



FONR NEWSLETTER NO. 6

Spring 2007

FRIENDS OF THE NEW RIVER Friends of the New River is a nonprofit organization incorporated in the Commonwealth of Virginia. The nucleus of the organization is the Board of Directors, which currently includes Rick Roth (President), Llyn Sharp (Vice President), Paul Angermeier, Rick Van Noy, Mike Harvey, and Suzie Lesley. Our mission is to promote the conservation, protection, and enjoyment of the natural, cultural, recreational, scenic, and historical values of the New River from Claytor Dam downstream to the West Virginia state line. We encourage any FONR member interested in serving on the board to attend one of our meetings, which are announced on our listserver.

NEW RIVER CLEANUP SET FOR SEPTEMBER 8

Several groups including FONR and the New River Watershed Roundtable are coordinating cleanups up and down the river on September 8. For more information email Charlie Whittle at cwhitjr@swva.net.

JOIN FONR! Membership for both individuals and organizations is \$10/year and runs on a calendar year basis. To join, please send a check for \$10.00 made out to Friends of the New River, along with the following information to FONR, 1000 Highland Circle, Blacksburg, VA 24060: name, address, telephone number, email. Indicate whether you would like to be put on the FONR listserver. If you are already a member, your membership renewal would be appreciated.

CLAYTOR DAM RELICENSING UPDATE One of the most familiar features of our stretch of the New (Claytor Dam to Glen Lyn) is the frequent up and down cycling of water levels. Most of us have experienced this, either while canoeing or while hanging out on the rocks at McCoy. Sometimes it is subtle, sometimes dramatic and dangerous. This cycling is the result of the operation of Claytor Dam by Appalachian Power (AP) Company, which is owned by Ohio-based American Electric Power Company. The Claytor facility is what is called a peaking facility. Hydroelectric power plants are ideal for utilities to meet transient electricity demand peaks, because they can be turned on and turned off like the spigot on a sink.

Many hydroelectric facilities used to operate without concern for the environment and the users of the river downstream. The ideal, if peaking power generation is the only objective, is to let water through the turbines when power is needed, and then to shut the water off during off-peak periods. This way water is "banked" for later use. However, rivers are public resources and other river uses must be respected.

Hydroelectric facilities operate under federal permits issued by the Federal Energy Regulatory Commission (FERC) which spell out how the facilities are to be operated, in order to best serve the public interest. These permits, or licenses, are issued for periods of 20-50 years. Under AP's current license, AP cannot "shut down" the river, but rather must maintain a minimum flow of 750 cfs except in certain conditions of exceptional drought. AP also modifies its operations in order to protect spawning habitat at certain times, and generally tries to accommodate the needs of homeowners on Claytor Lake, fish and wildlife, and downstream river users to the extent consistent with meeting power demands. It is a complex task.

In addition to what it is required to do under its FERC permit, AP operates Claytor from mid-April to mid-October in a “run-of-river” mode, meaning that the daily fluctuations are reduced in amplitude and the flow coming out of Claytor Lake is approximately the same as what is coming in (Figure 1). Lake levels also are not subject to as much fluctuation. AP does this voluntarily to “enhance recreational opportunities” (and perhaps to avoid liability). From October to April, the project operates in peaking mode; it is not unusual to see flows vary within the course of a day from less than 1000 to more than 7000 cfs and back.

