

The Tributary

Spring 2008



PUBLIC MEETING

Monday, 28 April 2008 – 7:00 p.m.

Commission meeting room, top floor, Upshur County Courthouse
Annex

Coffee, cookies, and informal conversation follow the presentation.

In this issue:

Board Elections	1
Flood Issues Panel Presentation	1
Delivering Drinking Water To Your Tap	2
Membership	4

Elections for Board of Directors

7:00 – 7:30 pm

See panel to the right for details →

Panel Presentation: Flood Issues

7:30 – 8:00 pm

Panelists:

Jim Farry (Director, Upshur County
Office of Emergency Management)

Bill Hamilton (State Delegate,
District 39, and insurance agent)

Burl Smith (Engineer, City of
Buckhannon)

- What are the flood boundaries?
- What can local governments do?
- What might the homeowner expect?
- What can the homeowner do?

Board-approved nominees

Randy Calkins (*incumbent*)

Kevin Conde

Don Gasper (*incumbent*)

Tom Landis (*incumbent*)

Nominations from the floor

Nominee must be present and accept the nomination. A nominee should be willing to agree to the “List of Expectations for Board Members.” This list is as follows:

1. *Promote the BRWA mission;*
2. *Support the BRWA Board by a. attending at least two-thirds of the board meetings per year; b. participating in board leadership as an officer and/or occasionally spearheading a particular project; c. participating in official BRWA functions & events on a regular basis (water sampling, committee member (Watershed Celebration Day attendance, etc.);*
3. *Be knowledgeable, at least in a general way, with issues that can affect watersheds or knowledge-able on a narrower water-based issue, such as water quality;*
4. *Actively solicit new members of the Association.*

Elections

(All paid-up members may vote.)

***Buckhannon River
Watershed Association***

Board of Directors

G. Paul Richter, President
Don Gasper, Vice President
Tom Landis, Secretary
Jim Mitchell, Treasurer
Randy Calkins
Darcey Wayment
Kim Bjorgo-Thome
Burl Smith, *ex officio*
William Parker, ex officio

BRWA
112 Fayette St.
Buckhannon, WV 26201

Delivering Drinking Water To Your Tap

submitted by Tom Landis
Source-Production-Distribution

Source

The **Safe Drinking Water Act** of 1974, amended in 1980/1986 & 1996, charged The Environmental Protection Agency (EPA) with the governing of our nation's drinking water supplies. Mandated by Congress, primary contaminant levels (associated with immediate-to-long term health effects), and secondary contaminant levels (associated with the aesthetic quality of the water) were formulated. Primary contaminant levels are enforced by law whereas secondary contaminant levels are enforceable only if laws are enacted through an individual state's legislation.

Source-water supplies usually fall into two classifications – **surface water** and **ground water**. The Buckhannon River is the primary source for our drinking water supply and therefore is a surface-water supply. **The Surface Water Treatment Rule** provides specific guidelines as to how this water can be treated. Basically all surface waters must have incorporated into their treatment process a means for providing **disinfection** (the destruction or inactivation of disease causing organisms) and **filtration** (the adsorption/absorption of particulate matter). **The Long Term 1 Enhanced Surface Water Treatment**

Rule followed by **The Long Term 2 Enhanced Surface Water Treatment Rule**, better guides utilities through the evaluation of their treatment processes with regard to certain parameters of source water supply contamination. Contamination by agricultural, mining, timbering, and industrial activities are continuously monitored by means of analytical testing or visual observation. Planning for disasters, such as flooding or droughts, is continuously revisited. We also must not forget the possibility of terrorism, be it international or homegrown. Our watershed also plays host to recreational activities, such as boating, hunting/fishing, and swimming just to mention a few. There are guidelines that help define the quality of streams for specific uses, such as recreational, aquatic, or even source water supplies for drinking water. A **conventional treatment plant**, described in the *Production* section, encompasses a multiple-barrier approach in dealing with strategies for removing targeted contaminants. Because of these multiple barriers, the bar has been lowered somewhat as to what actually is an acceptable level of certain contaminants in the source-water supply for drinking water as opposed to other end-user requirements. These contaminants are known to be removed or greatly diminished in the treatment process and therefore do not pose the same level of risk or concern as it may for other users. The water department periodically evaluates its abilities to remove or inactivate current or future contaminant threats. Source water supply, facilities, and treatment processes are routinely evaluated for their safety, effectiveness, and compliance of existing regulations by state and federal agencies.

