director's Update: Numerous opportunities for BCWI

By Paul Hempel, Executive Director of the Boulder Creek Watershed Initiative

Dedicated to informing the community about water resource issues that affect the health of the Boulder Creek Watershed.

BCWI is a 501(c)3 non-profit.

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This past year, BCWI has taken some major steps towards fulfilling our dream of becoming a prominent player in the issues that affect the Boulder Creek watershed. As mentioned in our previous newsletter, we have taken our Strategic Plan and created an organizational plan with clear goals, objectives and tasks that will lead to BCWI expanding our programs and our influence within the community. In addition to holding three Educational Forums at the Boulder Public Library with two more on the schedule (see page 3), we also conducted two Creek Clean-ups this past spring.

This fall also promises to be busy. In addition to this newsletter, BCWI plans to produce an organizational brochure and its Annual Report. This November, we will be mailing out an Annual Appeal letter to our members in order to garnish support for our many programs. Already in the pipeline is a grant request to the Colorado Watershed Protection Fund for funding which will allow BCWI to conduct outreach to the many stakeholders in the watershed that have interests concerning Boulder Creek. We should know by the end of September whether or not we are successful. BCWI also plans to partner with the City of Boulder in a grant request to the Community Foundation of Boulder County for the development of citizen and school based "Stream Teams" which will help us to conduct various hands-on projects including water quality monitoring, restoration, and public outreach.

BCWI plans to apply for an EPA grant to join interested stakeholders in developing a plan for the Boulder Creek watershed. Plan development will take three years, with the focus in year 1 on South Boulder Creek, in year 2 on main and North Boulder Creek, and in year 3 on the lower reach of Boulder Creek, including Coal Creek. The plan's objectives are to (1) develop a common understanding of the present physical, chemical, and biological conditions in the watershed (the baseline); (2) identify needs and opportunities for improvements in these conditions; (3) prioritize actions for making these improvements; (4) develop a common vision for the watershed; and (5) integrate stakeholders in achieving this vision.

BCWI has also had discussions with various entities concerning potential future projects, depending on funding availability. The first involves partnering with Boulder Flycasters (the local chapter of Colorado Trout Unlimited) and the City of Boulders Parks and Recreation Department on a huge Creek Clean-up effort on Earth Day 2007. We hope this event would bring up to 200 volunteers to achieve a massive clean-up effort from Barker Reservoir all the way to 55th Street in Boulder. A huge volunteer appreciation picnic would follow at one of Boulder's outdoor parks. BCWI has also made the preliminary steps to partnering with Starbucks Coffee in the distribution of the educational book entitled "My Water Comes from the Mountains".

Continued on page 8.

Past Forum: Instream Flow

On 23 May 2006, Dr. Andrew Todd of Trout Unlimited <http://www.tu.org> spoke about Colorado's Instream Flow Program which started in 1973 and, since then, has provided some legal protection for thousands of miles of streams and hundreds of natural lakes across Colorado. Dr. Todd's presentation began with a description of how the Colorado Water Conservation Board (CWCB) is vested with exclusive authority to protect flows and water levels within specified reaches of stream and lakes. Through the Program's New Appropriations process, CWCB can appropriate new, junior water rights for the purpose of maintaining instream flows adequate to preserve existing natural aquatic environments "to a reasonable degree".

Dr. Todd stressed that although recommendations for new appropriations have historically come via state and federal agencies, the process allows for any person to make an instream flow recommendation, so long as they meet CWCB's specified data and format requirements. Further, he noted that through CWCB's Water Acquisitions program, CWCB can acquire senior decreed water rights for

instream flow purposes to preserve or improve the natural environment. Dr. Todd then identified limitations of the existing Program, presenting ideas on creating additional mechanisms for protecting stream flows given Colorado's projected increased water needs. For example, he suggested that empowering private parties to use their water instream as a privately-owned instream flow right would be a positive departure from the state's existing "use it or lose it" mindset.

A question and discussion session followed, highlighting other strengths and weaknesses of the Program along with operational considerations. Dr. Todd urged the audience to get involved in the CWCB process, by identifying streams of ecological and personal importance as targets for future appropriation through the Program, and by supporting existing recommendations by attending and engaging in CWCB meetings.

