

TVA River Neighbors



Navigation • Flood Reduction • Power Supply • Land Use • Water Quality • Recreation

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Taking Stock at the Halfway-Point: A Conversation with RRSC Members

The Regional Resource Stewardship Council (RRSC), formed to advise TVA on issues affecting the Valley's natural resources, is a little more than halfway through its two-year term. We thought this would be a good time for *River Neighbors* readers to hear from RRSC members on what's happened thus far and where they think the Council is headed. We begin our conversation with the group's new Chair, Bruce Shupp.

As National Conservation Director with B.A.S.S. in Montgomery, Alabama, Bruce Shupp has a slightly different perspective than most other Council members. He lives and does most of his work outside the Tennessee Valley, and his job requires him to maintain an outlook that is national in scope. This broad view will undoubtedly come in handy as he attempts to guide the RRSC in achieving its objectives.

"We've really reached a pivotal moment in the evolution of the Council," Shupp

says. "The sub-committee process has worked just as we'd hoped it would: they have fulfilled their function to study specific issues and bring forward recommendations to the Council as a whole.

Consequently, we find ourselves in a position to be able to make some recommendations to TVA on aquatic plant management and on tributary lake level studies." There are still questions to be dealt with regarding specifics and final wording of the recommendations, but he feels that the group is "very close" to having something to bring to the table.

Shupp is philosophical in his characterization of the RRSC's first year of operation.



Bruce Shupp, RRSC Chair

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**Eddie Smith, Jr.
1929-2001**

TVA wishes to express sincere appreciation for the exemplary service and conscientious leadership shown by Eddie Smith, Jr.

Mayor of Holly Springs, Mississippi, Mr. Smith served as Chairman of the Regional Resource Stewardship Council since its founding last year until his death in January.

We offer our deepest condolences to Mayor Smith's family and the community of Holly Springs.



"I think we've done as well as we could have, under the circumstances," he explains. "Considering the diverse make-up of the Council's membership, we really have made significant progress. The key has been developing mutual respect for all our varied ideological perspectives." As the group's Chair, Shupp says he would like *River Neighbors* readers to know that the 20 individuals that make up the Council "really care about resource stewardship and are working hard to reach consensus."

Reaching consensus becomes especially difficult, he acknowledges, as the group begins to deal with the issue of who will pay the bills for the recommendations: "Up until now, we have not asked TVA for—nor have they offered—guidance on specific issues. And it's understandable that TVA would likely hesitate to extend such advice, for fear of appearing to try to control or influence the work of the Council. But I think we're getting to the place where we are going to ask TVA for some direction, with the goal of improving the efficiency of the advisory process." He points to the RRSC's next meeting on May 18 as being extremely important: "We have some critical issues to resolve with regard to just how the Council will function during the remainder of our time together—our charter expires early next year."

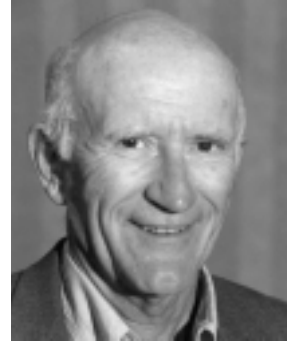


Phil Comer

Not surprisingly, the members vary in their opinion of the Council's effectiveness thus far. There's optimism about the opportunity to make a difference, but several members confess to a general impatience at the pace of the process: "Frankly, I've been very frustrated by how long it's taking to get anything done," says Council member Phil Comer of Dandridge, Tennessee. The problem, according to Comer, is "an

entrenched attitude on the part of TVA." He offers this opinion on the Council's diversity: "I really don't see it. There's a disproportionate number of folks affiliated with utilities, but only three or four of us are seriously concerned about the lake level issue."

Member Paul Teague of Parsons, Tennessee, acknowledges that the Council is moving slowly,



Paul Teague

but professes an appreciation for the educational process in which he and other members have participated: "We needed that perspective in order to be able to see a different side of things. The Council wants to help TVA become more responsive to complaints voiced by citizens. If we can get that point across while helping TVA survive and stay competitive, we will have succeeded."

Tom Vorholt with Ingram Barge Company in Nashville, Tennessee, provides input to the Council on navigation issues as a member of the Integrated River Management Subcommittee. He offers this observation on the group's dynamics: "It's my sense that a real team mentality is developing. For the most part, the Council has moved past the factional alignments and begun a real dialogue. By opening up new avenues of communication and bringing a larger view to the process, we are well on our way to understanding the issues and reaching consensus."

