

## Low Flows in the Watershed

This past summer in late August and September, streamflows in the main stem of the Pomperaug River and some of its tributaries had diminished to levels comparable to some of the lowest levels observed since records began in 1932. Observations made by the U.S. Geological Survey (USGS) during this period, as part of the Pomperaug River Watershed Study being conducted in cooperation with the Town of Woodbury and the Pomperaug River Watershed Coalition, indicate that when the streamflow in the Pomperaug River measured at the Southbury gauge falls below approximately 8 cubic feet per second (cfs), the lower reaches of several tributaries to the Pomperaug are dry. The dry streambed of one of these tributaries, South Brook, is shown in the photograph to the right.



**South Brook on August 26, 2005, behind the Milestone Motel on South Pomperaug Avenue**

An examination of the long term daily average streamflow record for the Pomperaug River at Southbury (1932 to the present) shows that periods of average daily streamflow in the river below 8 cfs occur almost exclusively in late summer and fall. Only four years since 1932 have had a greater number of days of flow less than 8 cfs than the summer of 2005.

Dry streambeds result from a lack of rainfall and high evapotranspiration (evaporation and loss of water by uptake and transpiration of water through the leaves of trees and other plants). During periods of low rainfall, the most important source of water to streams is the flow of underground water into them. Thus, any

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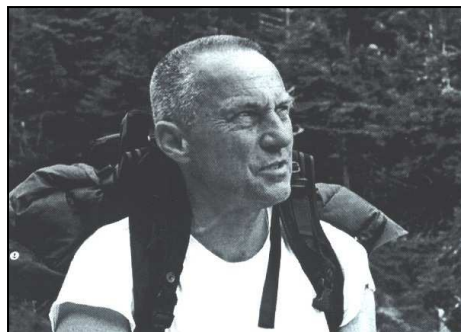
## Schaefer Joins Coalition as Executive Director

In October 2005 long-time Woodbury resident Cris H. Schaefer joined the Coalition as Executive Director, replacing Laurie Giannotti, who had left the Coalition to take a teaching position. Cris brings to the Coalition a wealth of administrative

experience, having worked in a management capacity in industry for many years. He has worked locally as a volunteer and has been a life-long outdoors enthusiast as hiker, bird-watcher, and fisherman.

“Environmental issues are a family affair, as I have a daughter who is Associate Director of Dam Programs of the Northeast Field Office of the national organization American Rivers, and a son-in-law who is a fish biologist working for the State of Connecticut,” says Cris. Cris is eager to bring his experience to bear on the strategic planning implementation, volunteer management, and financial and constituency support building important to the growth and sustainability of the

Coalition. The Coalition welcomes his enthusiasm and expertise and looks forward to the direction and energy he will provide as the Coalition moves forward with its scientific research projects and brings its mission to local residents as we work together to protect our precious water resources.



**Schaefer hiking the Appalachian Trail in 1998**

**We thank our volunteers, members and donors!**

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factor that reduces the underground water supply will in turn decrease the amount of water available to a stream. Such factors include the pumping of groundwater, such as for residential wells and public water supplies, and the presence of impervious surfaces such as rooftops, streets, and driveways, which reduce the amount of open ground into which whatever rainfall there is can seep and replenish the underground water supply.

Depending on the extent to

which these factors change over time, the streams of the Pomperaug Watershed may experience more frequent extreme low flows such as were experienced this past summer.

The streamflow at the Pomperaug River Southbury gauge can be viewed on line at the USGS Connecticut website <http://waterdata.usgs.gov/ct/nwis> and through links at the PRWC website <http://www.pomperaug.org>.

*By David Bjerklie  
U.S. Geological Survey*

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**Pomperaug Watershed Site of Geology Tour**

Last October, Bill Burton of the U.S. Geological Survey (USGS) and his colleagues Greg McHone and Phil Huber led a geologic tour through the Pomperaug River Watershed as part of the 2005 New England Intercollegiate Geologic Conference (NEIGC), hosted this year by Yale University. About 40 people attended from academic institutions including Yale, Rutgers, State University of NY, Brooklyn College, Keene State, Virginia Tech, Connecticut State, and Ohio University as well as the USGS and state geological Surveys of Maine, Vermont, and Connecticut.



