

MISSOURI

resources

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THE GREEN  MACHINE

director's comment



I am very excited to return to the Missouri Department of Natural Resources as the director. I look forward to working with the business community, legislators, the public and the environmental community.

The department has dedicated this issue of Missouri Resources to showcase just a few of the successful American Recovery and Reinvestment Act of 2009 projects. It's been almost two years since the Recovery Act was signed into law. The department received approximately \$358 million in Recovery Act funding and approximately 97 percent of this funding was passed directly to local communities

and contractors through numerous projects (see a Missouri ARRA fund disbursement map on page 5).

The Recovery Act has helped create jobs for Missourians and will continue to transform our economy for years to come. These funds will also allow Missouri to build strong foundations through vital infrastructure projects, energy efficiency and renewable energy projects and help improve the environment, as well as the health and welfare of our citizens.

The majority of the funding was disbursed between five main categories including:

Energize Missouri – Renewable energy and efficiency projects.

State Revolving Fund, SRF – Wastewater and drinking water infrastructure improvement projects.

604(b) – Water quality planning and management projects.

LUST – Leaking Underground Storage Tank cleanup projects.

DERA – Diesel Emission Reduction Act program projects.

See page 25 for a detailed breakout of fund distribution.

The department addressed more than 60 abandoned petroleum underground storage tank sites across Missouri with this funding. The assessment and cleanup of these sites not only provided economic stimulus to the consultants and subcontractors doing the work, but

will have farther reaching and sustainable positive economic effects.

Future redevelopment of the sites can clear the way for communities to redevelop and reuse these properties by expanding businesses or developing new businesses and jobs.

Sixty-three Missouri communities received grant and loan funding for drinking water and wastewater infrastructure improvement projects. More than 35 percent of this funding supported green infrastructure projects that will increase energy efficiency and reduce energy consumption for years to come. In addition to the Recovery Act funds, the department provided an additional \$118 million in State Revolving Loan grant and loan funds to help these Missouri communities make necessary improvements.

To learn more about these and other projects, visit the department's website at: dnr.mo.gov/transform.

Sara Parker Pauley
Missouri Department of Natural Resources

MISSOURI resources

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Mission Statement

The mission of the Missouri Department of Natural Resources is to protect, preserve and enhance Missouri's natural, cultural and energy resources.

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2 Firing Up the Green Machine

by Dalena Hardy

Blue Springs received \$26.5 million in American Recovery and Reinvestment Act dollars. The city wasted little time putting this money to work for a host of projects such as trail replacements, building energy audits, leaking underground storage tank mitigation, recreational lighting and wastewater treatment upgrades.

6 Missouri Agriculture – Energized by Federal Funds

by Philip J. Tremblay

More than 1,900 applications were received by the Department of Natural Resources for farm energy-efficiency upgrades using ARRA funds. The interest wasn't surprising. American farmers feed more people using less energy than they did in 1990 – a very encouraging trend.

10 Influx of Funds Offers Warmer Outlook

by Dalena Hardy

In 2009, the Weatherization Assistance Program received the biggest surge in funding in its 34-year history. The program enables low-income families to reduce their energy bills. The increase has supported existing jobs and created new ones.

departments

14 News Briefs **20 Resources to Explore** **23 Career Connection** **25 One Last Word**

Above: Clouds are reflected off the solar panel of a new solar-powered well near High Point.

Front Cover: A westbound Union Pacific freight departs Jefferson City.

Back Cover: A snowswept field in Boone County awaits the spring planting season.

DNR photos by Scott Myers.



FIRING UP THE GREEN MACHINE

by Dalena Hardy photographs by Scott Myers

The American Recovery and Reinvestment Act of 2009 was created as a response to U.S. economic decline. The Recovery Act goals are to create new jobs and expand existing ones, spur economic activity and invest in long-term growth for America.

The Act strives for accountability and transparency in government funds and provided \$275 billion to state governments to help achieve these goals.

The State of Missouri has received \$4 billion in Recovery Act funds to administer a mix of grants, loans and rebate program that aim to provide a higher level of service for Missourians. Approximately, 25 percent of the funds will be distributed to expand existing federal programs.

To date, the state has awarded more than 1,000 contracts, 4,500 grants and more than 75 loans, all in efforts to jumpstart the economy. This number will continue to increase as more projects are completed.

While many of the Recovery Act projects are focused on immediacy, others, especially those involving infrastructure improvements, are expected to contribute to economic growth for many years.

The Department of Natural Resources has an array of programs that have been created as a



result of the Recovery Act that address environmental quality. These include programs to address diesel fuel emissions, water quality and drinking water issues, underground petroleum storage tanks and infrastructure improvements to state parks.

In addition, energy programs address emergency energy planning and energy efficiency in homes, industry, communities, state parks and the agricultural sector. Many of the projects will provide resource assessments and project feasibility studies that will help businesses, governments and organizations make informed decisions about complex energy system and geothermal resources in the future. See pages 5 and 25 for a list of these programs, as well as the Recovery Act funds disbursed to each of them in Missouri counties.

SPOTLIGHT ON BLUE SPRINGS



The city of Blue Springs, population 55,000, has received more than \$26 million in Recovery Act funds to implement a variety of projects that address building energy audits, regional energy-efficiency conservation research, city park infrastructure improvements and energy-efficiency upgrades.

The city also is implementing a project to upgrade and expand a wastewater treatment facility funded through the Recovery Act with a small portion coming from the State Revolving Fund. The project is expected to be complete in early 2012.

\$26.5 Million Reinvested in the Local Economy

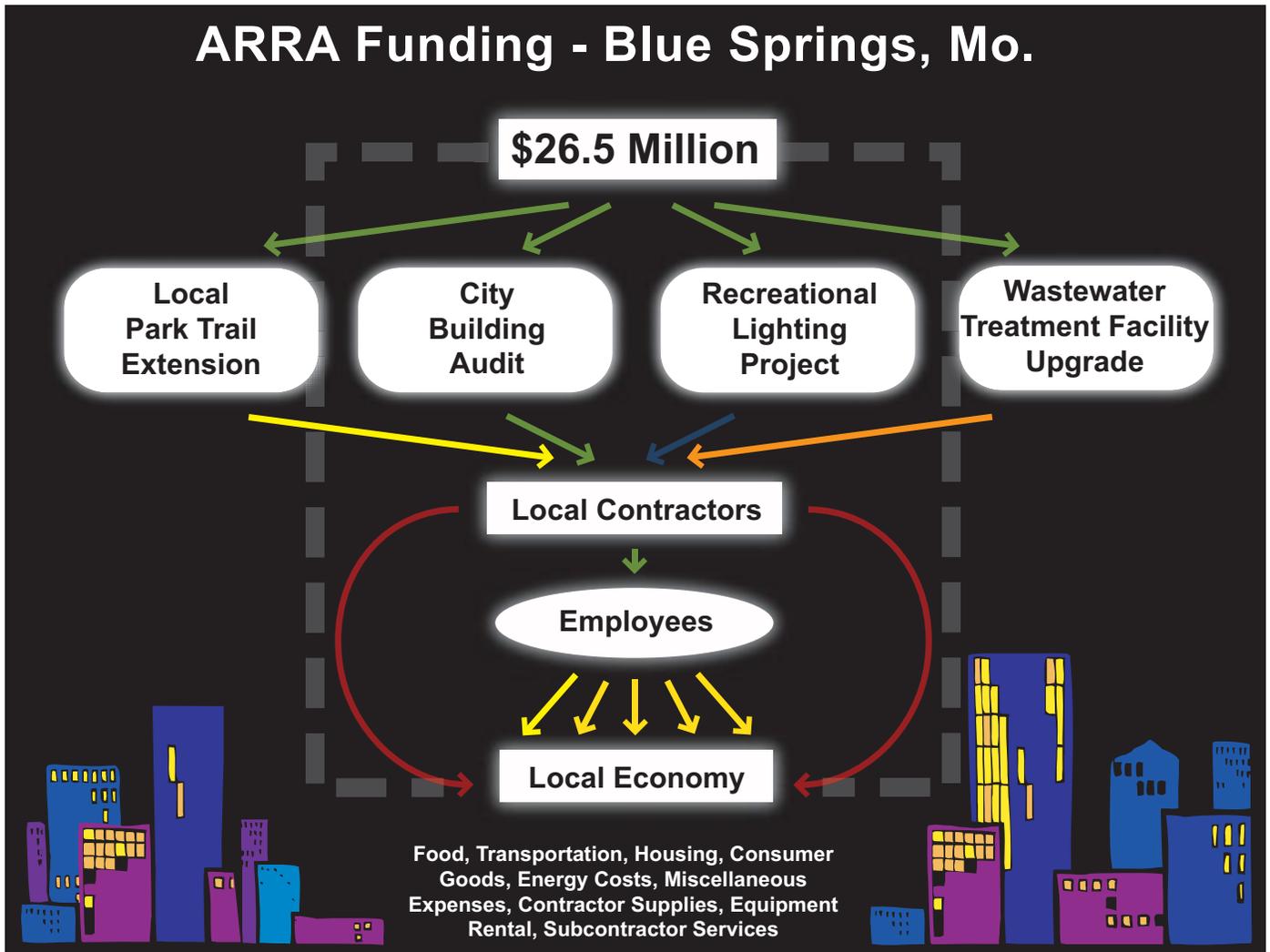
Project: The Blue Springs Project

- An upgrade and expansion of the Sni-A-Bar Wastewater Treatment facility directs \$26 million in Recovery Act funding in order to address the upcoming wastewater treatment permit requirements for effluent disinfection.
- A Sludge Reed Bed system is being installed using green technology. This will save more than 1.4 million kwh

(Opposite page) Thanks to the American Recovery and Reinvestment Act of 2009, work progresses on the removal and replacement of the hiking/jogging trail at Ward Park, a 13-acre neighborhood park in Blue Springs.

(Above) New energy-efficient lights supplied with ARRA funding illuminate the two softball fields at 42-acre Keystone Park.

ARRA Funding - Blue Springs, Mo.



(Above) A graphic illustrates just how quickly federal Recovery Act funds are able to make their way into a local economy.
 (Below) Part of the Ward Park trail extension and improvements included the replacement of several bridges on the upgraded hiking/jogging trail.

annually and save approximately 3,000 gallons of diesel fuel since the transportation and disposal of biosolids will no longer be required.



Project: ARRA Transportation Enhancement funds \$56,665.57 for a \$187,705.21 project that will replace and extend the Ward Park Trail.

- Subcontractor: Wil-Pav received \$128,636.17 for general contracting.
- Wil-Pav has 24 employees working on the project that will be paid \$40,000 from the contract in salary.

The remaining \$490,000 was used for three additional projects.

Project 1: Regional Study Grant pays Mid-America Regional Council \$12,600.

- MARC has four employees working on the study that will be paid \$3,440.54 from the contract in prorated expenditures, including salary.

MISSOURI AGRICULTURE

Energized by Federal Funds

by Philip J. Tremblay
photographs by Scott Myers



To help the national economy recover, Missouri planted seed money on farms wanting better energy efficiency. In 2007 and 2008, the United States, and many other nations, encountered a financial crisis involving controversial home-financing practices, declining investments in domestic business and industry and rising unemployment nationwide. In 2009, the terms Wall Street bailouts and economic stimulus became familiar in news reports and political discussion around the world.

The first steps taken to ease the U.S. financial crisis were to use federal funds to prop up the nation's threatened banking system. Federal money was returned to states, businesses, school districts and communities to spur job creation and encourage widespread improvements in highways, water systems, education and a wide variety of local investments.

Early in 2009, the American Recovery and Reinvestment Act (ARRA) was signed into law. A major portion of federal Recovery Act funding was designated to the U.S. Department of Energy to fund existing and new energy-saving programs administered by state energy offices. By March, the Missouri Department of Natural Resources leadership was meeting to determine how best to put the recovery money or stimulus to work.

The department's Division of Energy had been advising homeowners, businesses and industries how to save energy and money with various proactive programs. There were 22 staff in the division at that time, only three with engineering degrees. The challenge of putting together new plans quickly resulted in the addition of special-

ists in energy planning, fiscal process and administration to the staff.

Along with the well-publicized appliance rebate program and statewide home weatherization projects, financing proposals for improving Missouri's energy efficiency included support for business and industry energy usage audits, grants and loans for energy-saving equipment, investments in renewable energy projects and money for communities and school districts to upgrade energy-using systems.

Planners noted that Missouri agriculture could also benefit from the sudden encouragement of energy-efficiency funding. More than 60 proposals were discussed. Management decided to skip the time-consuming work of on-farm energy audits and assigning staff to help implement the audit recommendations. ARRA specialists felt that farmers already knew what kind of energy-saving equipment they wanted and just needed some money to help them purchase and install it. The list of eligible projects soon dropped to around a dozen.

Roger Korenberg, an engineer with some administrative and farming background, was designated the program manager. He guided the flow of agriculture stimulus funds funneled through the department (see

(Opposite page) The proper storage of grain involves energy-efficient drying and operation of grain handling equipment.

(Left) A frost-free livestock watering system is installed at the Bill Wineland farm, High Point.