When asked about what serving on the RRSC has meant to him personally, W.C. Nelson of Blairsville,



W.C. Nelson

Georgia, responds: “It’s made me better understand the incredible complexity of the Tennessee River and all the varied interests served by it. I really have an appreciation of how hard it is for TVA to try to accommodate the wide range of stakeholder needs while keeping electric rates stable and maintaining the environment in an acceptable manner.”

Member Austin Carroll from Hopkinsville, Kentucky, brings another point of view to the table: “I feel a responsibility to represent the interests of the ‘silent majority’—



Austin Carroll

those folks who never use the reservoirs for recreation but who get an electric bill every month. Just as TVA has to make certain compromises in its operation of the river

system, the Council will have to make compromises, too.”

So what will be the end result of all the Council’s work? According to member Miles Mennell of Nashville, Tennessee, “The jury’s still out, but we are working in good faith that the TVA Board will consider our recommendations very seriously. On our part, I can assure you that the Council is working very hard to come up with constructive recommendations.” She maintains that the public’s involvement is vital to the Council’s ability to be effective:



Miles Mennell

“The most important outcome of this entire process will be the opportunity that stakeholders have had to articulate their concerns.”

Valley citizens are strongly encouraged to provide input to the Council. There are several ways to share your views. You can speak directly to the full Council at its next meeting, set for Friday, May 18, at TVA headquarters in Knoxville. You can provide input to Council members by calling TVA at 865-632-2333 or writing to RRSC, TVA, 400 West Summit Hill Drive, Knoxville, TN 37902-1499. Or you can send an e-mail to individual Council members by visiting <http://www.tva.gov/rrsc>. Meeting agendas and transcripts are available on the Web site.

A Quick Overview: The Council’s First Year

- Determined an organizational structure and operating procedures
- Identified priority issues and formed four subcommittees
- Invited over a dozen individuals representing stakeholder interests to participate as subcommittee members
- Received in-depth briefings on natural resource-related topics
- Held eight full Council meetings and numerous subcommittee meetings
- Heard from hundreds of stakeholders who wrote, called, or spoke at meetings
- Developed preliminary recommendations related to aquatic plant management and tributary lake level studies

Coming Soon:

TVA’s 2000 Annual Environmental Report

Copies of TVA’s second annual environmental report will be available soon.

The report reviews TVA’s environmental performance during 2000, focusing on six principles: management commitment, environmental protection and stewardship, environmental compliance, pollution prevention, partnerships and public involvement, and innovation.

According to TVA Director Glenn McCullough, the report is an important part of TVA’s commitment to fulfilling the agency’s stewardship mission: “Our management is committed to the integration of responsible environmental practices into the very fabric of how we work at TVA, so that good environmental performance is seen not as an option or add-on but simply as the way TVA does business.”

You’ll be able to view the report on TVA’s Web site (www.tva.gov), or you can request a copy by calling 865-632-2333 or by sending an e-mail to tvainfo@tva.gov.



Drought Update

In terms of streamflow, this year certainly looks better than the last two—at this time. However, when it comes to drought-related worries, we aren't out of the woods yet. Because 1999 and 2000 were so very dry, inflows (that is, the amount of water that actually reaches the reservoirs) continue to be below normal. The ground below the top most layer of soil is still very dry. When it rains, much of the water sinks quickly into the ground and not as much is left to run off into the reservoirs.

It's hard to say at press time just what the rainfall situation will be for the rest of the spring and summer, but—if the Valley receives at least normal rainfall—TVA should be able to meet target summer recreation levels.



TVA Reservoir Levels¹

	Observed April 1 Levels	Targeted Summer Recreation Levels	
		minimum	maximum
Tributary Reservoirs			
Blue Ridge	1678.0	1682	1687
Boone	1375.0	1382	1382
Chatuge	1918.2	1923	1926
Cherokee	1048.8	1060	1071
Douglas	971.0	990	994
Fontana	1660.0	1693	1703
Hiwassee	1491.1	1515	1521
Normandy	869.2	873	875
Norris	1004.1	1010	1020
Nottely	1762.9	1770	1777
South Holston	1718.8	1721	1729
Tims Ford	881.4	883	888
Watauga	1951.6	1949	1959
Main-River Reservoirs			
Chickamauga	679.4	681.5	682.5
Fort Loudoun/Tellico	809.3	812	813
Guntersville	593.8	594	595
Kentucky	356.3	359	359
Nickajack	633.7	632.5	634
Pickwick	413.0	413	414
Watts Bar	737.0	740	741
Wheeler	552.5	555	556
Wilson	506.1	506.2	507.7

¹ Elevations in feet above mean sea level.