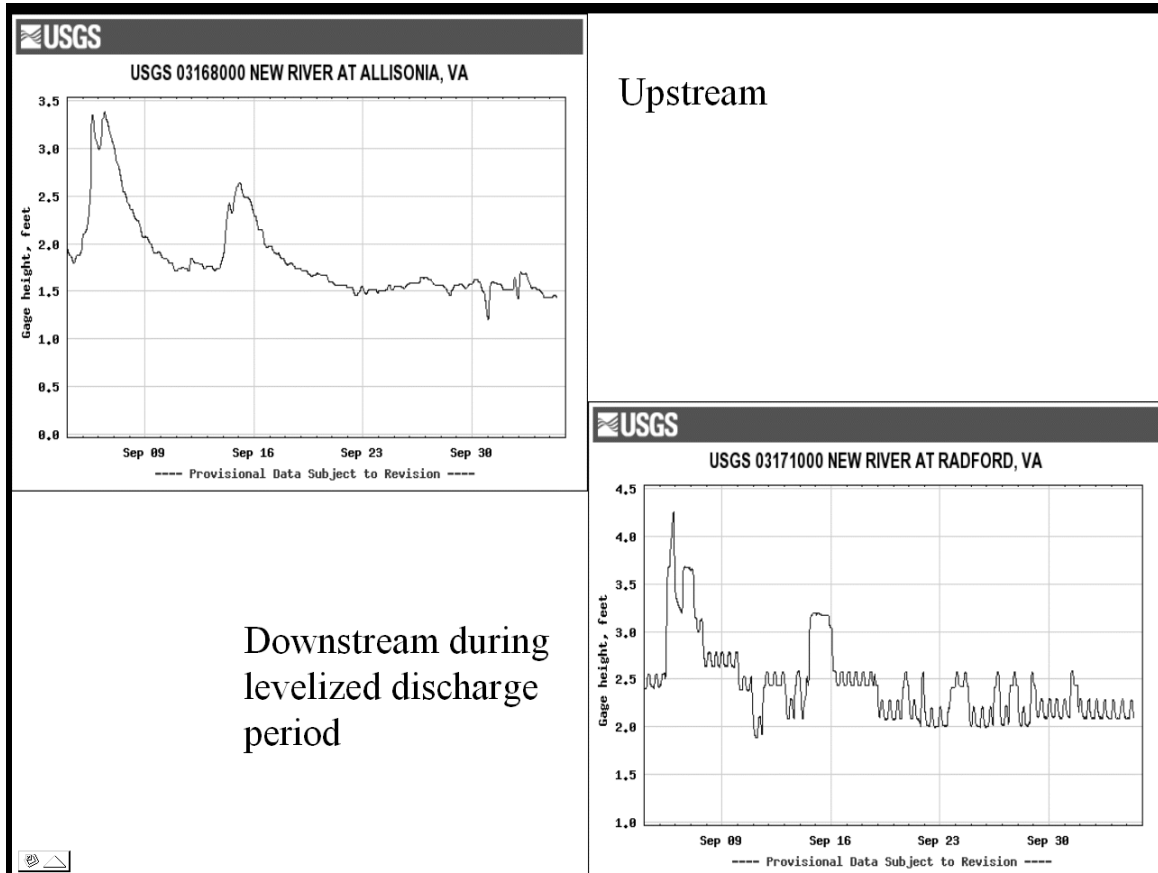


Figure 1: Flow alteration during run-of-river period. Note that large-scale pattern is similar, but flows are more variable on a smaller time scale. Upstream is above Claytor Lake at the USGS gage at Allisionia, downstream is below Claytor dam at the USGS gage at Radford.

AP’s current FERC license expires in 2011. The six-year relicensing process is underway. As part of the process, AP is paying for consultants to conduct studies on the environmental, cultural, and recreational impacts of their proposed operation of the dam during the next license period. Stakeholders, from Friends of Claytor Lake to the Virginia Department of Conservation and Recreation, are working to ensure that likely impacts of the hydropower operations are sufficiently documented through adequate studies. The studies are supposed to provide a solid information base for evaluating alternative operational scenarios and ensuring that the next license protects the public interest.

From the beginning, the FONR Board has made this relicensing process a high priority. We submitted seven formal study requests to FERC. AP in its proposed study plan (June 2006) agreed to five of them, and rejected two. FONR then submitted detailed comments on AP’s proposed study plan, arguing for refinements to some studies and for inclusion of the two we proposed and AP rejected. FERC mostly sided with AP but withheld judgment in a couple of instances.

1. A study to document the historical, current, and proposed effects of the Claytor Project on downstream flows. This will be done by using statistical software developed by The Nature

Conservancy, called *Indicators of Hydrologic Alteration*. This study will characterize how the frequency, magnitude, duration, and timing of floods and droughts are altered by operation of the dam. All of these descriptors of the “flow regime” have important consequences for water quality, river channel shape, and persistence of riverine biota.

2. A study to estimate the effects of Claytor’s flow modifications -- past, present, and proposed -- on downstream fishes and other aquatic organisms. We have taken issue with the method that AP’s consultant is using, which relates flows to habitat availability and essentially stops there without linking habitat availability to the actual populations of fish and wildlife that most of us really care about. We proposed a more comprehensive study involving expert judgment regarding the relationship between flows and the biological community of the river, but FERC judged AP’s proposed methods to be adequate. We remain concerned about their usefulness in pointing toward a “best” flow regime below the dam. AP’s consultant started the “instream flow incremental methodology” (IFIM) study this spring.
3. A study of the effects of Claytor Lake and the dam operations on the suspension, movement, and deposition of sediment in the river. Sediment, especially fine sediment such as clay, silt, and sand, is an important component of water quality and of habitat quality for fish and other organisms. This study will attempt to sort out the relative contributions of sediment from the reservoir, river channel, and tributaries.
4. A recreation study, to document recreational use of the river downstream of the dam and the flow needs of the various types of recreational users (kayakers, anglers, tubers, and so on).
5. A study of the water quality impacts of releases from Claytor Dam, with emphasis on temperature and dissolved oxygen. It is already known, for example, that the releases of lake-bottom water during late summer cause downstream water to be low in oxygen. We’re also interested in the dam’s impacts on other aspects of water quality, including metals, pesticides, and PCBs (see story below).
6. A general survey of the distribution and abundance of rare species and their habitat downstream of the dam. Little is known about what aquatic and semi-aquatic species live downstream and are potentially affected by the dam’s operations. AP declined to fund this study, although AP is funding studies of several “species of concern” including the Green Floater mussel. FERC may require AP to undertake field studies on crayfishes and hellbenders if there is inadequate published literature to make credible flow recommendations for these organisms.
7. A consensus process to determine the best overall pattern of downstream flows, taking into account all stakeholders. While not a study per se, such a process has been used in other relicensings to ensure that the results of the studies are used to determine a flow regime that best meet the often-conflicting needs of all members of the river community. We think it is a critical ingredient that the FERC ILP process lacks. AP declined to fund this process, saying they are not opposed to working with FONR in developing consensus but they do not see this as part of the study plan process. We remain skeptical as to whether and when in the relicensing process there will be an opportunity for all stakeholders to come to consensus about what flow regime is “best.”