**USGS Geologist Bill Burton explains the newly-drawn bedrock map of the Pomperaug Valley**

The field trip focused on the bedrock geology of the Pomperaug basin which underlies the Watershed between Woodbury and Southbury. The bedrock includes red sandstone visible in the village of South Britain and the basalt, quarried for trap rock by O&G Industries, that forms the ridges of East Hill, Bear Hill, and the Orenaug Hills. The Pomperaug basin is a small rift basin that developed in the older, eroded metamorphic rocks of the western Connecticut uplands in the early Mesozoic era (225-200 million years ago), during the breakup of Pangea and the separation of North America from Europe and Africa. The Pomperaug basin is a miniature version of the much larger Hartford basin to the east, which extends from Long Island Sound to central Massachusetts.

The field trip featured a hike around the very complex geology of Platt Farm Nature Preserve in Southbury, visits to the trap rock quarries in Southbury and Woodbury, and a lunch stop in the front yard of Coalition members Cathy and Brian Skinner, where the metamorphic rocks at the edge of the basin were examined. A written guide to the field trip is published, along with all the other field trips of the three-day conference, in the 2005 NEIGC guidebook, available from the Connecticut Department of Environmental Protection (<http://dep.state.ct.us/store/>).

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## From the Executive Director

Greetings to friends and members of the Coalition. It is a pleasure and a privilege to be part of an organization which is working so hard to protect our precious Watershed and has become widely known for its unique, science-based approach to river protection and management. Thanks to my predecessor Laurie Giannotti, to the Board of Directors, and to our donors and volunteers, the Coalition has had a very successful year. Its accomplishments include the continuation of its volunteer streamwalk program, a Water Resources Management Plan which is posted on the Coalition website, and the near-completion of river flow and fish habitat computer models.

All these efforts have been made possible by the financial support of individual donors and members, the state, our local towns and water utility companies, local businesses, and foundations. Our heartfelt thanks to all those listed below for their generosity and participation in our important mission. A financial form 990 is available for review at the Coalition office at the Bent of the River Audubon Center.

I look forward to working with you all. Call me at 203-267-1700 if you would like to find some way to help us with our activities or if you just want to talk about our Watershed and its rivers. --Cris

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Our thanks to these volunteers for their help with recent projects & programs:  
*Bert Boyson, Elizabeth Eisenberg, Don Garber & Joyce Hornbecker* -office support  
*Ingrid Davis* -PRWC table at Flanders Fall Festival  
*Eileen Denver* -editing of Water Resources Management Plan  
*Christina Ferloni* -groundwater monitoring  
*Mary Giampietro* -marketing consulting  
*Donna Lesch* - streamwalk committee  
*Mieke Schuyler* -PRWC table at Bethlehem Garlic & Harvest Festival

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## **What is the Difference between a Pomperaug River Watershed Coalition Membership and the Annual Fund Drive?**

The Coalition has two main fundraisers each year: a Membership Campaign and an Annual Fund Drive. In November 2004 the Coalition launched its first Membership Campaign. In recent months you may have received a letter from the Coalition asking you to renew your membership. This letter will arrive each year on the anniversary date that you initially joined.

Our second annual fundraising effort takes place in the Spring – this is our Annual Fund Drive. At that time we ask members and the general community to contribute funds to support the operations of the Coalition. Both Memberships and gifts to the Annual Fund help the Coalition continue to do important work such as the Water Resources Management Plan, Streamwalk Program, Critical Resources Mapping, and water quality and quantity monitoring. We hope you will respond generously when asked, and help us continue to work to keep your water pure and plentiful.

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Mapping of the Pomperaug Watershed is largely completed and will be published in the future as a USGS bedrock geologic map. Results of the study are being incorporated into a hydrologic model of the Watershed being developed by scientists from the USGS Water Science Center in East Hartford, in order to better understand the total movement of water through the Watershed and the flow pathways of groundwater contaminants.

The same afternoon, Coalition Board member and local geologist Larry Pond led Coalition members and friends on a geology tour of the Watershed, covering much of the same ground.

A reception for the visiting geologists and all tour participants followed at the historic Jabez Bacon house in Woodbury.

*By Bill Burton  
U.S. Geological Survey*

**Larry Pond describes the  
complex and fascinating geology  
at Platt Farm in Southbury**

