

What Next For Johnson's Shut-Ins?

The dramatic rupture of the Taum Sauk Reservoir atop Proffit Mountain shortly after 5 a.m. December 14 has raised a host of questions about what next for Johnson's Shut-ins, one of Missouri's most ecologically diverse, scenic and popular state parks. The first question at the time, of course, was human safety, and that remains a vital concern. Beyond that are a range of questions about the destruction and recovery of the park, the cause of the rupture, the future of the reservoir, and the recompense to the citizens of Missouri for the

utter devastation of a public treasure.

Gary Rainwater, president of AmerenUE, the owner of the pumped storage hydroelectric plant, told reporters that a computer monitor indicated the reservoir reached capacity about 5:12 a.m. but had fallen back to near-empty by 5:24 a.m. As near as can be determined before an investigation is completed, the automated shut-off apparently failed to stop the filling of the reservoir, and water overtopping the kidney-shaped berm caused about 600 feet of the wall on the northwest side to

by Susan Flader
collapse, sending more than a billion gallons of water with rocks, soil, trees and other debris from the reservoir and seven thousand feet of scour channel roaring down the mountainside into the heart of Johnson's Shut-ins State Park.

Park superintendent Jerry Toops, whose family were asleep in their home east of Route N between the park entrance and the East Fork Black River, was awakened by his wife Lisa screaming "Get the kids!" and what sounded like a roar of F-14 jets, he said at a December 23 news conference; but he was immediately hit by a wall of water as his bedroom disintegrated and he found himself swimming upward what seemed like twenty or thirty feet until he managed to grab the roof of his house, which soon also broke apart. Everything he grabbed in the swirling torrent kept crumbling, but he eventually caught on to a cedar tree that held, and he clung in its branches in the cold and dark.

Lisa Toops, who had fallen asleep in the living room in the front of the house while feeding seven-month-old Tucker, ran with him to the bed of Tanner, age 5,

Ron Coleman photo



A view of the forlorn front entrance to Johnson's Shut-Ins State Park.

(See "Shut-Ins" on Page 2)

("Shut-Ins" from Page 1)

and barely had time to tell him "hold your breath" and pray "Jesus save us" before water filled the room and they too were swept away. Neither parent could get to Tara, age 3.

Fortunately, the deluge that swept their house from its foundation and tore it apart was surging *upstream* through the valley of East Fork Black River. It carried them several hundred yards northwest of Route N before slowly beginning to recede. Lisa somehow managed to keep hold of Tucker in the raging torrent but became separated from Tanner. When she finally felt mud beneath her feet and heard Tanner calling "Mommy," she managed to wade to him and let the water push them to a pile of debris where they could wait, cold and weak. If the water had pushed them downstream, they likely would have become entangled in debris and drowned.

About an hour and a half later, toward dawn, all five—even little Tara, all alone—were found by Lesterville volunteer firefighters in three separate locations in the flooded, debris-strewn fields northwest of Route N and, after a MoDOT snowplow cleared the road of mud and debris, they were taken by ambulance to a medical center in Ellington, suffering from hypothermia with body temperatures in the '80s. By day's end, the children were in Cardinal Glennon Hospital in St. Louis, each in critical condition, and the parents were released to join them. The Toopses called their survival a miracle, and many agreed.

While the Toops children were recovering, members of the extended family that is the park division brought their archaeological and conservation skills to the task of finding and restoring a surprising number of the Toopses' possessions, including Lisa's wedding dress, rings and family photographs. When the last of the children, Tanner—who had required skin grafts for scalding of his legs during the warming process—was released from the hospital December 29, the family moved to the unoccupied parsonage of their church in Lesterville, which had been furnished for them by donations from local citizens. AmerenUE has said it will cover their expenses, but in the interim several funds were established for cash donations, including one by MPA (contributions may be made payable Missouri Parks Association to benefit the Toops Family Fund and sent to Enterprise

Bank and Trust, 300 St. Peters Center Blvd., St. Peters, MO 63376). The family will likely soon move to Lebanon where Jerry will assume his new duties as assistant district supervisor for the Ozarks, to which he had been promoted just prior to the disaster.

Not least among the extraordinary occurrences was that there were no campers in the park the night of the flood, though the campground had been receiving steady use throughout the fall, and no one else was seriously injured or killed despite several trucks being washed from the road. If the breach had occurred during the summer, hundreds of people at the nearly always full park would likely have been injured or killed. And it was fortunate that the dam of the lower reservoir downstream from the park on East Fork Black River held, or a twenty-foot surge would have raced through Lesterville 3.5 miles south and on downstream.