For more information, see <http://cwcb.state.co.us> and http://www.bouldercolorado.gov/index.php?option=com_content&task=view&id=2765&Itemid=1245



Andrew Todd presenting on Colorado's Instream Flow Program.

Next Forums: September and October 2006

Planning for Drought: Local Water Storage Projects

Robert de Haas
Manager, Pine Brook Water District

**Tuesday 26 September 2006, 7-8 pm
Boulder Public Library
Main Branch, Auditorium
1000 Canyon Blvd, 303-441-3100**

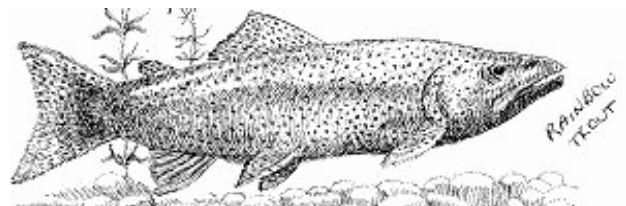
The 2002 drought along the Colorado Front Range increased awareness of the need to manage water resources to deal with limited supply. Particularly notable was an earlier call on the most senior surface water rights, which had the effect of decreasing the window of water availability to all other users including municipalities and water districts. A solution to the disconnect between water availability and water demand is to increase storage capacity, particularly at the local scale. This talk will describe the recently completed 100 acre-foot Pine Brook Reservoir, located approximately 2 miles west of Boulder. This project was conceived, funded, and completed through local citizen's initiative as a means to access their surface water rights when stream flow is available, and store the water for the community's long-term water security.

Emerging Groundwater Contaminants: Role of Decentralized Wastewater Treatment

Kathy De Jong, Colorado School of Mines
Mark Williams, Boulder County Health Dep't

**Tuesday 24 October 2006, 7-8 pm
Boulder Public Library
Main Branch, Auditorium
1000 Canyon Blvd, 303-441-3100**

Essentially all development, both residential and commercial, in rural areas of the USA, including much of the Boulder Creek Watershed, relies on decentralized onsite treatment and disposal for wastewater management. Many of these same areas also rely on groundwater wells for water supply. This talk will present the results from a study on the occurrence and fate of "emerging contaminants" such as pharmaceuticals and personal care products during onsite treatment of wastewater from a variety of residential and non-residential sources along the Front Range.



By Bob Savannah, from <http://www.fws.gov/pictures/index.html>

The Boulder Creek Watershed Forum series is sponsored by:

- Boulder Creek Watershed Initiative.
- United States Geological Survey.
- City of Boulder
- Boulder Public Library.
- Moe's Broadway Bagels
<http://moesbroadwaybagel.com>
- Breadworks <http://breadworks.net>
- Caffe Solé <http://www.caffesole.com>

Missed a Boulder Creek Watershed Forum?

Videotapes of all forums are available at the Boulder Public Library and can be checked out for home viewing.

**Forums are also televised on Channel 8:
Wednesday 3 PM
Saturday 10:30 AM and 7:30 PM
Sunday 7:30 PM**



South Boulder Creek Bike Tour

By Larry Quilling (center in the above photograph.)

On Sunday May 7th, BCWI members took a four-hour bike tour of South Boulder Creek, led by Larry Quilling of Boulder Flycasters. We started at the entrance to Eldorado Canyon State Park and ended at the confluence with Boulder Creek at Valmont Road.

Flows were respectable, particularly in the upper reaches, but the drop off downstream of South Boulder Road is dramatic, declining below Arapahoe to perhaps 10% of the flows in Eldorado Canyon. Flow stops at the structure for Valmont Reservoir but soon resumes, reaching the KOA ponds and then continuing under the new Valmont Road to the confluence.

Throughout, diversion structures chop up the creek channel. A few are fish friendly, and the recently-completed reconfiguration of one to enable fish passage provides a good example of what is possible. Others are absolute barriers, not easily altered. The most striking (shocking, really) structure is the one for Valmont Reservoir which effectively serves as a dam and essentially stores the remaining flow of the stream at that point for diversion. No structure like that could ever be built today.

Enormous opportunities exist to improve this stream and its riparian corridor, with clear public benefits. The exciting OSMP plan to get water into Gross Reservoir for winter releases would meet one overriding need.