Reservoir Operations Update

Whitewater Recreation Releases—Releases are planned for whitewater recreation below Ocoee No. 2 Dam on specified dates through November and below Apalachia, Wilbur, and Tims Ford Dams and for the Bear Creek Floatway through Labor Day. The release schedule for Ocoee No. 3 Dam is still tentative. For the latest information on recreational releases, visit www.tva.gov or call TVA's toll-free information line: 632-2264 in Knoxville, 751-2264 in Chattanooga, 386-2264 in Muscle Shoals, and 1-800-238-2264 from all other locations. If you are hearing impaired, call 1-800-438-2264.

Mosquito Fluctuations—TVA will begin fluctuating water levels on four main-river reservoirs on May 21 to strand mosquito eggs and larvae on the shoreline. Water levels on Guntersville and Pickwick will be raised during the week and lowered on weekends. Levels on Chickamauga and Wheeler will be lowered during the week and raised on weekends.

Fish Spawning—Between late April and mid-May, when water temperatures reach 65° at a five-foot depth, TVA will try to hold water levels on tributary reservoirs steady for fish spawning. Every effort will be made to limit changes in elevation to less than one foot for a two-week period.

Special Events—TVA will provide special flows and/or reservoir elevations to benefit a variety of events in the coming months. These include five different regattas on Melton Hill in April and May, a clean-up on Watauga on May 19, a boat show on Wheeler on May 19-20, a raft race on Tims Ford on July 7, and a boat race on Fort Patrick Henry on July 14.

Kentucky Lock Closure—Kentucky Lock will be closed for inspection and maintenance from June 5 through June 25. Passage around Kentucky Lock is available on the Cumberland River using Barkley Canal and Lock.

IMPROVING THE VALLEY'S WATERS

New Program Recognizes Clean Marinas

TVA's Clean Marina Initiative (CMI) is officially underway, and reservoir users can expect to see the Clean Marina flag flying proudly over several Tennessee Valley marinas before this year's recreation season is over. Designed to promote environmentally-responsible marina practices, the CMI is the result of a unique partnership among local organizations, the U.S. Coast Guard, state fish and wildlife agencies, and TVA.

The TVA Board is aware of the increasing public concern over untreated waste dumped into reservoir waters. "With over 200 marinas in the Valley and growing interest in boating recreation, the need for proper disposal of marine waste becomes more urgent," says Director Skila Harris. "TVA is proud to be a part of this effort to recognize those marinas that are leading the way in improving water quality. By voluntarily adopting environmentally-responsible practices, they are helping to preserve the health of the Tennessee River—a resource that Valley citizens care about and depend upon for a wide variety of benefits."

Here's how the program works. Interested marina owners and operators should contact their local TVA Watershed Team for information on the program. If they decide to participate, CMI representatives will visit the marina and bring along a checklist of about 75 different practices for the owner or operator to consider—everything from oil and gas control to vessel maintenance and repair to public education.

Some practices on the checklist are required by law. Federal regulations, for example, prohibit the discharge of any sewage—either treated or untreated—in reservoirs with a "no discharge" designation. But most practices are strictly optional. Each practice has been assigned a point value, based on its potential to protect the aquatic environment and/or the investment

required. Marina owners and operators select the practices they wish to adopt—aiming for a required point total (with credit for practices already in place).

The owner/operators are then asked to sign a "pledge"—an agreement to put these practices into place within a two-year time frame. They're given a comprehensive CMI certification guidebook that provides them with details on how to address the issues they've selected—from tips on locating suppliers of environmentally-friendly products to suggestions for public outreach and training marina staff.

Help is available from CMI partners at each step in the process, including technical expertise and—in some cases—cost-share assistance for certain practices. At the end of the implementation phase, an assessment is conducted to see if all selected practices are in place and working as they should be. When everything checks out, the marina is awarded a certificate acknowledging their actions, authorization to use the official Tennessee Valley Clean Marina logo on their letterhead and in their advertising, and—last, but certainly not least—the CMI flag!

For more information about the Clean Marina Initiative, check with your local TVA Watershed Team.