Aerial view of the park looking east across Black River at scour channel (top left) showing debris dam and impoundment (center), Route N (left), field where Toopses were found (far left), and entrance road to park (lower right).



An aerial view of the breached reservoir looking down the scour channel toward the park (USGS Photo).

As it was, the dam was overtopped but the water downstream rose only about two feet.

Destruction and Recovery

The scour channel on the west face of Proffit Mountain, down which the torrent roared, was stripped of trees and scoured to bedrock, as was much of the bottomland along East Fork Black River in the park. A debris dam some twenty feet high blocked the park entrance road and the river nearby, forming a "lake" upstream near the Route N bridge. Debris and sediment also clogged the river downstream from the new lake, forcing the river out of its channel, but it reclaimed an older channel as rivers will sometimes do.

The entire campground was obliterated and strewn with mud and debris. Mud and debris covered much of the Johnson's Shut-ins Natural Area straddling the river along the shut-ins, including the highly significant fen

near the campground. The Johnson family cemetery on the knoll above the campground was also flooded, though fortunately the graves remained intact. And water reached about four feet up the walls of the park office, but because it subsided relatively soon it did not reach as high inside.

The shut-ins themselves, favorite swimming holes for generations of Missourians, are made of ancient resistant rhyolite, so they are likely still there largely unscathed beneath the murky orange water. But the flood deposited debris, much sediment, and probably also some huge boulders that somehow will have to be removed. The boardwalk along the shut-ins has been destroyed and of course the trees and other vegetation have been obliterated. Needless to say, the park has been closed until further notice.

AmerenUE quickly accepted responsibility for cleanup of the park and contracted with an

Atlanta firm, MacTek, to do the work under DNR supervision. To passersby on Route N, the park entrance looks like a military staging area. With the campground and most other facilities gone, Ameren will apparently also hire a contractor to help the park division prepare a new conceptual development plan for the park, on

which the public will likely be given the usual opportunity to comment.

DNR has been conducting regular meetings in Lesterville to address local concerns, which have centered largely on sedimentation in Black River downstream from the lower reservoir. Ameren has requested permission to use chemicals such as alum to cause the sedimentary particles to bind together and settle. But there is continued infusion of additional sediments from the edges of the gash on Proffit Mountain, the upper slope of which is owned by AmerenUE, the lower by the state park. Ameren and MacTek engineers have proposed fixes such as fabric and special plantings, but some park staff are leery, preferring a slower, more natural course.

The park will recover in time, but it will likely be generations before the mountainside and riparian vegetation is back to

(See "Shut-Ins" on Page 4)

anything approaching the quality of what was destroyed.

Investigations

Even as park division staff work amicably with AmerenUE and MacTek on cleanup of the park, other DNR staff, a U.S. Geological Survey crew, and investigators for the Federal Energy Regulatory Commission (FERC) and the state have been investigating the causes of the rupture. As early as the day following the breach, investigators reported evidence of overflowing in several places along the wall and noted that the portion of the reservoir that failed appeared to have been only soil and rubble fill, instead of quarried granite as had long been assumed. Even an AmerenUE spokesman expressed surprise. Whether other parts of the wall were granite or fill remained to be determined, as well as the possibility of “piping” caused by persistent leaks that had plagued the reservoir ever since its construction in the early 1960s.

An Associated Press report in early January indicated that an independent inspection conducted for FERC in 2003 showed that the reservoir wall had been settling for years, with some sections having sunk as much as 1.6 feet by 1997; and the settling might have been faster since then owing to the greater rate of leakage, as much as two feet a day by 2003. FERC sent a letter to AmerenUE on November 19, 2004, saying that some of the tongue-and-groove panels in the concrete wall covering the reservoir had shifted as much as five inches; if one panel were to give way the entire

reservoir could fail, FERC warned. Yet as recently as October 28, 2005, FERC continued to give the reservoir a passing grade based on an August inspection.

Ironically, the observations were made on a Sunday when workers are not ordinarily at the plant, but they were getting ready for a ceremony the next day at



A view of the reservoir from the breach in the dam (USGS Photo).