(Bottom) This solar panel provides power for the Wineland watering system. The project was arranged with the help of the Department of Natural Resources' Division of Energy and funded by the American Recovery and Reinvestment Act.





“A (GPS) GUIDANCE SYSTEM ... WILL ELMINATE OVERLAPPING, WHICH IN TURN SAVES ON FUEL, CHEMICALS, ENERGY AND MONEY. “

– Kevin Schlotzhauser, Pilot Grove

An energy-efficient, computerized grain handling system moves grain through drying and storage bins at the Chad Bruns farm in Audrain County. Bruns purchased the electronics through the ARRA/DNR cost-share program.

Career Connection featuring Korenberg on page 23).

“We wanted projects that would appeal to as many different ag sectors as possible and to have a good geographic distribution,” Korenberg said. “Judging from the distribution of projects across the state and the overwhelming response by applicants, we achieved our goal.”

Initially, the division estimated that it would receive around 600 applications and distribute up to \$3 million at a cap of \$5,000 per applicant. However, the response from Missouri farmers prompted the division and department leadership to allocate more money so all valid applications could be funded.

More than 1,900 initial applications rolled in. Out of those, more than 1,600 agreements were signed and over \$6.4 million was committed to saving energy on Missouri farms. The program was modeled after the successful county soil and water conservation districts’ cost-share program. Farmers were reimbursed up to 75 percent of the purchase cost of qualifying energy-efficient equipment and systems – up to \$5,000 per applicant.

Projects eligible for funding included: solar-powered water pumps, solar-powered fences, insulated or frost-free waterers, global position systems for field equipment, irrigation upgrades, improvements in dairy, swine and poultry facilities, new or upgraded grain dryers, lighting systems improved with timers and motion sensors, conservation tillage equipment, high-efficiency electric motors, biomass furnaces and boilers and other innovative proposals.

The most popular type of equipment selected by farmers was GPS guidance systems for farm equipment. More than 700 applications were made in this category. For smaller farms, solar-powered fences and frost-free watering systems were very popular application requests.

One innovative project that received funding was a burner and boiler designed to burn pecan shells to help in the pecan-shelling process. Water-pumping windmills also were approved for some remote sites.

“I plan to use the GPS system to improve my efficiency and reduce my input costs,” said William Thompson of La Monte. “I can use only the chemicals and fertilizer I need and will reduce skips or overlaps. This will reduce my costs and improve yields.”

James “Mike” Hasle of Marshall, agreed. “I have purchased two tractors in recent years that are auto trac ready and want to convert a sprayer to auto trac to save fuel and energy. Thanks for sponsoring these grants.”

Crop farmers across the state echoed those thoughts. “A (GPS) guidance system ... will eliminate overlapping, which in turn saves on fuel, chemicals, energy and money,” said Kevin Schlotzhauser, Pilot Grove.

Russell Wolf, a Syracuse farmer, said, “We currently use GPS systems for spraying and planting. I believe that the savings we see using those will also show up if we get one for the combine.”

Energy savings weren’t just being reaped in the crop fields. Cattle ranchers were beefing up operations too. Roland Hudson, Jefferson City, installed a solar-powered fencer and insulated watering system. “I have two miles of electric fence around 160-acres of irregular-shaped fields. The old system was on the power grid,” Hudson said. “When that went down, I couldn’t be sure my livestock were staying on my property. With the solar-powered fencers and battery backup, this risk is eliminated.”

Korenberg said that on-farm energy savings efforts are unique to each farm’s needs. He estimated that Missouri farmers spend around \$400 million per year on farm energy needs. According to the Na-

tional Sustainable Agriculture Information Service, U.S. farmers use an estimated 1.7 quadrillion Btu in energy. Around 30 percent of this is for fertilizers, 27 percent for diesel fuel, 20 percent for electricity, 8.5 percent for gasoline, 6.3 percent for pesticides, 4.5 percent for liquid propane and 3.6 percent for natural gas.

Still, with all that energy use, each American farmer continues to feed more people – 129 in 1990, 139 in 2000 and currently, 155 – with less energy being used. Direct energy consumption – electricity for irrigation, lighting, and heating and cooling livestock as well as planting, harvesting, crop drying and transportation – is down more than 30 percent since 1978. Indirect energy costs, such as fertilizer and pesticide use, are down 38 percent since 1980.

Missouri farmers continue to take advantage of energy-saving innovations because it makes economic sense for them to do so. Feeding the innovative nature of Show-Me State farmers helps feed us all. 🌞

Philip J. Tremblay retired in December 2010 as a public information coordinator and assistant editor of Missouri Resources. He now lives at Gravois Mills, near the Lake of the Ozarks, where he will play guitar with his friends, do some freelance writing and help develop an exclusive bed-and-breakfast on the quiet side of the lake.

Joe Shryock, Callaway County, uses a GPS field guidance system in his combine as he harvests soybeans. The equipment was purchased through the state and federal cooperative cost-share program.





INFLUX OF FUNDS

OFFERS WARMER OUTLOOK

by Dalena Hardy
photographs by Scott Myers

Michael McDonald knows the importance of listening to his mother.

McDonald, a homeowner in Columbia, has been struggling to make ends meet while on disability and provide care for his 10-year-old son. Utility bills were only adding to his stress.

In June 2009, McDonald called Central Missouri Community Action (CMCA), a non-profit agency that provides services to combat poverty, including weatherization service.

“My mom told me there was an assistance program and it has been such a help for me,” said McDonald. “During the summer, I save over \$40 a month and this money helps me with the gas to get to the doctor.”

CMCA conducted an energy audit, made roof repairs, installed a new front door and furnace, added insulation and caulking – all at no cost to McDonald.

For people with low incomes, the decision to pay the utility bill may mean deciding between being warm in the winter and eating well-balanced meals or going to see the doctor. Low-income households spend 14 percent of their annual income on energy in comparison to 3.5 percent by other households.

The Weatherization Assistance Program (WAP) enables low-income families to permanently reduce their energy bills by making their homes more energy efficient by upgrading insulation, heating and cooling systems and air filters. In 2009, the Weatherization Assistance Program received the biggest surge in funding in its 34-year history. Many are calling it “the largest weatherization program in history.”

In 2008, the U.S. Department of Energy (DOE) allocated \$227.2 million for WAP. Funding changed dramatically in 2009 thanks to the American Recovery and Reinvestment Act when it increased to \$5 billion.

For the thousands of contractors and state and local agencies that have received WAP funds in the past, the \$5 billion for weatherizing low-income homes was a welcome windfall.

One of the primary program benefits is the support and creation of local jobs. According to DOE, weatherization creates 52 direct jobs and 23 indirect jobs for every \$1 million invested. For Missouri, the program currently supports 450 jobs annually.

Chad Canfield is using his background in construction to help with weatherization efforts in mid-Missouri. Canfield is a foreman at CMCA. He has been working there since July 2009.

“It is great that I was able to find this opportunity,” said Canfield. “I am learning more than I could ever imagine about energy efficiency and I really feel like I am making a difference.”

The DOE provides funding for states, which manage the day-to-day operations of the weatherization program. The Missouri Department of Natural Resources funds a network of local community action agencies, nonprofit organizations and local governments that provide these weatherization services to Missourians.

Missouri received \$128,148,027 of the \$5 billion in funding for energy-efficiency weatherization improvements to homes of low-income families.

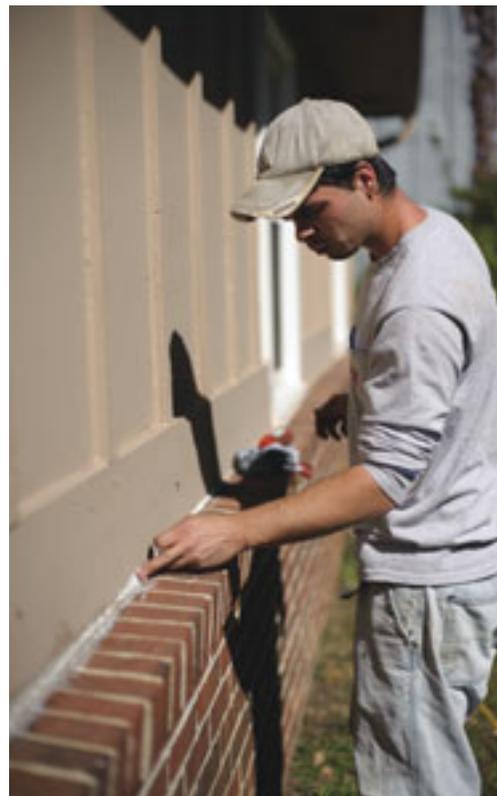
Prior to the Recovery Act, Missouri was receiving nearly \$6 million a year to provide these weatherization services for more than 2,000 homes per year. With the additional funds, the department expects to weatherize nearly 7,000 homes each year

for the next three years. The new emphasis is on putting more energy-efficiency funds into each home rather than increasing the number of homes weatherized.

The department allocated the money in stages. Sixty percent of the award was allocated in July 2009. The Department of Natural Resources’ Division of Energy issued grants to its network of 18 regional agencies. These agencies will deliver weatherization services to low-income Missourians throughout the state on behalf of the department. Twenty percent of the funding was allocated in June 2010 for innovative weatherization projects open to qualifying applicants, which included some new subgrantees. The remaining 20 percent of the award was allocated in September 2010 and went to agencies that reached performance benchmarks.

“Missouri has been successful in allocating the money and evaluating the performance of our subgrantees due to the structure of our program,” said Joe Gassner, director of the Weatherization Program at DNR.

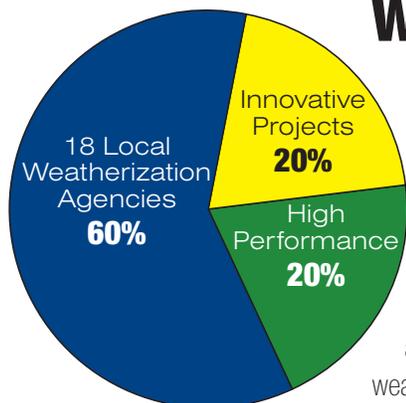
Making client homes more energy efficient is the basic job of all the contracts and their respective agencies. To win the special grants, they had to come up with newer, better ways to save energy, create or support local jobs or serve their clients. Of course,



(Opposite page) Michael McDonald, a single parent and disabled homeowner from Columbia, no longer has to trade a comfortable place to live at the cost of meals and medical care.

(Above) Heath Long, with Central Missouri Community Action, applies energy-saving caulk to a central Missouri home.

WAP Fund Distribution

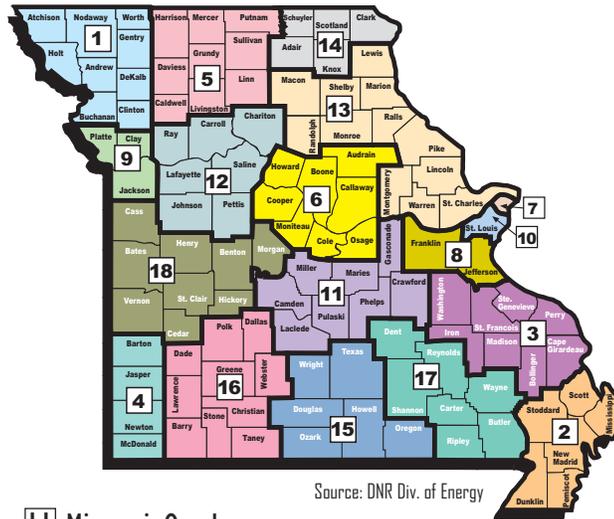


DNR’s Division of Energy issued grants to its network of 18 regional agencies. These agencies will deliver weatherization services to low-income Missourians throughout the state on behalf of the department.

Sixty percent of the funding was awarded in July 2009 to the network of 18 local agencies (subgrantees). Twenty percent of the funds were awarded in June 2010, for innovative weatherization projects open to all qualifying applicants. In September 2010, 20 percent of funding was awarded to local weatherization agencies that met performance benchmarks.

Low-Income Weatherization Assistance Program Service Areas

- 1** Community Services Inc.
660-582-3113
- 2** Delta Area Economic Opportunity Corp.
573-379-5701
- 3** Eastern Missouri Action Agency
573-431-5191
- 4** Economic Security Corp.
417-781-4437
- 5** Green Hills Community Action Agency
660-359-3907
- 6** Central Missouri Community Action
573-443-3500
- 7** Urban League of Metro St. Louis
314-615-3600
- 8** Jefferson-Franklin Community Action Corp.
636-789-2686
- 9** Kansas City Housing and Community Development Dept.
816-513-3040
- 10** Community Action Agency of St. Louis County
314-863-0015



Source: DNR Div. of Energy

- 11** Missouri Ozarks Community Action
573-765-3263
- 12** Missouri Valley Community Action Agency
660-831-0368
- 13** North East Community Action Corp.
573-324-2231
- 14** Northeast Mo. Community Action Agency
660-665-9855
- 15** Ozark Action Inc.
417-256-6147
- 16** Ozark Area Community Action Corp.
417-865-7797
- 17** South Central Mo. Community Action Agency
573-325-4750
- 18** West Central Mo. Community Action Agency
660-476-2185

said Randy Cole, who serves as weatherization director at CMCA.