As part of a six-month pilot program on Norris Reservoir, over 31,000 gallons of waste was pumped out of houseboats at Shanghai Resort and hauled to the local waste treatment plant.



Hats Off To These Marinas!

Even though this is the first year for the Clean Marina Initiative, there are some exciting developments already underway on several TVA reservoirs.

Probably the most significant progress to date has been the commitment of all 23 marina owners on Norris Reservoir to make sure marine waste is handled properly within their harbors. This commitment follows last year's pilot program at Shanghai Resort, co-sponsored by TVA's Clinch-Powell Watershed Team, TVA Police, Tennessee Wildlife Resources Agency, and other partners. In just one boating season, the number of holding tanks being pumped regularly at Shanghai grew from 15 to 100 percent.

There's early progress to report on other TVA reservoirs, too—including a new wastewater collection system on Tims Ford, a mobile houseboat pumping facility on Watauga, a boater education program on Chickamauga, and a boat sewage pump-out demonstration program on Fontana.

Environmentally-Responsible Development: Managing Growth to Protect Water Quality

This continues our series profiling good watershed neighbors—in this case, residential, commercial, and municipal developers who are doing things in partnership with TVA Watershed Teams to protect downstream reservoir water quality.

Did You Know?

Polluted runoff is the #1 water quality problem in the U.S. Here's a quick look at some of the pollutants typically associated with residential, commercial, and industrial development and their sources:

Nutrients: lawn fertilizers, leaky septic systems, acid rain, car exhaust

Pathogens: malfunctioning or overloaded septic systems, pet waste

Sediment: construction, road sand, erosion from lawns and gardens

Toxic contaminants: household products, pesticides, car emissions, industrial discharges

Debris: litter and illegal dumping

Thermal stress: removal of streamside vegetation, heated runoff or discharge



On Chickamauga Reservoir, developer Tom Cate is building a residential lakefront community that will emphasize natural resource protection. At River Place, native vegetation will be left in place along the shoreline to provide shade, filter runoff, and minimize erosion. A low-lying area of bottomland hardwoods will be preserved—both for visual interest and for its ability to absorb and filter stormwater runoff. A flood-prone field will become a meadow filled with native grasses, wildflowers, and shrubs—providing wildlife habitat and an observation area for residents.

In Wise, Virginia, Rigg Properties is developing Lake Drive Shopping Center with an eye to the environment. The Center's overflow parking area will be paved using a method designed to slow runoff by allowing water to infiltrate the soil—a construction practice which also will benefit the area's limited groundwater supplies.

At Winged Deer Park on Boone Lake, the City of Johnson City, Tennessee, incorporated a water quality component in a phased construction project to build a low-water launching ramp. As part of the project, the City stabilized 1,600 feet of critically-eroding shoreline using several innovative techniques, including gabion baskets, coconut rolls, and soil bioengineering.

These and other examples show that more and more savvy developers are



River birch and Silky dogwood are among the native plants that will be part of the landscaping for developer Tom Cate's River Place subdivision on Chickamauga Reservoir.

realizing that environmentally-responsible development can be good for their bottom line. It makes good business sense to protect the natural features that make a site desirable for development in the first place. Plus, the people interested in buying subdivision lots, visiting shopping centers, and using city parks value developers' efforts to manage growth while protecting the environment.

TVA Watershed Team members are well aware of this new mind-set. "Developers are beginning to come to us for information

Here are some specific actions developers can take to protect water quality:

- Promote infiltration of rainwater into the soil by protecting the site's natural hydrology.
- Reduce and connect impervious areas—rooftops, parking areas, roads, sidewalks, etc.
- Use grassy swales and natural features for drainage channels.
- Identify environmentally-sensitive areas (streams, floodplains, steep slopes, soils unsuitable for septic tanks) and avoid or constrain development in these areas.
- Protect riparian zones, wildlife habitat, caves, wetlands and other conservation areas.
- Use phased construction and practice erosion/sediment control.

on construction best management practices,” says Chickamauga Watershed Team member Linda Harris. “Like Tom Cate, they’re looking for ways to preserve greenspaces and are increasingly open to the idea of vegetative buffers to protect water quality by filtering runoff.”

Helping developers adopt low-impact development principles is a key element

Zebra Mussels Multiply in the Tennessee River

Ten years ago, when the first zebra mussels were found in the Tennessee River just upstream from Kentucky Dam, the story was big news. Based on what was happening in the Great Lakes and elsewhere, scientists predicted serious consequences.