Production

The Buckhannon water treatment plant is considered a **conventional type treatment facility**. Most facilities of this type are designed to provide a **multiple-barrier approach** to the treatment process. These barriers include but are not limited to **source-water monitoring/protection, coagulation and flocculation, sedimentation, filtration, and disinfection** processes. In the **coagulation and flocculation** processes, the target is suspended solids, the oxidation of iron from the ferrous to the ferric state, the oxidation of manganese, the removal of taste- and odor-causing organisms, and the disinfection of the source water prior to filtration. Also, a reduction of **Total Organic Carbon (TOC)** levels is targeted in this process. Some moderate pH (acidity) adjustments are also made to aid the final, post-treatment pH adjustment for corrosion-control purposes. A coagulant is added to the water to neutralize the electrical charge of

Watershed Celebration Day Tour

to attach to. A slow gentle agitation provides opportunities for particles to collide and clump together, becoming larger in size and weight. By the time all this reaches the **sedimentation process**, the particles should be large enough to settle out due to design-flow and gravitational influences. Throughout this entire process, a disinfectant is added (the disinfection process) to destroy or inactivate disease-causing organisms. These organisms are then entrapped in the coagulation/flocculation process and easily removed in the sedimentation process. This is the end of the pre-treatment (pre-filtration) process. The **filtration process** is the final “polishing” of the water. Fine sediments not easily removed from the previous sedimentation process are removed in this step.

Now we move to the post-treatment (after filtration) process. Here the target is corrosion control, the addition of chlorine for the protection of the distribution system, and the addition of fluoride. Necessary chemicals are added to achieve these goals, and a storage unit (the *clearwell*) allows for sufficient mixing and contact time prior to pumping the water into the distribution system. Quality-control tests are typically performed every thirty to forty five minutes at strategic locations throughout the entire treatment process. All water plant operators must be licensed by the State of West Virginia. Certification levels are based upon years of experience, receiving a passing grade on a written examination for each certification level, and continuing education hours for certification renewals every two years.

A typical day of operation produces about two million gallons of potable drinking water. The water plant has a capacity of producing 5.6 million gallons of water in a 24-hour period. The typical flow rate during production is about 4,000 gallons per minute. There is special equipment in place that would permit this flow rate to be reduced to about half of the design flow. This allows for partial shutdown of some units for maintenance purposes. There are also emergency generators on site that would permit operations to continue even during a major commercial power outage.

Distribution

The distribution system consists of six storage tanks and approximately thirty-nine (39) miles of underground water mains of various size and type. These tanks store approximately 4.3 million gallons of water and are located to provide adequate supply, pressure, and fire-flow to all municipal customers. There are also four wholesale customers (the Public Service Districts) that

purchase and redistribute the water to the more remote parts of Upshur County. New line installation, replacement/abandonment of old lines, water line repair, flushing of water mains and fire hydrants, and valve maintenance programs are typical activities of distribution system personnel. Daily chlorine tests and routine bacteriological sampling help ensure the integrity of the water throughout the distribution system.

The distribution personnel are all crossed-trained on various pieces of equipment. Each person receives training on trench safety, water line installation techniques, and distribution operation and maintenance (O&M). Each employee also holds a valid 1-D Water Distribution License issued by The State of West Virginia Bureau of Public Health. The department is unique in that the distribution supervisor also holds a valid Class III Drinking Water License issued by the same state agency.

Compliance Monitoring

A certified laboratory is used to analyze samples for regulatory compliance. Monthly, quarterly, and annual sampling requirements must be met with test results not exceeding recommended guidelines. Volatile organic compounds (VOC's), synthetic organic compounds (SOC's), lead and copper, total organic carbon (TOC), bacteriological, nitrate, and disinfection by-products (DBP's) are some of the many parameters to be tested for on a regular basis.

Summary

Whether it's the source water, the treatment process, or the delivery of your drinking water, you can be assured that safety and quality are the rule of the day. Quality-control tests along with compliance monitoring and reporting provide a network of checks and balances enabling the water department to achieve this goal of safety and quality on a consistent basis. Well-trained employees along with proactive management practices lead the department toward a bright, successful future.





112 Fayette St.
Buckhannon, WV 26201

A Colored Dot Next to Your Address Label Indicates:
pink – Your membership expires at the end of this month.
green – Your membership is valid through April 2009 or later.
yellow – Non-member

Time For

2008 Membership

The Buckhannon River Watershed Association is a private, 501 (c)(3) non-profit, tax-deductible organization. It is an all-volunteer group dedicated to preserving, conserving, and monitoring the health of the Buckhannon River Watershed and promoting our West Virginia river heritage through public awareness.

If you like what we do, then please support our efforts. Annual membership is \$5/individual and \$25/business.

Just clip this form, fill out the requested information, and mail to 112 Fayette St., Buckhannon, WV 26201. Call (304) 472-3317 with questions. Thank you!

BUCKHANNON RIVER WATERSHED ASSOCIATION

2008 MEMBERSHIP FORM

Individual \$5.00

Corporate \$25.00

Total \$ _____

Name: _____

Address: _____

Phone (Optional): _____

E-Mail (Optional): _____

Additional Donations:

\$ _____

Please Make Checks Payable to:
BRWA

Mail to:

Buckhannon River Watershed
Association
112 Fayette Street
Buckhannon, WV 26201

TO: