

TVA River Neighbors



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

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Partnership Benefits Wildlife—and Wildlife Watchers

Drive up to the visitor center at TVA's Raccoon Mountain Pumped-Storage Plant near Chattanooga, Tennessee, and you're likely to see wild turkey, deer, and all manner of feathered creatures. At TVA's Muscle Shoals Reservation in northern Alabama, workers and visitors alike can stroll through the native plant garden or the grassland meadows. Just down the road at TVA's Colbert Fossil Plant, watch for bluebirds returning to their nest boxes and enjoy the colorful wildflowers.

All three sites are rolling out the red carpet for wildlife as part of a partnership between TVA and the Wildlife Habitat Council (WHC), a Maryland-based non-profit organization that encourages environment-friendly corporate efforts across the country. WHC's wildlife biologists work with member companies to inventory wildlife populations, identify wildlife habitat enhancement projects, and form teams of employees to carry them out.

TVA Environmental Scientist Ken Kelley is a member of the wildlife team at the Muscle Shoals Reservation. Like many team members, he has spent much of his career working to protect the environment and wildlife. "Enhancing the wildlife habitat right here where we work is a natural extension of our personal and professional interests," says Kelley. "We're glad so many

animals make the reservation their home."

Wildlife projects differ from site to site, but typically include maintaining wildlife food plots and providing artificial nesting structures for bluebirds, wood ducks, and other birds. Native-grass and wildflower meadows also have been established at all three sites.

Not all the habitat enhancement efforts are land-based. "Water is wildlife habitat, too," explains Kelley, "and since most TVA facilities are located along the river, the shoreline is a natural focus for our wildlife teams." Muscle Shoals and Colbert team members have planted flood-tolerant trees and shrubs along stream banks, and Raccoon Mountain employees recently completed a major reservoir shoreline stabilization project—all with the objective of reducing soil erosion and the sedimentation that results from it.

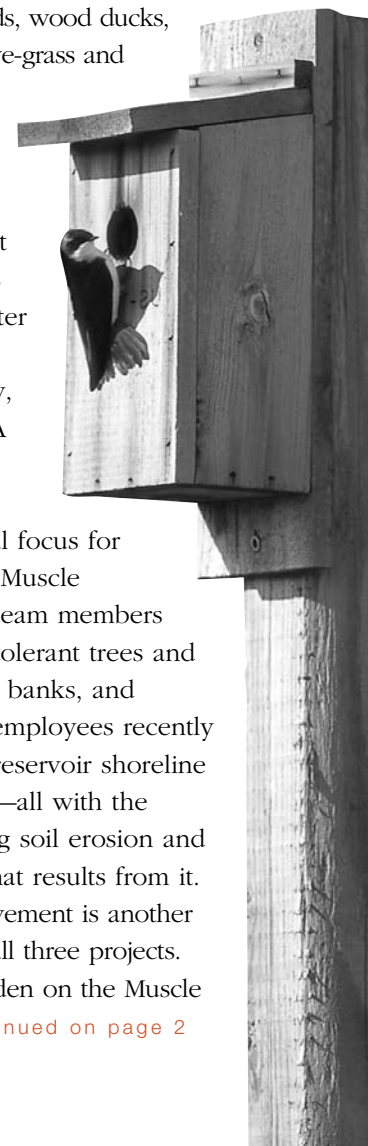
Community involvement is another feature common to all three projects. The native plant garden on the Muscle

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Did you know?

The Tennessee Valley is home to an incredibly diverse array of wildlife, including about 200 species of fish, 100 freshwater mussel species, 60 species of mammals, 200 species of breeding birds, 140 species of reptiles, and 60 species of amphibians.



New on TVA.com

Campground Information

The TVA Web site features expanded information on campgrounds operated by TVA. The site now lists facilities available at each location, driving directions, special scenic features, and information on picnic pavilion reservations. Go to www.tva.com/river/recreation/camping.htm.

Sportfish Survey Results

The Spring Sportfish Survey is conducted annually to check on black bass and crappie populations in selected reservoirs managed by TVA. The results give an overall picture of the numbers of fish caught, their size, and their health. Read a summary of the study and results for each reservoir at www.tva.com/environment/water/catchfaq.htm.