FONR will continue to participate in the ongoing studies by serving on the water quality and instream flow study groups convened by AP. Some opportunity to influence study designs remains and we intend to stay the course and see the process through. Our goal is to work with FERC and AP to find a way to operate the dam that best serves AP’s customers and shareholders AND the river community – fish, otters, mussels, kayakers, anglers, Claytor landowners, and all the rest. -- RR

EPA WADEABLE STREAMS ASSESSMENT RELEASED IN MAY 2006 The U.S. Environmental Protection Agency undertook a national survey of the condition of small streams. They sampled macroinvertebrates, analyzed water samples, and assessed habitat condition at 1,392 sites that were randomly selected to give a statistically valid, scientific picture of the condition of the nation’s small

(first- through fifth-order) streams. In our region (the Southern Appalachians), only one-fifth of the sites were classified as “good” according to the macroinvertebrate index, and over half were “poor.” They fared somewhat better on habitat scores. The results, which are consistent with the impaired status of most of the tributaries in our watershed, are summarized below.

The full report is available on EPA’s website. The best way to get to it on the internet is to Google the title, “wadeable streams assessment.” -- *RR*

TROUBLE TO THE NORTH The Shenandoah/Potomac River basin continues to exhibit water quality related problems. According to a VADEQ press release (5/17/07), dead and dying smallmouth bass and redbreast sunfish have been found on the Shenandoah system again this year; a number of live fish with skin lesions or abnormal behavior were observed as well. Several upper tributaries of the Potomac have exhibited similar problems in the past five years. And in both the Shenandoah and the Potomac “intersex” fish have been found.

The fish kill problem seems to have spread to the James River basin. Quoting from the DEQ press release:

“On the Cowpasture, rock bass, smallmouth bass and redbreast sunfish had lesions. The number of fish with lesions near Buchanan was small, but scientists believe the situation requires further investigation. Smallmouth bass, rock bass and redbreast sunfish are the main species affected. At Horseshoe Bend, numerous fish with larger lesions were found. Northern hog sucker, smallmouth bass, rock bass, largemouth bass and redbreast sunfish are mainly affected, and numerous dead fish also were observed. The observations on the James River are similar to fish kills in the Shenandoah River watershed in the past three years.”

There is a multi-agency investigation into the cause of the problem, which is likely multi-faceted. Something seems to be causing immune system functions to falter; one theory is that a combination of pollutants and nutrient enrichment is to blame. While nothing like this has been seen in our watershed, there is no reason to think we’re immune, particularly given the widespread pollution reported below.

IMPAIRED WATERS IN OUR WATERSHED The New may look clean, but it’s not. The Final 2006 Virginia 305(b)/303(d) *Water Quality Assessment Integrated Report* (Approved by EPA on October 16, 2006) shows that almost 2/3 of the state’s rivers and streams that were assessed are impaired, meaning that they either do not support a healthy aquatic ecosystem or are not safe to swim in, or both. Our section of the New appears once again on the list of polluted (impaired) waters -- not just because of PCBs (we knew about that problem), but also because of the pesticides DDT, DDE, and heptachlor, as well as mercury, in fish. Not only that, but fecal coliform and E. coli standards were also violated, so that at least some sections of the New are impaired for recreation.