The next step could be a public process examining watershed needs and opportunities (see also p. 5). The goal would be a plan providing a long-term vision for the watershed and prioritizing activities to accomplish that vision. The process must include all interests including the public, building on previous Boulder Flycasters coalition efforts initiated at the 2004 South Boulder Creek Symposium.

BCWI is considering taking a leadership role to organize and facilitate active participation by all interests, including compiling information for a good physical baseline of the watershed. Much of this information already exists but is not collated. Another would be to elevate public awareness and understanding of the creek's existing and potential conditions. This process would also help identify potential funders. Anyone interested in being involved should contact Larry_Quilling@maxtor.com

Future of South Boulder Creek

By Larry MacDonnell

South Boulder Creek originates in the Roosevelt National Forest, in the mountains above the historic Moffat Tunnel, and joins Boulder Creek in the vicinity of Valmont Buttes east of the City of Boulder. In addition to national forest, it passes through the public lands of Boulder County's White Ranch Open Space, the Eldorado Canyon State Park, and City of Boulder Open Space. In addition to thousands of individual wells, South Boulder Creek serves as a water supply for the City of Denver; the towns of Louisville, Lafayette, Superior, and Eldorado Springs; Xcel Energy's Valmont Power Plant; and numerous irrigation ditches including the Farmers Reservoir and Irrigation Company's Community Ditch. South Boulder Creek carries water that comes from Colorado's West Slope through the Moffat Tunnel to Gross Reservoir and then downstream to its diversion at Denver's pipeline.

The creek and its watershed have transformed over the years as its lands have been developed, its channel modified to accommodate adjacent development, its waters dammed and diverted, and its flood plain constricted. Dams, diversion structures, and culverts segment the stream into multiple fragments, restricting fish passage and limiting habitat. Septic systems down through

the Town of Eldorado create water quality problems. Water diversions during the low flow period from late summer through the winter reduce flow levels in downstream portions of the creek to little or nothing in dry years.

Following on from Larry Quilling's article (p. 4), BCWI and Boulder Flycasters aim to form a steering committee comprising representatives of users of South Boulder Creek, residents of the watershed, government entities with resource responsibilities in the watershed, and other interested parties. We will develop baseline information respecting the creek, its corridor, and the encompassing watershed. We will seek scientifically-based assessments of creek hydrology, water quality, aquatic life, and riparian condition. We will develop analyses of significant sources of impairment to these important dimensions of the corridor. And we will identify and prioritize cost-effective actions for making improvements to corridor values and functioning. Simultaneously, we will continue the work started by Boulder Flycasters to improve wintertime stream flows to protect and enhance the creek's trout fishery.

Anyone interested in being involved should contact Larry_Quilling@maxtor.com



Water diversion along South Boulder Creek.

Boulder Creek's Impaired Segments

By Bill McKee

Section 303(d) of the federal Clean Water Act requires each of the states to review water quality data and determine which streams and lakes do not comply with all applicable water quality standards. Under Colorado law, the Water Quality Control Commission has authority to establish Colorado's list of impaired streams every two years, consistent with federal requirements.

There are three segments of Boulder Creek and tributary streams that do not meet the numeric standard for *E. coli* bacteria that were also on Colorado's 2004 impaired streams list. A new segment was added in 2006 that exceeds the numeric standard for two metals and pH. The Boulder Creek stream segments that were placed on the 2006 list adopted by the Water Quality Control Commission are:

- Boulder Creek mainstem – Segment 2, downstream of 13th Street in Boulder – *E. coli* bacteria.

- South Boulder Creek tributary – Segment 4a, Gamble Gulch – copper, zinc, and pH.
- Coal Creek – Segment 7b, Highway 36 to Boulder Creek confluence – *E. coli* bacteria.
- Boulder Creek mainstem – Segment 10, Boulder Creek from Coal Creek to St. Vrain – *E. coli* bacteria.

The Clean Water Act requires that streams that do not meet the water quality standards are subject to a "total maximum daily load (TMDL), "which is a plan that the state water pollution agency must develop to target pollution sources and reduce pollution so that the water quality standards will be attained. Since *E. coli* bacteria are a potential impact to public health, TMDL development is given a high priority on the state's 303(d) list.