Then on January 13-14, St. Louis TV station KSDK and the *Post-Dispatch* reported that Richard Cooper, superintendent of the Taum Sauk plant, had written his supervisors a memo last fall, on September 27, reporting that Ameren employees two days earlier had discovered overtopping in the northwest corner of the reservoir and observed eroded trenches a foot deep in some areas. They described the cascade as “Niagara Falls,” and they quickly ran the generators to lower the water level. “Overflowing the upper reservoir is obviously an absolute ‘NO-NO,’” Cooper wrote, warning that it would “cause eventual failure of the dam. Those kind of headlines we don’t need.”

which the Institute of Electrical and Electronics Engineers presented the plant its prestigious “Milestone in Electrical Engineering and Computing” award, citing, among other things, the plant’s ability to be operated by remote control from St. Louis, more than 90 miles away.

Other emails and documents given to the *Post-Dispatch* by Don Giljum, business manager for Operating Engineers Local 148, which represents Taum Sauk workers, revealed that the plant had had problems for months with the instruments that gauged water levels in the reservoir. Because of this the plant manager lowered the pumpback shutdown point several feet in October in order to provide a cushion to prevent overflows. But, according to *Post-Dispatch* analysis of other Ameren data, the

instruments may have registered a three-foot cushion that didn't exist, and Ameren had pumped to the level of the overflow six times in the two weeks preceding the breach.

Despite the September 25 incident and the vexing problems with instrumentation, the firm reported nothing to FERC, nor did they report anything to DNR or the managers of the park at the base of the mountain. An Ameren spokeswoman said the firm did not consider the incident reportable. FERC first learned of the September 25 overflow during a site visit the week of January 9 and issued a letter to Ameren on January 13 giving the firm a week to respond. Meanwhile, DNR had been conducting its own investigation, with findings apparently similar to those in *Post-Dispatch* reports, and on that basis Governor Matt Blunt on January 16 asked Attorney General Jay Nixon to bring civil or criminal charges against AmerenUE. He also called for an investigation into whether FERC failed to provide the regulatory oversight required by federal law.

What Next?

To compound the irony, prior to the collapse of the reservoir AmerenUE was already embarked on the process of seeking a new operating license from the Federal Energy Regulatory Commission for its Taum Sauk plant (FERC project 2277). It had issued an initial consultation document in December 2004, informing potential stakeholders—mostly state and federal agencies and local communities—and inviting

them to a public meeting and site visit in January. No conservation or environmental organizations were notified, so MPA was unaware of the process, despite its clearly demonstrated interest in Ameren's impact on state parks in the area (see "Taum Sauk Area Threatened by Hydro Plant," *Heritage*, August 2001, available on the MPA website: parks.missouri.org).

Ameren is required by FERC to conduct studies, address stakeholder concerns, and potentially reach a negotiated relicensing settlement prior to filing an application for a new license, which is required to be filed by June 30, 2008. The existing 50-year license expires June 30, 2010. In further irony, the existing license was issued August 26, 1965, effective as of July 1, 1960.

This anomaly in the effective date of the existing license resulted from a legal contest with the then-regulatory agency, the Federal Power Commission (FPC), over whether a federal license was required for the project. Union Electric Company of St. Louis had built, dedicated, and begun to operate the plant in 1963 without a federal license, arguing that the project would not affect commerce on a navigable stream. The U.S. Supreme Court in its decision May 3, 1965 in the case *Federal Power Commission v. Union Electric Company*—what one legal expert has called one of the five most significant cases in U.S. hydroelectric power history—held that a federal license *was* required. Hence the belated license.

Another landmark decision of the court in 1965 over licensing of Consolidated Edison's pumped storage project on Storm King Mountain on the Hudson River required the FPC to consider scenic and historic values equally with economic values in its licensing decision. The case clarified the public interest in natural and cultural resources, guaranteed the right of citizen groups to argue for protection of environmental interests in court, and led in 1969 to passage of the National Environmental Policy Act. Fifteen years later, after continued litigation, ConEd abandoned the project and donated the land for a park in an out-of-court settlement.