The agency is able to provide clients with newer technologies such as spray foam installation and 90 percent energy-efficient furnaces.

CMCA has established partnerships that allow them to best serve rural populations outside Columbia.

“A lot of people in the city have access to a variety of services, but at times there is a tendency to overlook rural areas where poverty can be even more limiting,” said Cole.

In July 2010, CMCA was awarded an additional \$550,000 from the Department of Energy to provide geothermal systems within their service area.

The Community Action Agency of St. Louis County (CAASTLC) is focusing on low-income homes in St. Louis County. Prior to ARRA, CAASTLC was weatherizing 20-24 homes per month. Currently, the agency is weatherizing

any and all proposals still had to meet the federal regulations in order to be considered for funding.

Each regional agency tailored their weatherization program to serve the population in their region. Central Missouri Community Action, based in Columbia, is forming partnerships with Habitat for Humanity and cooperatives like Associated Electric and others to focus on underserved populations in rural and suburban areas. In 2007, the agency was weatherizing 10-12 homes per month. They expect to weatherize 40-60 homes per month with the increase in funding.

“The increase in funds has not only allowed us to increase production, but we are able to do more to each home we service,”

70-75 homes per month.

“Our goal is not only to weatherize homes, but to also educate the public about weatherization and show our clients energy conservation behaviors they can adopt to save even more money on their bills each month,” said John Parsons, weatherization director at CAASTLC.

To meet their weatherization goals, CAASTLC hired 22 employees this year and is planning to hire at least five more by the end of the year.

The Missouri Ozarks Community Action Agency (MOCA) is based in Richland and serves the surrounding area. Before the Recovery Act the agency was servicing 90-100 homes per year. They now expect to weatherize nearly 400 homes per year. To meet their production targets, the agency has im-

plemented 10-hour workdays, hired 24 new employees, and purchased new service vehicles.

“Nearly all of our clients say they are more comfortable in their home after receiving the service,” said Melinda Smith, weatherization director at MOCA. “They are very gracious and complimentary.”

To ensure that the funds are being allocated correctly and sufficient oversight takes place, computer programs were developed specifically for that purpose.

The department conducts procedural monitoring and technical monitoring on a routine basis to ensure that the weatherization is done correctly and in accordance with federal standards. The software is used to report and document the required monitoring.

The success of the federal Weatherization Assistance Program can be illustrated by the amount of energy conserved, or by the types of energy-saving improvements installed. But a significant measure of the program’s success is ensuring client satisfaction.

“I see people with tears in their eyes because they are so thankful for the service,” said DNR’s Gassner. “It is great to see people so excited.”

Thanks to weatherization, Michael McDonald is not dreading the winter weather nearly as much as he did before.

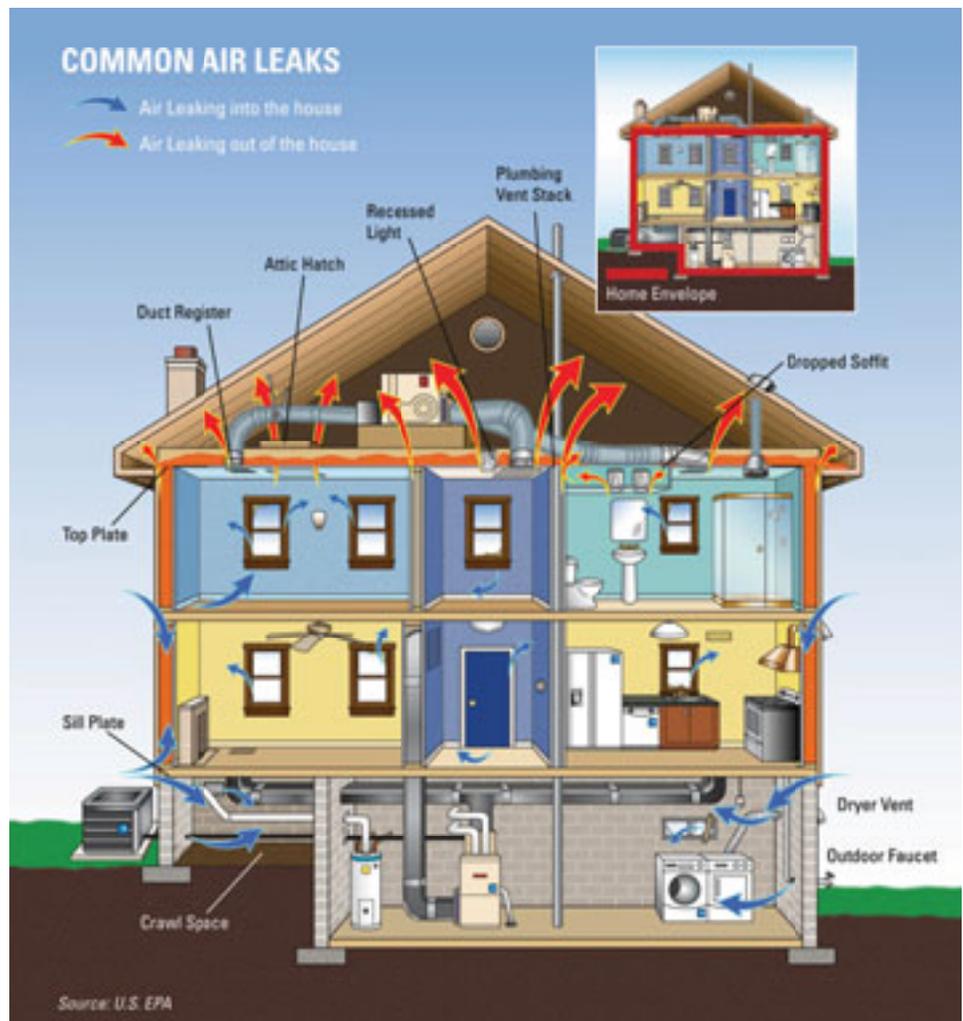
“There are fewer drafts,” McDonald said. “My home stays cooler in the summer and warmer in the winter.”

Citizens interested in determining their eligibility or applying for assistance should contact their local agency office (see map on page 12). For additional information about the Low Income Weatherization Assistance Program, please visit the department’s website at: dnr.mo.gov/energy/weatherization/wx.htm. ☀️

Dalena Hardy is a public information specialist with DNR’s Division of Energy.

(Bottom) Air leaks that rob homes of energy efficiency can occur in many hidden places.

(Below) Chad Canfield, with Central Missouri Community Action, takes a call in his “office,” the van that carries his weatherization tools of the trade.



Stream Teams to Honor Lifetime Achievement

The Missouri Stream Team Program has established a Lifetime Achievement Award as a way to honor its most dedicated volunteers.