For more information, contact Phil Hegeman, Colorado Department of Public Health & Environment, Water Quality Control Division at (303) 692-3518 or philip.hegeman@state.co.us

Boulder Water Story

Do you know where your drinking water comes from? Ever wonder where it goes after the drain? From snow-capped peaks to the kitchen sink and beyond, the 19-minute "Boulder Water Story" video takes a virtual tour of Boulder's water system. The video features Boulder's water sources, drinking water treatment, hydroelectric power, wastewater treatment, water conservation, stormwater, pollution prevention, and floods. Everything you need to know about the water you drink and use every day!

View the video at <http://www.boulderwater.net> or check Boulder's Municipal Channel 8 at <http://www.bouldercolorado.gov> for show times.



Relocalizing Water

By Ilan Kelman, Michael Brownlee, and Lynette Marie Hanthorn

As one item within the vast portfolio of water management techniques, a new approach termed "relocalization" has emerged. Relocalization means re-establishing activities at the local level (re-local-ize), reversing the trend of centralization and larger organizations. For instance, diseconomies of scale, rather than economies of scale, are employed. In the case of water, relocalizing means recognizing that water is limited and must be managed by starting with individual conservation.

Relocalization originated in concerns about "peak oil", the time when the extraction rate of oil—now expanded to all fossil fuels—reaches its maximum, leading to an increasingly restricted supply of fossil fuels used for energy and electricity. Relocalization aims to make services such as food, energy, manufacturing, and water more locally-based so that they will be minimally affected by fossil fuel restrictions and any other sudden or long-term crises.

In August 2005, Boulder Valley Relocalization (BVR) was founded as a local residents' group

to plan for the effects of peak oil and other crises on the Boulder area (<http://www.boulderrelocalization.org>). Eight BVR subgroups were created, each tackling one aspect of relocalization. Aspects of relocalizing water include:

- Use gardens for growing food and for local plants which do not require excessive water. Most lawns use non-native grass, requiring frequent watering to keep it alive.
- Relocalizing disaster risk reduction (<http://www.ilankelman.org/relocalisation.html>) to tackle flood and drought disasters.
- Install low-flush toilets and water-saving shower heads.

Reducing water use reduces the energy needed for treating and transporting water and wastewater. These techniques are already well-known and are promoted, but a fossil fuel restricted society adds impetus to saving energy, reducing resource use, and making our lives and livelihoods more locally-based. Relocalizing water ensures that we all take ownership of and responsibility for our water use.



Keeping non-native grass green can use excessive water. Also visit <http://www.bouldersaveswater.net>

Director's Update: BCWI Opportunities

Continued from page 1.

Already available to the Boulder Valley and Saint Vrain School Districts, a wider distribution of this publication in paperback form could enhance the understanding of the Boulder Creek watershed to many more school-aged children. Finally, BCWI has had discussions with the City of Boulder's Open Space and Mountain Parks Department on how to incorporate our citizen Stream Teams in the removal of Eurasian Watermilfoil in our creeks.






But we need your help!

In order for BCWI to spearhead these initiatives, respectively work closely with all stakeholders in developing action oriented solutions, and accomplish our goals for these projects, your financial contribution is needed (look for our Annual Appeal in November!). By taking on these important projects, BCWI will build a community stewardship ethic that will help protect, preserve and promote the qualities of Boulder Creek ***that we all love*** for years to come.

So please, enjoy reading the articles in our current newsletter and feel free to join us at any of our upcoming events. See you around the watershed!


YES! I will make a (tax-deductible) contribution to the Boulder Creek Watershed Initiative!

My level of support is (check one):

	_____ \$ 500 & up	Belted Kingfisher	<i>Ceryle alcyon</i>
	_____ \$ 100 - 499	Greenback Cutthroat Trout	<i>Oncorhynchus clarki stomias</i>
	_____ \$ 50 - 99	Tiger Salamander	<i>Ambystoma tigrinum</i>
	_____ \$ 20 - 49	Green Darner	<i>Anax junius</i>
	_____ \$ 0 - 19	Golden Stonefly	<i>Hesperoperla pacifica</i>

Enclosed is my check for \$_____. The entire watershed thanks you.

BCWI also needs volunteers! Tasks include video editing, creek cleanup, and outreach events. To get involved, let us know your interests and how to reach you!



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