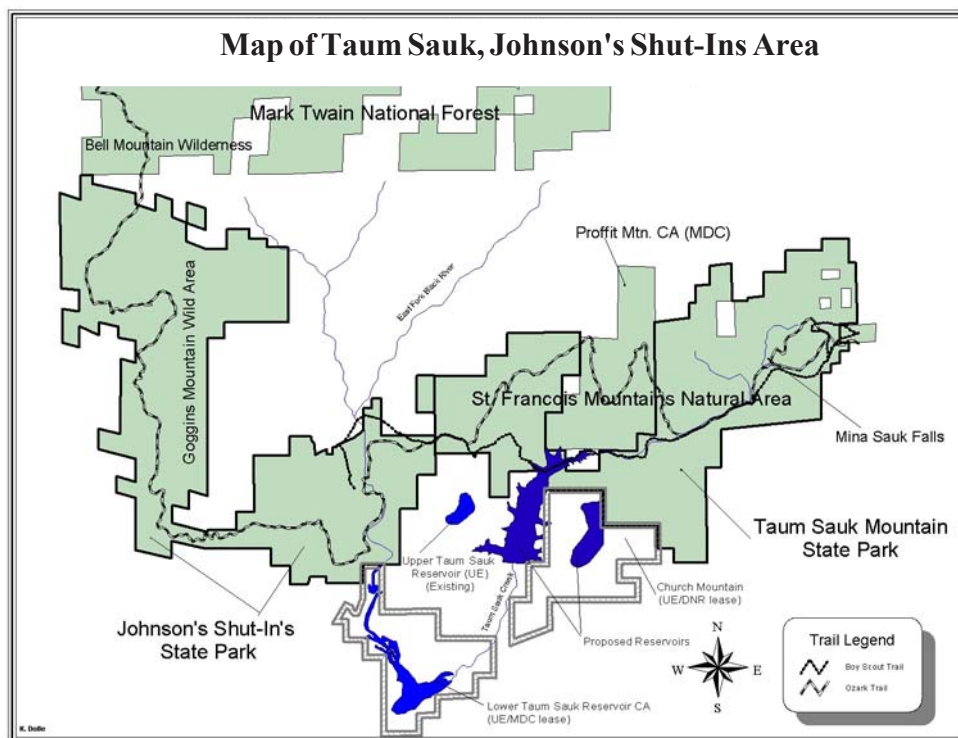
This history of litigation and the disaster of December 14 have implications not only for the reconstruction and relicensing of the Taum Sauk plant but also and especially for a second pumped storage plant proposed by AmerenUE on neighboring Church Mountain. Ameren had filed an application with FERC for a preliminary permit for the Church Mountain project in June 2001 and then withdrawn the application in late August, after the Missouri Parks Association and other conservation organizations allied as the Taum Sauk Coalition successfully persuaded DNR, the attorney general, the Public Service Commission, and the governor as well as Ameren executives of the public values at stake (see *Heritage*, August 2001 and November 2001).

Church Mountain is in an even more scenically exposed area between Taum Sauk and Johnson's
(See "Shut-Ins" on Page 6)

Shut-ins State Parks than Proffit Mountain. The 1300-acre Ameren property on Church Mountain had been leased to the state for park trail development in 1990. It harbors seven state-listed species of conservation concern on its flanks including the federally listed Mead's milkweed, and it had been sought for inclusion in 1996 in the St. Francois Mountains Natural Area, at more than 7,000 acres by far the state's largest and most diverse such area, but Ameren declined. Of perhaps even greater consequence was the

proposed lower reservoir on Taum Sauk Creek, which not only would have flooded out a stunningly beautiful valley and state-designated Outstanding Resource Water but also made access impossible between Taum Sauk Mountain and Johnson's Shut-ins along the historic Boy Scout Trail through the valley.

MPA leaders had several meetings with Ameren officials in the fall of 2001 after Ameren withdrew its Church Mountain application and had the impression that Ameren was at least considering the possibility of donating its Church Mountain property to the state for addition to Taum Sauk State Park. But those executives have now retired, and in Spring 2005 MPA began hearing rumors that Ameren engineers wished to revive the Church Mountain Project. Further indication of the firm's intentions



Map prepared for MPA in August 2001 showing proposed Church Mountain lower and upper reservoirs.

may be included in a 3,700-page twenty-year Integrated Resource Plan Ameren filed with the state Public Service Commission in December, as required, but it classified the entire document "highly confidential," meaning that the firm can strictly limit who sees it. The St. Louis-based Great Rivers Environmental Law Center filed an appeal with the PSC on January 3, arguing that Ameren's customers (the citizenry of most of Missouri) have a right to know about possible expansion plans.

Asked about the Church Mountain project at a local meeting in early January, an Ameren spokesman was quoted by the *Mountain Echo* of Ironton as noting that the firm had "put the plans on the shelf" following outside opposition back in 2001. The report continued, "But now there is a new equation with the disaster of the upper reservoir. 'We'll just have to wait on that,' he

[the spokesman] said, referring to the Church Mountain project."