Moreover, all of the major and most of the minor tributaries of the New upstream and in our area are now listed as impaired. Following is the complete list of impaired waters in the New River basin. Adair Run, Beaverpond Creek, Big Horse Creek, Big Indian Creek, Lower Big Reed Island Creek, Bluestone River, Brush Creek, Byllesby Reservoir, Claytor Lake - New River, Claytor Lake - Peak Creek, Upper Connellys Run, Cove Creek., Cripple Creek, Elk Creek, Fox Creek, Kimberling Creek, Knob Fork, Laurel Creek, Levisa Fork, Little Helton Creek, Little River, Meadow Run, Pine Creek, Little Stony Creek, Little Walker Creek, Meadow Creek, Lower Mill Creek, Miller Creek, New River, New River Watershed, PCB, New River, Upper Allisonia, Peach Bottom Creek, Plum Creek, Reed Creek, Reed Creek, South Fork and Mill Creek, Rich Creek, Rural Retreat Lake, Saddle Creek, Shorts Creek, Shorts Creek unnamed tributary, Slate Spring Branch, Stony Fork, Stroubles Creek, Tate Run, Walker Creek, Wolf Creek. The water quality inventory can be found at <http://www.deq.state.va.us/wqa/ir2006.html> and the list of impaired waters with cause of impairment is in Chapter 3.3a, List of Category 5 Impaired Waters (303d List).

Where do these pollutants come from? It's pretty specific to the pollutant and tributary, but it is safe to say that livestock are probably to blame for much of the bacterial contamination. The source of the PCBs in the New and its tributaries was studied several years ago and no "smoking gun" was found. PCBs, like DDT and DDE, are legacy pollutants – chemicals that stopped being used decades ago but which persist in the environment and accumulate in the food chain. Mercury is the most common aquatic toxicant nationally, mostly as a result of burning coal. Benthic impairments – impaired or absent invertebrate communities – are often caused by physical habitat loss resulting from urbanization and development. For more information on your stream, go to DEQ's website. -- RR

FUN FACT The New is naturally low in fish species diversity. There are only 46 native fish species in the New River and its tributaries, compared to 223 in the nearby Tennessee River system (admittedly a very species-rich system). Eight of these natives are endemic, meaning they occur only in the New River system: the bigmouth chub and two other cyprinids; the Bluestone sculpin; the Appalachia darter; the Kanawha darter; and the colorful candy darter. Fisheries managers and others have attempted to "fill the void" by introducing 42 non-native species into the New, including virtually all the game fish that the New is known for.



Figure 2: Candy darter. These beauties are about 3 inches long as adults. Photo courtesy of U.S. Forest Service, http://www.fs.fed.us/r8/gwj/recreation/fishing/projects_issues.shtml.

FONR WORKS WITH PARTNER ORGANIZATIONS FONR members continue their involvement with the New River Watershed Roundtable (NRWR). This group was formed in 2001 to develop a strategic approach to improve and maintain water quality in Virginia's New River watershed, focusing particularly on nonpoint source pollution. The Roundtable' membership is broad-based and includes citizens, farmers, local government officials, soil and water conservation district officials, business and industry representatives, community and non-profit organizations, and state and federal resource management agencies.

FONR is also forging a closer relationship with the National Committee for the New River, the North Carolina-based organization that successfully defeated a proposal for a large hydropower dam near the

NC-VA line in the 1970s. NCNR, led by Executive Director George Santucci, is a thriving organization with several paid staff and an excellent track record; we hope to collaborate on river cleanups and other projects in the future.

DODGING BULLETS Those who like the New “like it is” were heartened by the apparent defeat of two proposed development projects along the river. In Grayson County, a prison was proposed on a piece of riverfront property. Like a lot of other folks, we thought that was not a very good locational choice. We joined the chorus of protest and it appears that the proposal is being moved to a spot off the river. Rumor has it that some of the local elected officials thought that building a prison might be a good way to get some infrastructure down to that area, to spur development.

In Giles, a landowner proposed to develop a large parcel atop the Eggleston Palisades. FONR’s approach was to encourage the landowner to develop in a way that respected the river and the views from the river. We did not oppose all development because the property owner had a legal right under current zoning to develop a certain number of houses. The property owner also had already demonstrated some sensitivity by donating a sizeable easement along the river. We also encouraged Giles County to think more proactively about controlling development along the river. The subdivision was vehemently opposed by some of the local folks around Eggleston, mostly for reasons unrelated to the river, and the proposal was withdrawn.

Some localities seem to see the river and its associated views as an asset to be exploited. Look no further than Pulaski County for an example: the land on which Heron’s Landing and the Riverway golf course are located was purchased by the county and sold to a developer for an upscale riverfront development! FONR is for the most part opposed to developing the river corridor. We consider the river and the values associated with it, including scenic values, to belong to the public, and that includes future generations.

WE NEED A VOLUNTEER Our website needs a spring cleaning. If you have some time and experience with Microsoft Frontpage, call Rick at 951-0403.

Visit our website at <http://civic.bev.net/fonr/>

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