

# TVA River Neighbors

## Facing the Fall Drawdown *A Conversation With Greg Lowe*

*When reservoir levels begin to drop, the number of phone calls to TVA about reservoir operations goes up—so this is a good time to discuss the annual drawdown with Greg Lowe, Manager of TVA's River Scheduling.*

*Lowe and his colleagues are responsible for moving water through the Tennessee River system—helping protect people and property from floods, supplying reliable hydropower, maintaining a navigable waterway, and providing a clean and abundant water supply for drinking, recreation, and industry.*

*In his 26 years at TVA, Lowe has learned to accept the fact that it just isn't possible to make everybody happy with the decisions that control reservoir levels. "We're not very popular this time of year," Lowe acknowledges, "because people have different ideas about which of these benefits is the most important. I certainly understand why folks don't like the fall drawdown, but I hope that a better understanding of why we have to bring the reservoir levels down when we do will make it easier for them to accept..."*



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### *Why does the drawdown have to start so early?*

If we delay the drawdown, we run the very real risk of impacting many of the purposes for which the reservoir system was designed. If we held reservoir levels up until after Labor Day and then got hit by a period of wet weather, for example, we'd be faced with higher spill rates and the possibility of flooding low-lying land. If the weather were abnormally dry, there would be less water available for discharge below Kentucky Dam on the lower Ohio and Mississippi Rivers, so industries that rely on low-cost river transportation could be impacted. Water quality would be affected, as well. Fish and other aquatic life would suffer because less flow through the river system means higher

surface water temperatures, lower dissolved oxygen levels, and more algae.

Delaying the drawdown also would curtail the use of hydropower during the hottest part of the year, which would raise electricity costs for the 8 million people who use TVA power. In some years, we'd have to reduce generation or even shut down Sequoyah and Browns Ferry just when they're needed most. These nuclear plants depend on a certain amount of river flow to comply with state thermal standards. And, without them, we could have power shortages. A late-season drawdown would benefit boaters and boost the recreation industry. But it also would create real problems for TVA, for the river system, and for the citizens of the Valley.



## Facing the Fall Drawdown *continued*

*“How can we rationalize ‘rewarding’ some people with higher reservoir levels at the expense of others?”*

### Lakes vs. Reservoirs— What's the Difference?

While the terms “lake” and “reservoir” might seem interchangeable, there are some important differences. Lakes are formed by glaciers, volcanic eruptions, the movement of the earth’s crust, and other natural processes. Reservoirs are formed by humans when they build dams along rivers to “impound” the water for a specific purpose.

TVA reservoirs were created to control destructive floodwaters and to maintain a navigable channel. The stored water also is used to generate electricity—as much as 14 percent of TVA’s total generation in a rainy year.

So the next time you’re out on a TVA “lake,” remember that it’s actually a reservoir—working hard to provide multiple benefits to people all across the Valley.

*Why are some lakes so much higher than others this time of year? Do some lakes get special treatment?*

We don’t “play favorites” and—believe me—decisions about reservoir levels are not arbitrary. If your reservoir is higher or lower than others, it’s because of how it was designed and its purpose within the entire system. Large tributary reservoirs fluctuate the most because they do the bulk of the work in controlling floods. They have more storage capacity than other reservoirs and must be drawn down more aggressively. Main-river reservoirs don’t fluctuate nearly as much because they have less storage space and because of navigation requirements. Other reservoirs have almost no storage space and are maintained at near-steady levels year around. These reservoirs are operated primarily to maximize power production or provide local benefits. How your reservoir is operated depends primarily on the category to which it belongs.

*But what about variations between lakes in the same category? Some large tributary lakes fluctuate much less than others.*

Even within these categories, a number of variables influence reservoir levels—for example, the size and shape of the reservoir and its surrounding watershed.

The distribution of rainfall plays an important role, too. Local downpours can result in noticeable differences in the levels of reservoirs within a short distance of each other.

*Does outside pressure from individuals and organizations impact lake levels?*

Our goal is to do what has to be done to get the

pool levels to where they should be by mid-December and to keep them regulated until the first of June. It doesn’t matter who lives on what reservoir. How much help we get from nature—the amount of rainfall and run-off and how it’s distributed throughout the year—determines how high the reservoirs get and how they have to come down. It’s as simple as that.