The award will honor individuals who have made substantial, lasting contributions to the Missouri Stream Team Program and the stream resources of the state. These individuals possess an unparalleled passion and love for the stream resource and embody the ideals, goals and mission of the Stream Team Program.

The Missouri Stream Team Program is a grassroots, citizen-based organization formed in 1989. Other states have used Missouri's stream team model as a blueprint for similar water protection efforts.

To be eligible for recognition, the individual nominated must be or have been involved with the Stream Team Program and performed outstanding acts or whose dedicated service resulted in significant progress in the success of the Stream Team Program. The first winner will be announced in spring 2011.

For more information, call the department's Water Protection Program at 800-361-4817.

Department Photographer Wins National Parks Honor

Scott Myers, department photographer for DNR and *Missouri Resources* has received one of 10 honorable mentions for his photograph of Onondaga Cave at Onondaga Cave State Park, Dunklin County. It was entered in the 2010 National Natural Landmarks Photo Contest.



Sixty-seven images representing 56 landmarks across 28 states were submitted in the 7th annual contest. Myers' photo is featured in a 2011 NNL calendar that was released in October. For a look at the winning photos, see the NPS website at:

nature.nps.gov/nnl/photocontest/winners2010.cfm

Top honors went to John H. Pilarski of Milwaukee for his photo of Grapevine Mesa Joshua Trees in Arizona. Second place went to Christopher Jordon of Indianapolis for a photo of Dunes Nature Preserve in Indiana, and third place to Rodrigo Roesch of Glenview, Illinois, for his image of that state's Volo Bog Nature Preserve near Ingleside.

\$7.75 Million to Energize Missouri

The Department of Natural Resources has selected six organizations for grant awards totaling \$7.75 million for the Energize Missouri Homes-Homeowner Upgrades and Geothermal Program.



The department has made Energize Missouri Homes grants available through funding received from the American Recovery and Reinvestment Act of 2009. The organizations will provide program services to homeowners in defined regions of the state. Interested homeowners may identify their local organization and contact them directly to learn more about the program or may visit the department's website at: EnergizeMissouri.org.

Through the Energize Missouri Homes-Homeowner Upgrades and Geothermal Program, these six organizations will assist more than 1,200 Missouri homeowners with funding for energy audits and energy efficiency upgrades such as weather stripping, insulation, efficient heating and cooling systems and geothermal systems.

The grant recipients and amounts include: Boonslick Regional Planning Commission, \$600,000; Kaysinger Basin Regional Planning Commission, \$1.6 million; Meramec Regional Planning Commission, \$800,000; Metropolitan Energy Center, \$1.75 million; Missouri Botanical Gardens, \$1.75 million and White River Valley Electric Cooperative, \$1.25 million.

The department is administering more than \$200 million in Recovery

Act funding to support Energize Missouri projects to create jobs and improve energy efficiencies and renewable energy for Missouri.

For more information on the Homeowner Upgrades and Geothermal Program, contact Energize Missouri Homes, PO Box 176, Jefferson City, MO 65102-0176 or 877-610-0834 and EMH.upgrades@shawgrp.com.

New Trail at Finger Lakes State Park

Mountain bikers and hikers have a new reason to enjoy Finger Lakes State Park near Columbia. The 2.25-mile Kelley Branch Mountain Bike Trail is located in the wooded hills along the Kelley Branch stream. The park is best known for the reclaimed strip-mined area popular with off-road vehicle riders, but this portion of the park is closed to ORV traffic and is very scenic and rugged. Trail users will experience wooded landscapes, small hills and bottomland areas, as well as passing by a small waterfall and crossing an old mining bridge. Wildlife such as deer and beaver are often spotted near the stream.



The new trail was one of the primary projects at the park for the State Parks Youth Corps, a summer jobs program initiated by Gov. Jay Nixon. The Osage Regional Trail Association, a local mountain bike club, assisted in the layout and construction of the trail.

Missouri Gets Ready For April 28 ShakeOut



The Department of Natural Resources and more than one million people in an eight-state region are expected to participate in the Great Central U.S. ShakeOut at 10:15 a.m. on Thursday, April 28.

Individuals, families, schools, universities, businesses, government agencies, faith-based organizations, medical facilities and community groups are encouraged to register to



environmental notes

participate in the drill, which will highlight “Drop, Cover and Hold On,” and other protective actions people should take during an earthquake.

Registered ShakeOut participants will be counted in the largest earthquake drill in central U.S history. They will receive updates about ShakeOut news and information about earthquakes and preparedness. Participants will motivate others to participate and get prepared.

Missouri K-12 students are also encouraged to enter the “Show-Me Earthquake Safety” video contest. They are invited to create a video that promotes earthquake awareness.

This year marks the 200th anniversary of a series three earthquakes believed to have been magnitude 7.0 or larger that occurred near the southeast Missouri town of New Madrid.

February also is earthquake awareness month in Missouri. Find information about activities and events at: dnr.mo.gov/geology/.

Register to participate in the ShakeOut and learn more about entering the Show-Me Earthquake Safety video contest at: dnr.mo.gov/shakeout.

\$350,000 Grant for Clean Diesel Projects

The Department of Natural Resources has been awarded a \$352,941 federal grant to implement diesel emission reduction projects in the St. Louis, Kansas City, southwest Missouri and southeast Missouri areas.



The U.S. Environmental Protection Agency awarded the grant to the department with funds made available through the Diesel Emission Reduction Act.

This grant targets areas of the state that are facing the biggest air challenges, particularly in relation to ozone. Ground-level ozone pollution is a concern in the St. Louis, Kansas City, Springfield and southeast Missouri areas. Diesel emissions are also known to cause and exacerbate lung

Planning for a “Green” Lawn



Winter is probably the best time to plan how to establish and maintain a lawn that is truly green. Today, it is not only the color of the grass that needs consideration, but also the type and amount of pollution that lawn care can produce. Attaining a really green lawn is not easy and is likely to reduce the green in your wallet.

The Union of Concerned Scientists, a leading science-based nonprofit working for a healthy environment and a safer world, has said that a gasoline-powered lawnmower running for an hour releases as much pollution as eight new cars running at 55 miles per hour for the same amount of time. The U.S. EPA has called for a 45 percent reduction in harmful emissions from lawnmowers by 2015. So far, the regulations have focused on manufacturers rather than consumers.

Efforts are being made to reduce the environmental impact of small engines, but due to their power and efficiency, gasoline-powered lawnmowers are holding their own.

Indiana mower manufacturer Dixie Chopper produces a propane or natural gas-fueled model – the Eco-Eagle – to be used on city parks, golf courses and other expansive properties. These can cost around \$15,000, but produce a fraction of the pollution of a similar gasoline-powered machine that also can cost several thousand dollars. Not as common are smaller mowers using alternative fuels. Ethanol use in small engines and boat motors still raises concerns.