Recompense

Also at issue is the matter of who pays for the costs of cleanup and restoration and what restitution is made to the citizens of Missouri for the destruction of Johnson's Shut-ins. The governor has called for Ameren to fully reimburse the state for any costs incurred by DNR, and the firm has accepted responsibility. Ameren apparently is insured for property damage and liability, but it is not known to what extent additional costs may be passed along to ratepayers.

In an editorial December 26, 2005, the *Post-Dispatch* discussed the process of "restoring the ravaged landscape and (perhaps) rebuilding the reservoir," calling for an independent investigation and close scrutiny by state and federal officials. "Missouri should treat

the dam failure as an opportunity,” the paper said, continuing: “Even if the plant can be safely rebuilt, is it a good idea to do so? Or would Missourians be better served if Proffitt Mountain were turned over to other uses?” The paper went on to quote Ted Heisel of the Missouri Coalition for the Environment: “Proffitt Mountain has a better use than serving as the state’s largest bath tub;” and it suggested that DNR, the PSC, and the Conservation Department address the matter in public hearings.

Leaders of the Missouri Parks Association, in meetings with various officials, and local residents Michael Sutton and Susan Hagan of East Ozarks Audubon Society, in a December 26 letter to the governor, have gone a step further. Whether or not the reservoir on Proffitt Mountain is rebuilt, they point out that it is imperative that Ameren not be given any support for using the Taum Sauk catastrophe to resurrect their plans for the plant on Church Mountain. In fact, as Sutton and

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Sauk Mountain
State Park.***

Park. Church Mountain is at the core of Missouri’s most scenic and popular wilderness landscape. As Ameren’s accountability is measured in the wake of the December 14 disaster, that powerful public utility could perform no more timely act of public citizenship than to donate Church Mountain for protection and preservation. MPA will work toward that goal.

Hagan put it, “It is time that the notion of the Church Mountain hydroelectric plant be permanently taken out of consideration.”

We propose, as MPA leaders proposed to Ameren officials back in 2001, that Ameren be encouraged to provide restitution for the damage to Missouri’s most popular state park by donating their Church Mountain property for inclusion in the adjoining Taum Sauk Mountain State

Constitutional Amendment #1

Missouri’s Parks-and-Soils Tax Renewal to be on the Ballot in 2006

by Ron Coleman

This year Missouri voters will have the opportunity to express their support for their state parks, soil and water resources at the polls. A ballot date has yet to be set by Governor Matt Blunt for the election, but conservation leaders are asking him to set it for August.

Missourians first passed a one-tenth-of-one-percent sales tax to support our state parks and soil and water resources in 1984. Missourians voted two to one to renew the tax in 1988 and again in 1996, a remarkable level of support for a statewide sales tax.

The state legislature last year passed a joint resolution (SJR 1) to

place the popular measure on the ballot again in 2006; if passed, the same language would automatically be placed on the ballot for renewal of the tax every 10 years thereafter.

Constitutional Amendment #1 is not a tax increase; it simply allows voters to keep this critical funding source in place to operate our state parks and protect our soil and water resources.

Today our state park system does not receive any general revenue and the parks and soils tax provides approximately three-fourths of the division’s total budget. On the soils side, funds from the tax help to support many

important programs in rural Missouri on our agricultural lands. With funding assistance from the measure Missouri has been able to decrease its soil erosion rates by one-half since the tax was first passed, helping to conserve more than 148 million tons of rich top soil across the state.

Tourism and agriculture rank at the top of the list of our state’s major economic sectors. Our rich Missouri soil and water resources are key to a healthy and sustainable economy. Our state park system is recognized nationally as one of the best in the

(See "Ballot" on Page 8)

("Ballot" from Page 7)

nation. Missouri state parks attract nearly 18 million visitors each year with an economic impact in excess of \$538 million dollars.

When **Constitutional Amendment #1** appears on the ballot later this year your vote and that of your friends and neighbors will definitely make a difference.

The Missouri Parks Association (MPA) will be working extra hard over the next few months to educate Missouri citizens about the value of our state parks, soil and water resources and to get the voters out in August or November.



You can help MPA by volunteering some time prior to the election by calling 573-449-4805 or simply by sending a special donation to **MPA "Good for Missouri Educational Initiative"** to help in our efforts to inform the public about the importance of our Missouri State Parks. Send your special gift to:

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