Colbert wildlife team members and community volunteers spent a rainy day this spring installing bluebird boxes, sowing wildflower seed, and planting native trees and shrubs on the Colbert reservation.

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Shoals reservation is a good example, says Kelley. “The Shoals Environmental Alliance and several other organizations have been with us every step of the way—from removing invasive plants to planting native wildflowers and shrubs. Now we’re working together to install interpretive signage for educational purposes.”

The wildlife team at Raccoon Mountain has gotten a lot of help from a local Cub Scout pack. The boys, their parents, and their leaders have spent countless hours on the reservation monitoring nesting activity and planting flower gardens to attract butterflies and hummingbirds.

According to Kelley, you can recognize wildlife team members by their personal appreciation and commitment to wildlife and the outdoors. “On the job, they are managers, electricians, mechanics, and computer specialists. But they bring their own interests and expertise to the team.

Some are birders and butterfly enthusiasts; others are sportsmen and farmers. These are very enthusiastic groups, and they really enjoy doing something good for wildlife.”

The Wildlife Habitat Council has certified all three sites. Certification is like a *Good Housekeeping* seal of approval, explains Kelley. “Wildlife projects have been going on for years at many TVA locations, but WHC certification provides third-party credibility. It independently verifies and validates the value of these projects. Team members give lots of their own time, so it’s nice to receive some recognition for the work we’re doing, too.”

TVA’s Reservoir Releases Improvement (RRI) program also has received WHC certification. This ambitious effort to significantly enhance conditions for aquatic life in the areas just below dams was first certified in 1999 and recertified in 2001. (Companies are required to show



continuing habitat enhancement efforts and results every two to three years to maintain certification.) The RRI program is credited with improving aquatic habitat in over 300 miles of river by increasing the amount of dissolved oxygen in the water and keeping the riverbed wet during times when hydropower is not being generated.

Wildlife Habitat Council President Bill Howard is complimentary of TVA's efforts. "TVA has been an active member of WHC for over a decade now and has demonstrated its commitment to environmental stewardship by earning certification

for several wildlife restoration and enhancement projects. This kind of attention to how we manage our interaction with the environment is the only thing that in the long run will assure that humans can live sustainably in a biologically diverse world."

To find out more about wildlife projects at TVA and what you can do to help, please call Ken Kelley at Muscle Shoals (256-386-3492), Melissa Tupps at Raccoon Mountain (423-825-3008), or John Muse at Colbert (256-389-7710).

Updating the Rulebook: Shoreline Construction Regulations Revised

The big news is not in changes to the rules themselves—although several regulations have been amended for clarity—but rather in the fact that, for the first time ever, they are readily accessible to the public.

Most folks who own property on TVA-managed reservoirs know that you are required to submit an application for a permit before you can build a dock or boat ramp. The rules governing this type of construction activity are based on Section 26a of the TVA Act, which gives TVA responsibility for ensuring that any construction along the shoreline or in the waters of the Tennessee River system doesn't interfere with the agency's management of the river system. In other words, TVA must approve any construction proposal that might have an impact on navigation, flood control, or public lands.

These regulations were overdue for an update, according to Shoreline Management Specialist Bob Curtis: "It's been 25 years since we've made changes to the rules governing shoreline construction permits. There were topics that needed clarification, and there were areas that had never been adequately addressed." Highlights include the following:

- Adding residential shoreline-management guidelines from the Shoreline Management Policy adopted by the TVA Board of Directors in 1999.
- Providing an 18-month window of time in which to begin construction after the date a permit is issued.
- Requiring that new flotation materials for docks and piers be encased and commercially manufactured for marine use.
- Establishing rules for the installation of underground and aboveground fuel-storage tanks and marina sewage pump-out stations.
- Clarifying the process for approval of development within flood zones of TVA-managed reservoirs, including private and public water use facilities, commercial boat docks, barge mooring facilities, minor grading and fill, and bridge and culvert construction.

TVA also has taken steps to make the process more user-friendly, according to Curtis. "We've posted the complete set of rules covering shoreline-construction permits on TVA's Web site, along with a new section that defines technical terms and step-by-step instructions for applying for a permit."

He also thinks the update will improve efficiency. "Now that the rules are spelled out in one place, our Watershed Team members all across the Valley will be able to provide assistance using the same set of comprehensive permitting guidelines."

TVA Watershed Teams

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

Cherokee, Douglas, Nolichucky:
423-587-5600
865-632-3791

Norris:
865-632-1539

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:
828-837-7395

Chickamauga, Nickajack:
423-876-6706

Guntersville:
256-571-4280

Wheeler, Tims Ford, Normandy:
256-386-2560

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

Kentucky, Beech River Project:
731-641-2000



The revised rules governing shoreline construction permits can be found at www.tva.com/river/26apermits/regs.htm.

ROS Update

TVA's Reservoir Operations Study is nearing an important milestone, according to Project Manager David Nye.

"We are currently in the process of identifying a preferred operating alternative. We're focusing in on a recommended course of action, using the analytical tools we developed at the outset of the study to build a clear picture of the trade-offs involved.

"This is where it all comes together. With the state-of-the-art computer models we've developed, we can compare different alternatives based on flood risk, water quality impacts, power costs, and effects on the region's economy. And we have the public input we need to factor in the collective values of Tennessee Valley citizens. I'm confident that we will be able to make an informed, fact-based, and fully researched recommendation to the TVA Board of Directors."

The preferred alternative will be identified in the Final Environmental Impact Statement, which will be released this winter. After reviewing the staff recommendations, the TVA Board will announce its decision in early 2004.

TVA Reservoir Levels¹

	Observed October 1 Levels		January 1 Flood Guide Levels	
	feet	meters	feet	meters
Tributary Reservoirs				
Blue Ridge	1648.4	502.4	1668	508.4
Boone	1377.4	419.8	1357	413.6
Chatuge	1919.4	585.0	1912	582.8
Cherokee	1056.8	322.1	1030	313.9
Douglas	973.1	296.6	940	286.5
Fontana	1679.6	512.0	1644	501.1
Hiwassee	1506.6	459.2	1465	446.5
Normandy	874.0	266.4	864	263.4
Norris	1008.1	307.3	985	300.2
Nottely	1761.0	536.7	1745	531.9
South Holston	1716.1	523.1	1702	518.8
Tims Ford	884.3	269.5	873	266.1
Watauga	1949.2	594.1	1940	591.3
Main-River Reservoirs				
Chickamauga	681.3	207.7	677	206.4
Fort Loudoun/Tellico	812.0	247.5	809	246.6
Guntersville	594.2	181.1	593	180.7
Kentucky	355.2	108.3	354	107.9
Nickajack	633.9	193.2	633	192.9
Pickwick	410.6	125.2	410	125.0
Watts Bar	740.9	225.8	737	224.6
Wheeler	553.4	168.7	552	168.3
Wilson	507.3	154.6	506.2	154.3

¹ Elevations above mean sea level.

For the latest information on reservoir levels and releases, visit TVA's Web site at <http://lakeinfo.tva.com>, or call our toll-free information line: 632-2264 in Knoxville, 751-2264 in Chattanooga, 386-2264 in Muscle Shoals, or 800-238-2264 for all other locations. If you are hearing-impaired, call 800-438-2264.

Reservoir Operations Update

Hydropower Generation – TVA hydro generation was up by about 35 percent in June, July, and August thanks to above normal rainfall and runoff. The increased generation helped TVA set a new record in late August when power demand exceeded 28,000 megawatts for five straight days. Even with the extra generation, most tributary reservoirs were well above median levels throughout the three-month period.

Bear Creek Drawdowns – Special drawdowns are continuing on two Bear Creek reservoirs this fall. The pool level of Cedar Creek should reach 550 feet above sea level on November 15. It will be held at this level for about two weeks for construction of a temporary dam, which will allow workers to build a new water intake structure. The reservoir should return to normal winter levels in January. The pool level of Little Bear Creek was lowered three feet below normal summer level earlier than usual this fall to allow vegetation to be planted along the shoreline. The drawdown (which normally begins on November 1) will resume in mid-November and should be completed on a regular schedule (reaching elevation 608 in mid-December).

Blue Ridge Drawdown – The water level of Blue Ridge Reservoir will be lowered to around 1,620 feet above sea level (about 48 feet below normal winter pool level) by late November. It will be held there for three to four weeks and then allowed to return to normal as rainfall permits. The drawdown will allow workers to inspect the penstock, an underwater pipe at the dam that carries water from the reservoir to the turbines in the powerhouse.

Winter and Spring Spills Can Be Spectacular

The awesome power of falling water is seldom more evident than when TVA “spills” water from one of its dams. It’s a sight to see: as much as 200 million gallons of water thundering over the spillway per minute!

Since spilled water generates no hydroelectric power, it’s also an event that TVA tries to avoid. But sometimes there’s simply no choice. Especially in winter and early spring, major storm systems can move across the Valley one right after another, so it’s important to make sure there’s enough room to hold runoff from the next heavy rain. “It’s just a fact,” says Morgan Goranflo of TVA’s River Scheduling group. “If the water can’t be released fast enough through the turbines to recover the needed flood storage space, it must be spilled. You do what you have to do in these circumstances, with the knowledge that flood reduction is one of the vital purposes for which we operate the reservoir system.”

How do spills occur? It all depends on the size and design of the dam and the purpose for which it was built. Many of TVA’s tributary dams have two mechanisms for releasing water: “spillways” near the top of the dam and vertical slots, called “sluices,” near the bottom of the dam. Several factors determine which mechanism is used. For instance, spillways may be used to conserve colder bottom water for later use in meeting water temperature discharge limits at downstream coal-fired and nuclear plants. Sometimes the water isn’t high enough to be able to use the spillway, so reservoir elevation also plays a role.

Spillway gates come in many shapes and sizes. The smallest—at Chatuge and Nottely Dams—are only five feet high by six feet wide, while the huge gates at Tims Ford are 42 feet high and 40 feet wide. Some dams (mostly at nonpower projects) don’t even have spillway gates. When the reservoir level gets to a certain elevation, water automatically flows over the top of the spillway. At TVA dams on the main Tennessee River, excess flow is always released through the spillway. There are no sluices at these dams since water levels don’t fluctuate as much as at tributary dams.

The incredible force of the falling water is dissipated in different ways. For example, the spillway “apron” at Norris was designed to prevent erosion of the bedrock by providing a deep pool for the rushing water to plunge into. The most spectacular energy-dissipating device may well be at Fontana, where “flip buckets” shoot the spill releases 100 feet or more into the air—spreading the water out so that it falls back into the river far below the dam and with less concentrated energy.

The safest place to watch a spill event is from the shore or the designated viewing area at a dam. Do not enter restricted areas marked by signs, buoys, booms, or cables either by foot or by boat. Avoid the powerful water currents flowing over and through the spillway gates and the turbulent water below the dam at all times.



Spills occur more often at main-river dams because these projects manage the bulk of the water flowing through the system. Your best bet for seeing a spillway in action is at Kentucky Dam, where spillway releases occur on average more than 100 days a year. Contrast that to Norris Dam, where the spillways have been used only in nine of the 67 years the dam has been in operation.

More Clean Marinas

Clean Marina flags are now flying over 24 Valley marinas, signifying their commitment to reducing boating-related pollution.

These marinas have met the rigorous standards of the Tennessee Valley Clean Marina Initiative. This unique voluntary program encourages marinas to implement environmentally responsible practices—everything from proper handling of boat sewage to safe fuel management to public education—in addition to meeting all federal, state, and local regulations related to marina management.

The latest marinas to receive Clean Marina designation are:

Jay’s Dock, Gray, TN

Fall Creek Marina, Russellville, TN

May Springs Marina, Rutledge, TN

Greenlee Campground, RV & Marine, Rutledge, TN

Mountain Cove Marina, Kodak, TN

Lake Ocoee Inn & Marina, Benton, TN

Island Cove Marina, Harrison, TN

Chickamauga Marina, Chattanooga, TN

Goose Pond Colony, Scottsboro, AL

Anchorage Marina, Guntersville, AL

Riverwalk Marina, Decatur, AL

Lighthouse Landing, Grand Rivers, KY

For more information about the Clean Marina Initiative, go to www.tva.com/environment/water/boating.htm or check with your local TVA Watershed Team.

Paying for Watershed Improvement

Get a Grant!

Finding Funding Sources Online

The first step in a successful search for grant money is to identify appropriate funding sources for your watershed improvement project. It's important to target your efforts by matching your project with a funder who has a corresponding field of interest.

There's a wealth of information available on the Web—from catalogs of federal funding sources to directories of foundations that support environmental activities and programs. For starters, you might want to check out these sites:

<http://cfpub.epa.gov/fedfund>

<http://www.rivernetwork.org>

<http://www.cfda.gov>

<http://www.epa.gov/win/technical.html>

<http://www.environmentalgrants.com>

<http://www.fundsnetsservices.com/environ.htm>

Good news for those who care about water quality in streams and reservoirs across the Valley: money is out there for community groups seeking funds for watershed improvement projects. The challenge is knowing where to look for it—and going about it the right way.

According to TVA Watershed Specialist Don Anderson, the most successful coalitions share some common characteristics: they have a well-developed plan of action that clearly articulates their goals, they have a broad base of local support, and they are relentless in their pursuit of grant funding. “It’s a competitive environment,” says Anderson, “and money tends to follow success. The key is to start small and gradually develop a reputation for getting things done.”

There are grants available for almost any type of watershed improvement project—from education and outreach efforts, organizational development, and watershed planning to installing shoreline buffers, habitat restoration, water quality monitoring, and implementing agricultural best management practices. The funds can come from a wide variety of sources: federal and state government agencies, local industries, county governments, municipalities, nonprofit organizations, and foundations.

Many watershed groups throughout the Valley—some well-established, others just recently formed—have been successful in obtaining funding for improvement projects. The amounts of the grants are as varied as the groups that have received them.

- The Clinch Headwaters Association got \$10,000 from the Canaan Valley Institute to help pay for mailings, meeting advertisements, educational materials, and other start-up costs.
- Three grants totaling \$400,000 from Virginia’s Water Quality Improvement Fund enabled the Guest River Watershed Group to reclaim about 20 acres of abandoned mine lands and repair 80 septic systems impacting the Guest River and its tributaries.
- Riverlink, Inc. received a \$1.5 million grant from the North Carolina Clean Water Management Trust Fund to restore 1.9 miles of the Swannanoa River in Asheville. The money will be used to stabilize eroding river banks, acquire permanent conservation easements, and provide educational opportunities.
- The State of Georgia awarded \$120,000 to the Hiwassee River Watershed Coalition to develop a model showing pollutant sources on Nottely and Chatuge reservoirs. The results will be used to create a watershed plan and set priorities for improvement efforts.
- A Section 319 grant from the Environmental Protection Agency is helping to pay the salary of a Watershed Coordinator in the Bear Creek watershed in northwest Alabama. The Franklin County Soil and Water Conservation Service applied for the \$100,000 award, which is being dispersed over a five-year period.



Members of the Clinch Headwaters Association were able to use a \$16,000 grant from the Southern Appalachian Man and the Biosphere (SAMAB) project to purchase equipment and supplies for assessing stream health. This effort includes monitoring the numbers and diversity of aquatic insects.

“TVA Watershed Teams can often be of assistance in providing community groups with advice and guidance throughout the

grant application process,” says Anderson. “We work with local groups to develop the skills they need to get the job done—from leveraging resources to forming partnerships and providing technical expertise.”

Anderson says that it’s important to carefully follow the procedure outlined in the application. “Tell the funders what they want to know. Paint an accurate picture of current conditions and then describe how a specific need will be met by what you’re requesting. Have a

well-thought-out plan in place to address the problem and be able to justify your rationale for the solution you’re proposing. If the grant requires a matching contribution, look for agency and corporate partners who can provide dollars, technical support, or other ‘in-kind’ assistance.”

Finally, says Anderson, you have to persevere. “Don’t be discouraged if you are rejected at first. If your concept is sound and you’ve done your documentation, you’ve got an excellent chance of finding funding.”

History Is in Our Hands

The project is called “A Thousand Eyes,” a reference to the primary goal: to enlist the help of the public—particularly folks who live along and use TVA-managed reservoirs—in helping to protect archaeological sites on public lands. But, according to TVA Archaeologist Erin Pritchard, the ears of Valley citizens also will play an important role in the project’s success.

“Awareness is a critical part of what we’re trying to accomplish,” says Pritchard.

“We want people to understand the importance of these sites as they relate to efforts to learn more about past cultures. When looting goes undetected, we lose more than the artifacts that are stolen. We lose what archaeologists call ‘context’: the relationship of artifacts and other cultural remains to each other and to the surroundings in which they are found. Without context, it’s impossible to draw accurate conclusions about the types of activities that may have taken place there.”

Looting of archaeological sites is an ongoing problem, according to Pritchard. “With about 9,000 sites on TVA-managed land, enforcement of the laws protecting them is a challenge. That’s why TVA has initiated the Thousand Eyes stewardship project: we’re counting on folks to help us preserve these sites by keeping an eye out for anyone digging along the reservoir shoreline.” The project works in concert with TVA Lake Watch, a cooperative effort to reduce crime and accidents on TVA-managed shorelines and reservoirs by training local volunteers in how to recognize and report suspicious or unsafe activities.

TVA’s Cultural Resources staff is eager to get the word out about the Thousand Eyes project, says Pritchard. “We’re available to make presentations to Lake Watch groups, students, and community organizations, and we sometimes offer field trips during drawdowns. Our hope is that public involvement will go a long way toward protecting these fascinating remnants of the Valley’s rich cultural heritage.”

Visit www.tva.com/river/landandsbore/culturalresources to learn more about the preservation of historic sites on TVA-managed land and to find out how to schedule a Cultural Resources presentation.

To Report Suspected Looting

If you spot someone that you think might be disturbing an archaeological site on TVA-managed land, call the TVA Police immediately at one of the numbers listed below.

Central District (Chattanooga)
800-548-4005

Eastern District (Knoxville)
800-824-3861

Northern District (Nashville)
800-839-0028

Western District (Muscle Shoals)
800-839-0003



Members of Friends of Fort Patrick Henry Reservoir, including this budding young archaeologist, visited several shoreline prehistoric and historic sites last winter to learn about the history of their area. The trip was led by TVA Cultural Resources staff.

Teacher Completes Tennessee River Swim

TVA River Neighbors is published three times a year for people who live near and use the Tennessee River, its tributaries, and reservoirs.

Send comments and suggestions to Editor, TVA River Neighbors, 400 West Summit Hill Drive, WT 10D, Knoxville, TN 37902.

TVA River Neighbors is available on the TVA Web site at www.tva.com/river/neighbors. You can help us save resources by reading it online. Just send an e-mail to riverneighbors@tva.com, and we'll let you know when a new issue is posted instead of mailing you a printed copy.

For alternate formats of this document, call 865-632-6824 and allow five working days for processing.

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This summer, marathon swimmer Mimi Hughes finished the fifth and final segment of her five-year quest to swim the 652-mile length of the Tennessee River.

Hughes began her journey in Knoxville in 1999, swimming a segment of the river every summer since then. When she climbed out of the river on July 25, 2003 at the Paducah riverfront, she had swum a total mileage equivalent to the distance between Nashville and Dallas. TVA supported her swim by providing technical advice, boats, and boat captains.

A high school teacher and mother of four from Taft, Tennessee, Hughes made the swim to generate public interest in protecting the waters of the Tennessee River so everyone can enjoy its benefits.

“Many people take the river for granted and may not realize that their actions, not just on or near the water, but anywhere in



Paducah Mayor Bob Paxton congratulates Hughes at the end of her Tennessee River swim.

the watershed, can be harmful to the river,” Hughes says. “Whether it’s preventing soil erosion along streams, closely following instructions for lawn chemicals, or just helping keep trash and pollution out of the river, everyone can do something to help.”

More information about Hughes’s swim is available at www.riverswim.com.