*Can’t you hold the levels up a little longer on just one or two of these lakes? How much difference could that possibly make?*

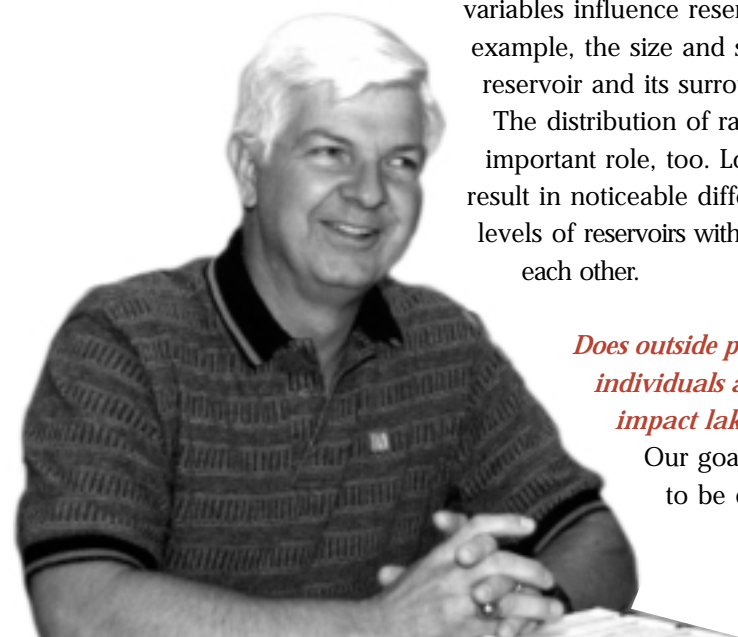
If you change the levels on any one reservoir, you’ll end up with either more or less water downstream. Sure, some people would benefit. But others would be penalized. How can we rationalize “rewarding” some people with higher reservoir levels at the expense of others?

*What would you say is the greatest challenge you face in scheduling the water?*

The hardest part of what we do is regulating the day-to-day “tradeoffs” that have to occur between all of the purposes for which the reservoirs were designed. If we operate the river in favor of one particular benefit—recreation, power, flood control, navigation, etc.—then some other benefit will be impacted.

*Overall, how would you rate TVA’s performance in managing the river system?*

It’s hard for me to be objective, but I think we come pretty darn close to using the water to achieve the best possible balance of public benefits. Not everybody is happy with their reservoir levels, and they probably never will be. But when we go home at the end of the day, we know we’ve done our very best to use the water the way it should be used: for the greater good of the people—all the people—of the Tennessee Valley.



# Reservoir Operations Update

**Fontana Drawdown**—TVA will begin lowering Fontana Reservoir to elevation 1575 beginning August 1, 2000 for a formal dam safety inspection (required every five years). The inspection work will begin in mid- to

late-November and should be completed by January 2001—in time for the reservoir to re-fill to normal levels by spring.

**Boone Drawdown**—TVA will lower Boone Reservoir to elevation 1351 (about three feet below normal) from January 3-14, 2000 to help the City of Johnson City and the Tennessee Wildlife Resources Agency (TWRA) construct a low-water boat ramp at Winged Deer Park. (The request to draw the reservoir to elevation 1348—announced in the July issue of *TVA River Neighbors*—was revised by the City and TWRA.) The new boat ramp will improve access to the reservoir for winter anglers.

## New Land-Use Action Web Site

TVA has created an Internet web site to improve communication with stakeholders and involve them in actions affecting TVA public lands. The site [www.tva.gov/environment/landaction](http://www.tva.gov/environment/landaction) provides information on requests for the use of public lands (e.g., requests for easements, deed modifications, and leases), as well as information about other significant land-use actions of public interest such as natural resource and watershed management plans. TVA accepts land-use requests from the public and private sectors when actions are compatible with TVA's objective of managing public assets to benefit future generations and the environment. Comments from the public help determine the level of environmental review required before such requests are approved or denied.

The land-use action web site also includes general information on TVA's review process and instructions for submitting comments electronically, verbally, or by mail. One action is currently available for comment: a draft resource management plan for 3,500 acres of public land on Chickamauga Reservoir in Meigs and Rhea Counties, Tennessee. Other actions will be posted soon, so keep watching!

## TVA Reservoir Levels<sup>1</sup>

Tributary Reservoirs	Observed October 1 Levels		January 1 Targeted Operating Levels	
	feet	meters	feet	meters
Blue Ridge	1666.1	507.8	1640 - 1668	499.9 - 508.4
Boone	1376.9	419.7	1342 - 1358	409.0 - 413.9
Chatuge	1916.2	584.1	1908 - 1912	581.6 - 582.8
Cherokee	1044.8	318.5	1020 - 1030	310.9 - 313.9
Douglas	965.5	294.3	940 - 945	286.5 - 288.0
Fontana	1662.0	506.6	1580 - 1644	481.6 - 501.1
Hiwassee	1495.2	455.7	1450 - 1465	442.0 - 446.5
Normandy	870.5	265.3	864 - 866	263.4 - 264.0
Norris	994.5	303.1	970 - 985	295.7 - 300.2
Nottely	1756.5	535.4	1735 - 1745	528.8 - 531.9
South Holston	1706.3	520.1	1678 - 1702	511.5 - 518.8
Tims Ford	883.1	269.2	865 - 873	263.7 - 266.1
Watauga	1938.7	590.9	1918 - 1940	584.6 - 591.3
<b>Main-River Reservoirs</b>				
Chickamauga	680.6	207.5	675 - 677	205.7 - 206.4
Fort Loudoun/Tellico	812.5	247.6	807 - 809	246.0 - 246.6
Guntersville	593.9	181.0	593 - 594	180.7 - 181.1
Kentucky	356.2	108.6	354 - 355	107.9 - 108.2
Nickajack	632.7	192.8	632.5 - 634	192.8 - 193.2
Pickwick	411.0	125.3	408 - 410	124.4 - 125.0
Watts Bar	740.5	225.7	735 - 737	224.0 - 224.6
Wheeler	553.0	168.6	550 - 552	167.6 - 168.3
Wilson	507.2	154.6	504.7 - 506.2	153.8 - 154.3

<sup>1</sup> Elevations above mean sea level.

For the latest information on reservoir levels, check our web site at [www.lakeinfo.tva.gov](http://www.lakeinfo.tva.gov) or call our toll-free lake 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.

## Annual Survey Shows Plenty of Healthy Bass



**T**hey gave it their best and came up short—reservoir after reservoir, cove after cove. But most of the 150 bass anglers that participated in TVA's 1999 catch depletion survey weren't surprised. These avid fishermen know their efforts with a rod and reel will never come close to equaling the results achieved by the agency's electrofishing boats and their crews. "Our electrofishing boats captured anywhere from 30 to 90 bass per hour of fishing for the three-month period we conducted the survey," says TVA Fishery Biologist Donny Lowery. "By contrast, the pre-fishing by local anglers produced an average of less than one fish per hour."

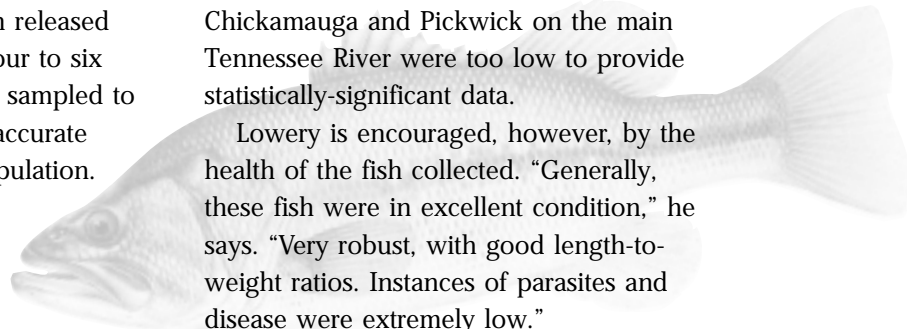
So why do the anglers persist in subjecting themselves to this one-sided competition? "Most of them get a big kick out of seeing just how many bass—a lot of them good-sized—were actually hiding there all along," says Lowery. "They appreciate the fact that we're out there and that we care enough about the bass population to do this."



### The sampling process

This spring, TVA crews conducted catch depletion studies on eight main-river and 10 tributary reservoirs. It's a two-step process. First, volunteers from local bass clubs and weekend anglers fish for one hour in coves that are blocked off with a large net. Then TVA biologists "deplete" the remaining fish in the cove using electrofishing equipment. All the fish are counted, weighed, and measured; evaluated for disease or parasites; fin-clipped

to identify any recaptures; then released unharmed outside the cove. Four to six coves per reservoir are usually sampled to provide enough data to draw accurate conclusions about the bass population.



## Survey results

Overall catch rates for the 1999 survey were down slightly from the previous year’s sampling, with a marked decrease on Watts Bar and Chickamauga. Wheeler and Gunter’sville both showed impressive gains.

Lowery attributes the decline to the timing of this year’s study, which began earlier and finished later than normal. Catch rates for the early sampling were influenced by low reservoir elevations (around five feet below normal, in some instances), which limited the sample area. “We were essentially out in the mud flats,” he explains. “All the stumps, treetops, and other shoreline cover were still above water.” Crews encountered a different problem with the late-season sampling. By that time, the water temperatures had risen and the bass had moved from the coves into deeper water. As a result, catch rates at five of the ten tributary reservoirs and at

Chickamauga and Pickwick on the main Tennessee River were too low to provide statistically-significant data.

Lowery is encouraged, however, by the health of the fish collected. “Generally, these fish were in excellent condition,” he says. “Very robust, with good length-to-weight ratios. Instances of parasites and disease were extremely low.”

What stands out from the 1999 study? The best cove in the survey was Short Creek on Gunter’sville. This seven-acre cove produced large numbers of big bass, both during the pre-fishing and electrofishing runs. The yield from the shocker boats was an amazing 36.7 pounds per acre, as compared with 15.2 pounds per acre for the other coves sampled on Gunter’sville. The reservoir producing the largest single bass was something of a surprise: the crews pulled an 8.6-pound lunker out of Chatuge Reservoir. Pickwick Reservoir produced the greatest percentage of smallmouth bass.

The results of the 1999 survey are summarized by reservoir in the table below. For more detailed information, call TVA at 423-632-1721 or 256-386-2729—and watch the spring issue of *TVA River Neighbors* for next year’s survey schedule.

### Now Available: New Map of Kentucky Reservoir

The TVA Map Store announces the availability of the revised edition of the Kentucky Reservoir Recreation Map. The map covers the entire 184 miles of the reservoir and shows commercial boat docks and marinas, highways and roads, cities and towns, public parks, public-access areas, wildlife management and refuge areas, boat-launching sites, and fish-attractor locations. The map costs \$3. To place an order, or for information about maps and aerial photography, call 1-800-MAPS-TVA (627-7882) or write to TVA Map Store, 1101 Market St., Chattanooga, TN 37402-2801.

### 1999 Catch Depletion Results

Reservoir	No. of fish per acre*	Pounds per acre	Average weight (lbs)
Boone	5.4	7.0	1.1
Chatuge	3.7	4.4	2.1
Fort Loudoun	5.3	7.5	1.1
Gunter’sville	15.4	15.2	1.3
Kentucky	9.0	8.1	1.6
Normandy	10.1	9.1	1.6
Nottely	2.9	5.1	1.9
Tims Ford	5.7	7.5	1.1
Watts Bar	11.4	8.4	0.9
Wheeler	19.1	15.1	1.2
Wilson	9.4	9.1	1.2

\*This number reflects harvestable-size bass (10 inches or more in length).

## Bald Eagles May Be “De-listed”

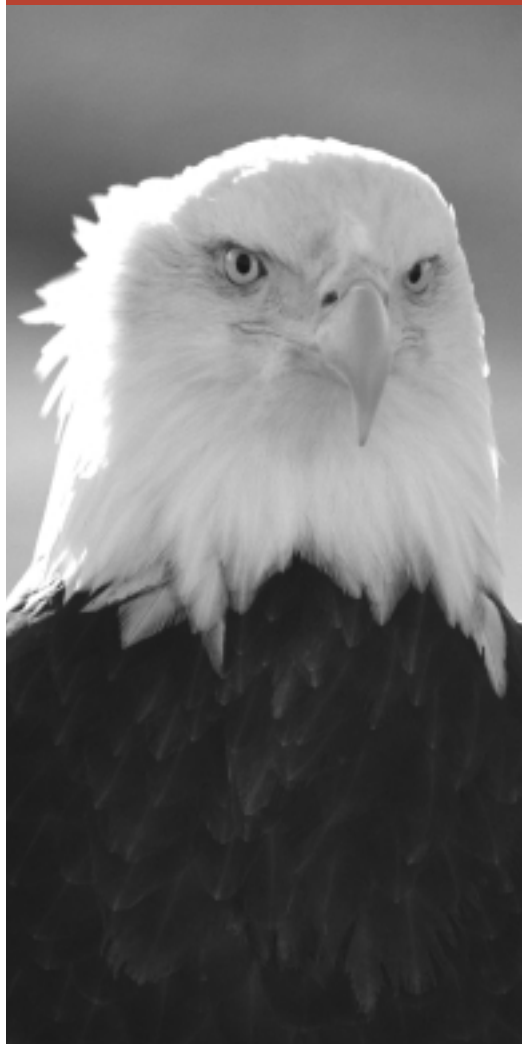
### Spend a Day with the Eagles at LBL

Land Between The Lakes staff members will be leading van and boat tours to spot bald eagles during the peak-viewing months of January and February. For more information and reservations, call 270-924-2020 on weekdays, 8:00 a.m. - 4:30 p.m. (CST).

### Breaking Ground: Work Begins on New Lock at Kentucky Dam

Representatives from Congress, state and local governments, and the navigation industry will join TVA and U.S. Army Corps of Engineers staff on November 19 to break ground for construction of a new and larger navigation lock at Kentucky Dam. The public is invited to the ceremony, which will begin at 2:00 p.m. (CST).

The new lock will be 110 feet by 1,200 feet—twice the size of the existing lock. It is expected to significantly reduce the long delays currently experienced by barge tows at the dam. The Corps of Engineers is leading the \$500-million project, which could be completed as early as 2008, depending on funding. TVA is providing technical, engineering, construction, and environmental support.



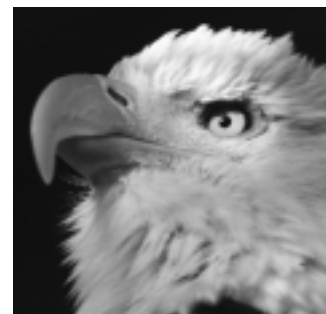
In the fifteen years that TVA Biologist Steve Bloemer has worked with bald eagles, he's seen these magnificent birds of prey make a remarkable journey. They've gone from being threatened with extinction to near-complete recovery as a species. Bald eagles have made so much progress, in fact, that the U.S. Fish and Wildlife Service recently proposed removing them from the list of threatened and endangered wildlife in the lower 48 states. Official “de-listing,” if passed, would likely take place within the next year—a real cause for celebration among resource managers.

Bloemer has been in a unique position to witness the recovery of the bald eagle at The Land Between The Lakes (LBL)

National Recreation Area. “TVA was one of the first agencies involved in eagle restoration in the Southeast,” he explains. “Along with our partner agencies, TVA played a leading role in the recovery of the bald eagle population in the Tennessee Valley.”

Major aspects of the LBL recovery effort included conducting population surveys, establishing eagle refuges, protecting habitat, and a comprehensive reintroduction project designed to re-establish a nesting population. Through a carefully controlled process known as “hacking”—raising a bird of prey in captivity and then releasing it into the wild—44 bald eaglets were released at LBL from 1980 to 1988. The first successful nesting attempt occurred in 1984, and bald eagles have nested at LBL continually since that time. 1999 has been a record year for nesting, with 14 nesting pairs and at least 14 eaglets fledged. The most recent aerial survey revealed 117 wintering bald eagles.

Even if bald eagles are removed from the national list of threatened and endangered species, they will continue to be listed by individual states in the Tennessee Valley and protected under the Eagle Protection Act and the Migratory Bird Treaty Act. These laws afford a wide range of protection for the eagles, including preventing members of the public from disturbing, hunting, capturing, or killing bald eagles. Bald eagles at LBL will continue to be monitored and protected for a minimum of five years following de-listing, in accordance with U.S. Fish and Wildlife Service guidelines.



## Sinkholes: A “Drain” on Water Quality

Most people know what a sinkhole is. If you live in limestone country—southwest Virginia or east and middle Tennessee—you’ve probably seen one. Still, you might not know what causes sinkholes—and why they can be a serious threat to water quality.

Sinkholes are formed when slightly acidic groundwater dissolves portions of the underlying bedrock, carving out spaces underground. Rainfall gradually washes the overlying soil down into these conduits and caves, resulting in the familiar surface depressions known as sinkholes.

This type of landscape—called karst—is characterized by thin soils and bedrock outcrops, which provide little filtration of surface pollutants. Studies have shown that water mixed with “tracer” dyes introduced directly into sinkholes shows up very rapidly in nearby springs, streams, and wells—sometimes miles away from the place where the dye was introduced. Pollutants travel just

as fast, affecting groundwater quality almost immediately and rivers and lakes soon after.

What can you do to protect the environment if a sinkhole appears on your property?

- Don’t put anything into a sinkhole—not trash, certainly not pollutants, and not even loose soil. If you must back-fill, use only clean, graded stone.
- Most newly-collapsed sinkholes are unstable and steep-sided. You may want to erect temporary fencing to minimize the safety hazard, but be sure to allow time for stabilization before attempting repairs in case the sinkhole continues to grow. Dig a ditch or build a berm around the sinkhole to divert run-off.
- Do not locate a septic system or an animal feedlot near a sinkhole. If you use pesticides or fertilizers on your land, consider planting native trees and shrubs around the perimeter to help filter pollutants from run-off.



For assistance in treating sinkholes, contact your local Natural Resources Conservation Service office; for more information about sinkholes, call the Virginia Karst Project at 540-674-5541.

## “Hats Off” to Volunteers for Public Lands

They rolled up their sleeves, donned work gloves, and joined with others in their communities to help make a difference. Some removed exotic plants, others picked up litter, and still others monitored water quality or pitched in on projects to protect wildlife habitat.

The occasion was National Public Lands Day, held this year on September 25. According to TVA’s Judith Bartlow, Natural Areas Coordinator, it was an unqualified success. “This was the first year that TVA coordinated the effort so that these activities would happen at about the same time all across the Valley, so we were really gratified to see the number of volunteers who turned out to help.”

TVA partnered with various local and state agencies to sponsor seven events designed to improve public places for outdoor recreation and to protect natural resources. One event was held at the cedar barrens adjacent to Worthington Cemetery in Oak Ridge, Tennessee. Along with members of TVA’s Melton Hill Watershed Team, volunteers from Tennessee Citizens for Wilderness Planning (TCWP) removed invasive exotic plants and built a foot bridge over a muddy spot in the trail.

Other events were held in Tennessee, Kentucky, and Alabama. In addition to TCWP, partners included the Land Between The Lakes Association, Maury County, NatureWatch of East Tennessee, Friends of Short Springs, Quail Unlimited, and the Retired and Seniors Volunteer Program.

Bartlow credits citizen volunteers for their willingness to take responsibility for the future of our public lands. “The folks who turned out to help cared enough about their public lands to give up part of their weekend to make these special places better for all of us.”



Volunteer Dennis Horne joined with others from the Friends of Short Springs, Boy Scout Troop #402, and members of TVA’s Wheeler Watershed Team to remove invasive plant species from the Short Springs State Natural Area on Normandy Reservoir near Tullahoma, Tennessee.

## TVA Watershed Teams

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

*Cherokee, Douglas, Nolichucky:*  
423-587-5600 or 423-632-3791

*Norris:*  
423-632-1539

*Melton Hill, Watts Bar:*  
423-988-2440

*Fontana, Fort Loudoun:*  
423-988-2420

*Apalachia, Blue Ridge, Chatuge,  
Hiwassee, Nottely, Ocoees 1, 2, 3:*  
828-837-7395

*Chickamauga, Nickajack:*  
423-954-3800

*Guntersville:*  
256-571-4280

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

*Pickwick, Wilson, Bear Creek  
Project:* 256-386-2228

*Kentucky, Beech River Project:*  
901-641-2000

## Effective November 1: TVA's New Shoreline Management Policy

If you plan to apply for a TVA permit to build a new dock or conduct any other shoreline development activities on a TVA reservoir beginning this winter, you'll want to get a copy of *Shorelinks II*. Just released, this publication describes TVA's new shoreline management policy which will take effect on November 1, 1999. It includes information on construction standards for docks, slips, boathouses, and other residential water-use facilities, as well as permitting requirements for vegetation management, shoreline stabilization, channel excavation, boat launching ramps, and community water-use facilities.

The new policy was approved by the TVA Board of Directors in April after

extensive public involvement. "The long-term goal," according to Ruben Hernandez, Vice President of Resource Stewardship at TVA, "is to balance shoreline development, recreation use, and resource conservation needs in a way that maintains the quality of life and other important values provided by TVA reservoirs."

Permit requests received or approved prior to November 1 are not subject to the new policy. Existing permitted uses may be continued by current and subsequent property owners, but TVA must be notified when ownership of permitted docks and shoreline alterations changes.

For a copy of *Shorelinks II*, call your local TVA Watershed Team.

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

***TVA River Neighbors***  
Tennessee Valley Authority  
17 Ridgeway Road  
Norris, Tennessee 37828

Phone: 423-632-1663  
Fax: 423-632-1534