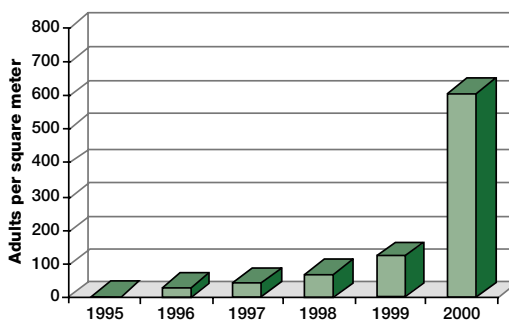
In other places where large numbers of zebra mussels occur, lakefront property owners have been plagued by encrusted dock pilings and ladders, as well as sharp, foul-smelling shells littering beaches and shorelines. Boaters have experienced problems with increased drag and poor motor performance—the result of a build-up of mussels on hulls and internal engine parts. Intake pipes at water treatment and power plants have become clogged. Even aquatic ecosystems have been affected: zebra mussels can form living blankets over the bottom, killing native mussels and reducing food supplies for young fish and other aquatic life.

So what’s happened here? Fortunately, zebra mussels haven’t taken hold in the Tennessee River as quickly as they have in some other river systems. We know that both juvenile and adult zebra mussels have been present in all of the reservoirs on the main river for at least the last five years. But the numbers remained low—until recently.

Since 1995, TVA has been counting the number of zebra mussels on the bottom of the Tennessee River just downstream from Watts Bar Dam (in the upper part of Chickamauga Reservoir). Last fall, as the graph to the right shows, the average pop-

ulation density increased substantially—to about 600 zebra mussels per square meter. This trend is similar to the early stage of the large population increases that have occurred in other rivers. Zebra mussel counts taken last fall at other places on the Tennessee River were lower than at Watts Bar, but higher than in previous years.

Zebra Mussels Below Watts Bar Dam
Fall Sampling Results



Unfortunately, there’s not much that can be done about the growth of zebra mussel populations where they already exist. But boaters can help keep zebra mussels from spreading—and protect their craft—by taking these simple precautions before going to a different reservoir or stream:

- Flush clean water through the cooling system of your boat motor.
- Drain and rinse all bilges, live wells, bait buckets, and engine compartments.
- Let your boat and trailer dry out in the hot sun for three or four days, or wash it down with hot water.



Now Underway: Annual Fish Survey

TVA is enlisting the help of local anglers to conduct its annual fish survey, which helps determine the number, age, and general health of black bass in reservoirs throughout the Tennessee Valley. The 2001 survey began in March and will continue through early June.

Volunteers fish for one hour in selected coves that have been blocked off with a net. Then TVA biologists use electrofishing equipment to collect the remaining fish in the cove. The fish are counted, weighed, measured, and released unharmed outside the cove.

The schedule for this year’s survey is available online at www.tva.gov or by calling TVA at 256-386-2729 (Alabama) or 865-632-1721 (Tennessee).



Explore New Waters This Summer: Locking Through Can Be Fun and Easy

Tennessee River CruiseGuide

Whether you own a runabout or a yacht, the recently revised and updated *Tennessee River CruiseGuide* can help make your trip up or down the Tennessee easier and more enjoyable.

Written by former TVA employee Fred Myers, the *CruiseGuide* provides a mile-by-mile description of what you can expect as you travel along the river—from Mile 0.0 at Paducah, Kentucky, to Mile 652.0 near Knoxville, Tennessee. You'll find detailed information on food and fuel sources and other marina services, suggestions about sights to see, and even cautions about where commercial barge traffic tends to be heavy. The *CruiseGuide* also includes a brief history of the Tennessee, notes on navigating the river, tips on anchoring, and a handy distance and trip-planning chart.

The 200-page, spiral-bound publication is available by mail for \$22 (including postage). To order, call 1-800-803-0809.



If you're like many recreational boaters, you may have thought about venturing beyond familiar water, but you just aren't comfortable with the idea of "locking through." Passing through the navigation locks—the chambers that raise and lower water levels to allow vessels to pass from one reservoir to another—can seem a little daunting to those who've never tried it. But if you stay alert, follow the rules, and exercise caution, locking through can be a fascinating part of your river adventure.

What you should know before you go

Normally, locking through will take less than an hour, but you may have to wait your turn. According to U.S. Army Corps of Engineers policy, commercial barges have priority over recreation vessels and personal watercraft. The lock operator may decide to wait until several recreation craft have gathered before locking them through.