A \$3,000 solar-powered, robotic mower is being marketed by Husqvarna. It can cover a half-acre and return to its own charging station when the battery gets low.

The best option for the environment might be a \$100 manual-push mower – quiet, no pollution and good exercise. However, they are getting harder to find, the reel needs frequent sharpening and they also cut very close.

Most environmentalists might favor the low-carbon footprint of an electric lawnmower. They use about the same energy as a 100-watt light bulb, but they are only as good as your power cord is long.

It might be easier achieving a greener lawn by buying a new gasoline-powered mower with an overhead-valve engine and the latest pollution controls – if your current mower is over five years old. You also can take a first step by purchasing a no-spill gas can, since spilled gasoline can damage the lawn and is a significant contributor to ozone degradation and smog.

Using a lawn fertilizer with little or no phosphorus, along with the usual nitrogen and potassium mix, will also reduce runoff impact on local water resources. Since lawns are an historically recent creation of people, replacing them with native plants might be a creative option – providing local regulations allow it and the neighbors don’t object.

Lawns are here to stay and the greener they are environmentally, the longer we all can enjoy them. Once upon a time, lawns were trimmed by sheep or goats, but that option isn’t too common anymore – even with the free fertilizer.

and respiratory disease such as asthma, especially in sensitive populations such as children or the elderly. These projects will help the Department of

Natural Resources achieve the long-term goal of reducing harmful emissions produced by diesel engines as they contribute to the formation of

ground-level ozone, an air pollutant and health concern in Missouri.

Department staff will use the grant in a one-year period to create two pools of funding – one for vehicle purchases and the other for retrofitting projects. The grant process will be open to Missouri-based diesel fleet owners and operators in the City of St. Louis and the following counties: St. Louis, St. Charles, Jefferson, Franklin, Lincoln, Washington, Warren, Clay, Platte, Jackson, Cass, Ray, Clinton, Buchanan, St. Francois, Ste. Genevieve, Perry, Cape Girardeau, Bollinger, Madison, Iron, Greene, Webster, Polk, Dallas, Cedar, Barton, Dade, Jasper, Newton, McDonald, Lawrence, Barry, Stone, Taney and Christian.

Links to the websites of the local organizations where the requests for proposals will be posted when they are released can be found on the department's website at: dnr.mo.gov/env/apcp/cleandieselprogram.htm.

For more information on what the department is doing to improve air quality in Missouri and the role Missourians play in improving air quality, call the department's Air Pollution

Control Program at 800-361-4827 or 573-751-4817 or visit the program's website at: dnr.mo.gov/env/apcp.

Help Us Find State Coal Mine Maps

The Department of Natural Resources is seeking help from Missouri citizens and industry in locating historic maps of abandoned underground coal mines.



The department has received funding from the Department of the Interior's Office of Surface Mining to investigate, collect and scan maps of underground coal mines to make the national inventory of Missouri mine lands as complete as possible.

In 1840, Missouri became the first state west of the Mississippi to produce coal commercially. There are presently about 1,000 coal mine maps in the database. However, maps may exist that would enable a more complete database to benefit public safety. Safety issues are the greatest concern regarding abandoned underground

coal mines. They can cause subsidence or natural collapse at the ground surface and potentially damage homes and buildings, roads and other infrastructure.

Some mining activities were small, family operations whose maps may be treasured heirlooms that have been passed down to family members. Others may reside in county courthouses, libraries, historical societies and at other locations throughout the state.

Donated or loaned maps will be scanned, cataloged and housed at the department's Rolla facility. Those loaned will be returned to their owners.

If you have a map of an underground Missouri coal mine and would like to help us improve this database, please contact project lead, Cheryl Seeger at 573-368-2100. The project is in effect through Sept. 30, 2011. For more information, visit the website at: dnr.mo.gov/geology/.

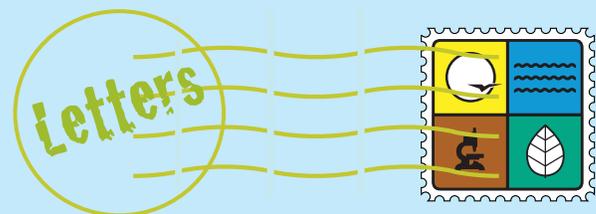
New Civil War Website Available

A new website that provides extensive information for the Civil War sesquicentennial is now available at:

I read your article about the car of the future ... the electric car. Our electric company keeps telling us to conserve our electric usage. Our monthly bills keep going up (I just read about the proposed increases in Springfield) and there is no end in sight. How are we to consider buying an electric car when we don't really know what it will cost to operate? Also, the driving distances here in southwest Missouri are too great to take advantage of the supposed 40-mile capacity of the battery. In our part of the state, the secret to less gas usage is a more fuel-efficient car or to increase the availability of low-cost public transportation.

Rene Mayas
Kimberling City

The Water and Soil Resources issue – Fall 2010 – is a beautiful publication. Congratulations on a job well done. However, page 9 shows a picture of the men at the location of the public water well in *Jamestown*, rather than in California, as the cap-



tion describes. By the way, those buildings look exactly today as they did in 1903. Drive up Highway 179 and take a look. Thanks again for a fine publication.

Derry Brownfield
Centertown

Editor's Note:

Derry was one of several people who noted that error. The info provided with the slide was incorrect. Our thanks to those readers who took the time to let us know.

Letters intended for publication should be addressed to "Letters," *Missouri Resources*, PO Box 176, Jefferson City, MO 65102-0176 or faxed to (573) 522-6262, attention: "Letters." Please include your name, address and daytime phone number. Space may require us to edit your letter. You also can e-mail *Missouri Resources* staff at moresdnr@dnr.mo.gov.

mocivilwar150.com. Missouri played a key role in this important part of history and extensive activities are being planned throughout the state to commemorate its 150th anniversary. The website serves as a comprehensive venue for all aspects of the sesquicentennial, including the history of the battles and key figures in the conflict along with information about current attractions and activities.

The website is a cooperative venture between DNR and the Missouri Division of Tourism.

Diesel Emissions Reduction Project



The Department of Natural Resources and the U. S. Environmental Protection Agency have recognized the Mid-

America Regional Council and the Kansas City Southern Railway Co. for a project that will help reduce diesel emissions and improve air quality in Kansas City.

The department received approximately \$1.73 million in grant funds for the State Allocated Diesel Emission Reduction Act (DERA) through the American Recovery and Reinvestment Act from the U.S. EPA. A subgrant was issued to MARC, to administer the clean diesel grant program in the Kansas City area.