Recreation lockages are free to the public. All locks on the Tennessee River system are available for use 24 hours a day, 365 days a year, with two exceptions. Recreation lockages are only available at Fort Loudoun from 6 a.m. until 10 p.m. daily and at Melton Hill by appointment.

Be prepared. Have at least 50 feet of rope or line ready to tie your boat to the mooring bit (a floating post that moves up and down the lock wall with the water level) and make sure fenders are in place to prevent your boat from hitting the lock wall. Be sure everyone on board is wearing a lifejacket—especially the person tending the lines.

Approaching the lock

Stay within the navigation channel (sailing line) as marked by the buoys. Head directly



There are tens of thousands of recreational lockages on the Tennessee River each year. Chickamauga experienced the most recreation traffic in 1999, providing passage for more than 4,500 recreational vessels.

for the lock and slow your boat to a no-wake speed as you approach the wall. Pay close attention to warning signs designed to help you steer clear of dangerous areas around the lock and dam.

At the lock entrance

Pay attention to the "traffic signals" at the lock. A red flashing light means the lock is not yet available; keep your distance. An amber flashing light indicates the lock is being made ready; you may approach the lock wall, but do not enter the lock chamber. A green flashing light means the lock is ready; you are free to enter the lock chamber.

You can signal the lock operator by pulling the signal cord attached to the approach wall or, if you have a horn on board, by giving one long blast followed by a short blast. If you have a radio, you can contact the lock operator on channels 12 or 14. The lock operator may signal you to enter the lock chamber with a long horn blast.

In the lock chamber

Move at no-wake or idle speed. Make sure you tie off to one of the floating mooring

bits inside the lock chamber. (Mooring to the ladder or any other fixed point could severely damage or capsize your boat.) If there are several recreational crafts in the lock chamber, you may be instructed to tie off to another boat instead. Don't panic if you have a problem getting your boat positioned and tied up properly. Take your time and do it right. Passengers should stay seated unless they are helping to tie-off. If there are several boats locking through at once, it's a good idea to turn off your motor to prevent build-up of exhaust fumes. Expect a little turbulence, especially toward the

center of lock, when you're traveling upstream and the lock is filling.

Exiting the lock

Remain moored until the gate is fully opened and the lock operator signals you to depart with a short horn blast. Passing is not permitted when exiting the lock. Vessels nearest the lock exit should leave first, observing no-wake speed when exiting.

For a free copy of a pamphlet on using navigation locks, call the U.S. Army Corps of Engineers at 615-736-7835.

A GOOD IDEA FROM TELLICO RESERVOIR

T-BART to the Rescue

If boaters on Tellico Reservoir get into trouble out on the water, they have somebody to bail them out—literally.

The Tellico Boaters Assistance Response Team (T-BART) is ready to respond to requests for non-medical assistance—everything from providing a little extra gas to towing a vessel experiencing mechanical problems to retrieving a boat that's floated away from a dock. Founded in 1998 by a group of boating enthusiasts who recognized a need for this type of service, the organization renders assistance at no charge to the boating public. T-BART was officially incorporated in 2000 and recently achieved non-profit status.

The group has 60 members that periodically volunteer to serve as captains and crew members, with additional subscribing members that provide financial support to the group. At least one boat is always "on call" throughout the year during day-light hours—more during the recreation season and on weekends and holidays. Boaters may request assistance from T-BART by contacting Loudon County 911 over channel 16 if they have a marine radio, or by calling 986-9081 on a cell phone.

But T-BART does more than aid stranded boaters. It also cooperates with TWRA and the TVA Police to promote boating safety on Tellico, participating in a wide range of educational projects and activities. T-BART members are required to complete the basic boating course offered by either the U.S. Coast Guard Auxiliary or the U.S. Power Squadron and must participate in additional classroom and hands-on training offered by the group—all with the goal of making sure members have the knowledge and equipment to respond to almost any kind of non-medical emergency situation.



In the few months T-BART has been operational, the group has responded to almost two dozen requests for assistance.

Reservoir Fact Sheets Available

If you've always wanted to know how many acres of water Kentucky Reservoir covers, the average annual fluctuation for Douglas, or just how much public land surrounds Gunter'sville, here's how to satisfy your curiosity: contact your local TVA Watershed Team or call 1-800-TVA-LAND for fact sheets on the reservoirs of interest to you.

Fact sheets are available for all reservoirs. They provide information on the size of each reservoir, operating purposes, how TVA manages the shoreline and reservoir levels, recreation opportunities, and watershed improvement activities.



For more information on T-BART or to learn about how a similar program might work on your reservoir, contact T-BART member Paul Knapp at 865-458-5106 or at ptknapp@aol.com.

Droughts, Floods and Sprawl They're All Related

Water Conference Set For June

TVA and the Association of Tennessee Valley Governments are co-sponsoring a conference in Knoxville, Tennessee, on June 14-15 to discuss regional water issues, including water supply and increasing competition among water users. Individuals involved with municipal water supplies, energy distribution, industry, and local/state governments are encouraged to attend.

To register for the conference, contact TVA at tvainfo@tva.gov or call 865-632-8006.

Watch the next issue of *River Neighbors* for an update on conference results and further discussion of this important subject.



The connection may not be obvious at first. After all, how could development—initiated by humans—be linked to natural phenomena such as floods and droughts?

It has to do with impervious surfaces. An increase in rooftops, paved roads, sidewalks, etc. can have a very real impact on our ability to withstand and recover from both floods and droughts.

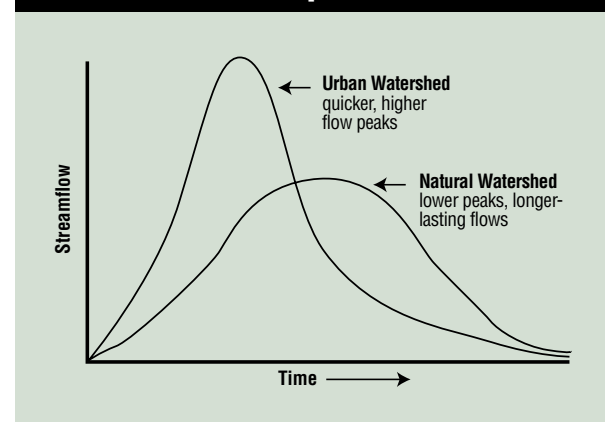
Strange as it seems, even waterfront communities, surrounded by greenspace, can be affected. The failure to effectively handle stormwater can have a significant impact on the health of downstream reservoirs—even if the urban areas are located many miles from the reservoir. Impacts from development—specifically, from the rapid outward-moving encroachment known as “sprawl”—are becoming everyone’s problem.

Take the issue of flooding. Stormwater systems are usually a part of any kind of development—from gutters around your roof to storm drains in parking lots. They minimize standing water by routing runoff directly into the closest receiving stream. In many cases, however, nature just didn’t design these streams to handle such large volumes of rushing water. The problem is two-fold: impervious surfaces keep much of the excess water from being absorbed into the soil so there’s a lot more runoff; and it’s also directed into streams at such a high velocity that it erodes banks, scours streamside vegetation, and sends loads of sediment into downstream reservoirs. This sediment affects aquatic life—choking the insects that live in the water and covering fish eggs.

Then there’s the growing concern related to droughts. The proliferation of paved surfaces associated with development means that less and less rainwater is allowed to permeate the soil and recharge the groundwater. This affects underground aquifers, which provide well water for

many Valley residents and replenish our streams and rivers when rainfall is below normal. These water-supply issues are quickly coming to the forefront—even in historically water-rich areas like the Tennessee Valley, which has experienced below-average rainfall since 1998.

Streamflow Response to Rainfall



A long-term solution requires environmentally-responsible development that protects groundwater, streams, and riparian corridors. (See page 6 for examples of developers who are doing things the right way.) But there are things we can do in the short-term to make the situation better. Here are a few examples from around the Valley:

- TVA’s Chickamauga/Nickajack Watershed Team is working cooperatively with the City of Chattanooga, Tennessee, and the Natural Resources Conservation Service toward returning a 600-foot section of Citico Creek to a natural system. Located in a historically industrialized section of downtown, this stretch of the heavily polluted creek was constructed as a channelized concrete ditch for stormwater. The partners will be removing the concrete, restoring some of the stream’s natural meanders, recreating features such as riffles,

runs, and pools, enhancing land and aquatic habitats, and allowing the stream to regain its natural function.

- EARTH Park in Hartselle, Alabama, is helping to demonstrate urban stormwater treatment and educate local citizens about nonpoint source pollution. The park is located along one of the city's major drainage channels in an area that contributes urban storm runoff to the Flint Creek watershed, which drains into Wheeler Reservoir. It showcases wetland cells that remove pollutants from stormwater. An adjacent area features filtered storm drains designed to capture debris and separate oil and gas from runoff. EARTH Park was constructed with a grant from the Alabama Department of Environmental Management. The Flint Creek Conservancy District, the Hartselle Beautification Association, and the Tennessee Valley Resource Conservation & Development organization served as partners on the project.

- Willow Creek Youth Park near Halls Crossroads, Tennessee, will soon have a new stormwater master site plan, thanks to a partnership effort involving TVA, the Natural Resources Conservation Service,



At EARTH Park in downtown Hartselle, Alabama, wetland cells are used to remove pollutants from stormwater.

the University of Tennessee, Knox County, and the local utility district. Initial plans are to stabilize severely eroding stream-banks along Willow Fork, which runs through the park and eventually drains to Melton Hill Reservoir, and to replace a clogged french drain with a grassy swale. The swale will slow stormwater, filter pollutants, and allow groundwater recharge through the absorption of water into the soil. The work is being done through the Environmental Stewardship Program (ESP), an innovative cost-share program that provides community organizations and citizens with professional expertise and funding to implement environmentally-friendly solutions to stormwater problems.

Swatting Mosquito Problems

Some people believe that a cold winter means less swatting and scratching come summer. But, unfortunately, it doesn't work that way.

While cold temperatures may have a slight impact on the mosquito population (mostly in terms of a delay in hatching), the greatest determining factor by far is the amount of rain that falls from early spring through the summer recreation season.

While there's no way to accurately predict just how big a problem mosquitoes will be this summer, there are some things we can do to minimize the effects on a local level. Check your yard and your neighborhood for anything that holds water. Container-breeding mosquitoes multiply in stopped-up gutters, old tires, pet bowls, and in the water held by saucers around flower pots. Emptying these containers weekly will eliminate mosquito larvae. When it comes to combating those pesky floodwater mosquitoes, the best plan is to simply apply repellent.

TVA will continue to monitor mosquito populations for disease (including the West Nile virus) and fluctuate reservoir levels to help control permanent-pool mosquitoes.



TVA Watershed Teams

Boone, Bristol Projects, Fort Patrick Henry, South Holston, Watauga, Wilbur:
423-239-2000

Cherokee, Douglas, Nolichucky:
423-587-5600

Norris:
865-632-1542

Melton Hill, Watts Bar, Great Falls:
865-988-2440

Fontana, Fort Loudoun, Tellico:
865-988-2420

Apalachia, Blue Ridge, Chatuge, Hiwassee, Nottely, Ocoee 1, 2, 3:
828-697-6006

Chickamauga, Nickajack:
423-697-6006

Guntersville:
256-571-4280

Wheeler:
256-386-2560

Pickwick, Wilson, Bear Creek Projects:
256-386-2228

Kentucky, Beech River Project:
731-641-2000

Tims Ford, Normandy:
256-386-3442

TVA Campgrounds

TVA campgrounds on reservoirs throughout the Tennessee Valley are now open for the 2001 season with no change in fees. Sites with water and electric hookups cost \$15 a day per camping unit; sites without hookups cost \$11 a day. Improvements have been made at several campgrounds, picnic areas, and other public-use areas.

For information on reserving a campsite or picnic pavilions, call 1-800-TVA-LAND and leave your name and telephone number. More information is available online at <http://www.tva.gov/river/recreation/index.htm> or by writing TVA, Natural Resources Building, P.O. Box 1589, Norris, Tennessee 37828.

If you have a new address or no longer want to receive our newsletter, please contact:

TVA River Neighbors

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Congratulations to Public Lands Day Volunteers!

The award was given to TVA, but you deserve the credit.

TVA recently received a prestigious Hammer Award for its role in coordinating National Public Lands Day activities in the Tennessee Valley last September. Hammer Awards, created by former Vice President Al Gore, are given to teams that come up with a way to help "make government work better and achieve results Americans care about." Teams must include at least one federal agency.

To win the award, TVA Watershed Teams coordinated the clean-up efforts of 63 federal, state, and local agencies and 948 volunteers, resulting in the collection of about 34.5 tons of trash from water-

sheds in Alabama, Kentucky, North Carolina, and Tennessee.

National Public Lands Day is aimed at cleaning up or improving the nation's public lands and fostering environmental awareness. This year's event is scheduled for September 29. Look for more information on how you or your group can participate in the summer issue of *River Neighbors*.