The Kansas City Southern Railway Co. received a \$43,084 DERA grant that funded 75 percent of the cost to purchase and install automatic engine shutdown/startup devices on five locomotives. Kansas City Southern Railway provided the remaining 25 percent to fund the project. This technology will reduce the amount of times the locomotives spend idling, thus both reducing diesel emissions and conserving diesel fuel.

For more information contact the DNR's Air Pollution Control Program at 800-361-4827 or 573-751-4817, or visit the department's website at: dnr.mo.gov/env/apcp.



Stream Team Notebook

Born on the Bayou – Outstanding in the Ozarks

In 2007, George Sims took one look at the Ozark hills and fell in love at first sight. Before their visit ended, he and his wife, Amanda, purchased a cabin in the woods near Mansfield, deciding to leave Bastrop, La. and move to the Missouri Ozarks. Almost immediately, Sims joined the Stream Team Program and formed the Bonne Idee Farm Stream Team 3840. In early 2008, Sims became interested in water quality monitoring and attended both the introductory and level 1 Volunteer Water Quality Monitoring classes. As he became more involved with the program, he saw that the teams in his region needed to work together to preserve their streams. Sims contacted the teams in his area and found enough support to start the White River Hills Stream Team Association – Stream Team 3798. Within a short time, there were 10 teams in four counties working together in the new association.

Recently Sims was presented the Stream Team Ambassador Award for Volunteer Water Quality Monitoring. In the early spring of 2010, he assembled a group of water quality volunteers and coordinated their efforts to monitor all 42 miles of Bryant Creek, from the headwaters to its confluence with the North Fork of the



DNR photo by Susan Higgins

George and Amanda Sims study a macroinvertebrate.

White River. The group monitored chemical parameters and macroinvertebrates at each mile, as well as recording GPS coordinates and taking stream bank photographs. Bitter cold, high water, wind and rain could not deter these resolute volunteers. Early during the project, Sims wrote, "As you may remember, I managed to sink my kayak three times on my first effort, as well as losing my personal GPS and soaking my camera. This time, I only got 'strained' twice, although I had to paddle the last mile in the dark, accompanied by the sounds of whippoorwills. It was a great day for a paddle, despite the 32 degree weather and a thin coating of ice on the kayak at 6 a.m. The weather warmed to the mid-60s, and I saw several deer, a couple of snapping turtles, some otter, all the ducks in the world plus great blue herons."

The Stream Team Program is happy to be able to recognize Sims' efforts to protect Missouri streams. Louisiana's loss has definitely been Missouri's gain.



St. Louis-Area Geologic Maps Now Available

Ten new geologic maps that are critical to seismic modeling are available for portions of St. Louis County

and St. Louis city through the department's Division of Geology and Land Survey and the St. Louis Area Earthquake Hazards Mapping Project. Areas of map coverage include Alton,

TIME EXPOSURES



In the early 1900s, the Atlas Portland Cement Company constructed a massive cement plant (background) to develop the limestone resources near Hannibal, the site of Mark Twain's books about Tom Sawyer and Huck Finn. At the edges of the plant property, the company town of Ilasco (foreground) quickly filled with Romanian, Slovak, Italian and Hungarian immigrants brought to the area by Atlas to work in the plant. By 1910, Ilasco had more than 2,000 residents.

Former Hannibal resident and Texas author Gregg Andrews based his book *Insane Sisters* on a 17-year battle by Mary Alice Heinbach and Euphemia B. Koller to retain ownership of 26 acres that Atlas wanted for worker housing. The battle ended with one sister committed to an insane asylum by a local circuit court and the other perishing in a fire.

Photo contributed by David Polc and provided courtesy of Hannibal Free Public Library from its digital collection entitled *Immigrant Community of Ilasco, Missouri*.

Send your photo to "Time Exposures," c/o Missouri Resources, PO Box 176, Jefferson City, MO 65102-0176. Original photos will be returned via insured mail. Pre-1970 environmental and natural resource photos from Missouri will be considered. Please try to include the date and location of the picture, a brief description and any related historic details that might be of interest to our readers.

Cahokia, Clayton, Elsah, Florissant, Grafton, O'Fallon, Oakville, Webster Groves and Wentzville at a scale of 1:24,000. Geologists with the division authored the maps. Project partners include the Missouri Department of Transportation, the Missouri University of Science and Technology, Rolla, and the Illinois Geological Survey.

The project will include 21 maps, 12 of which have been published. The remaining nine are scheduled to be completed by 2013. Visit this website

for additional information dnr.mo.gov/geology/. These maps are available for purchase at 111 Fairgrounds Road in Rolla and through the Geology Store at: missourigeologystore.com, or call 573-368-2125.

Three State Parks Voted Best in the Midwest

Missouri state parks took first, second and third place awards for Best State Park in AAA *Midwest Traveler* magazine in 2010.

The publication invited readers to vote for their favorite places to visit, eat, shop and more. More than 2,500 people cast ballots. Table Rock State Park near Branson won best state park by nearly a two-to-one margin, according to AAA.

Lake of the Ozarks State Park came in second, followed by Ha Ha Tonka State Park, near Camden, in third.

First place Table Rock State Park is one of the busiest parks in the state. It boasts a marina, hiking trails, picnic areas and several camping facilities. Visitors return year after year for the scenic views, lake access, quiet trails and clean facilities.

Table Rock State Park Superintendent Carl Bonnell noted that park staff are constantly trying to meet the public's needs and listen to concerns and suggestions in order to give guests what they want.

Second place Lake of the Ozarks State Park is in mid-Missouri. Superintendent Bill Arnold believes diversity is what makes this park so popular. "I think it's the beauty of the park and all the facilities the park offers with the group camps and the camper cabins. We have miles and miles of trails – both equestrian trails and bike trails," Arnold said.

Third place Ha Ha Tonka State Park is also located on the Lake of the Ozarks. The park offers trails, castle ruins, fishing and much more. "The park is such a fascinating collection of karst features and wonderfully diverse landscapes," said Superintendent Nancy Masterson.

AAA *Midwest Traveler* reaches more than 500,000 readers bimonthly in Missouri and parts of Indiana, Illinois and Kansas. Find more information on Missouri state parks and historic sites at: mostateparks.com.

For news releases on the Web, visit: dnr.mo.gov/newsrel/index.html.

For a complete listing of the department's upcoming meetings, hearings and events, visit the department's online calendar at: dnr.mo.gov/calendar/search.do.

Resource Honor Roll **McCarthy's Heart Hats**

Visitors to the Outdoor Education Center at Dr. Edmund A. Babler Memorial State Park, in Wildwood, St. Louis County, will notice several significant improvements. The Heart Hats, a public service program carried out by employees of the McCarthy Building Company, have been at work.

Through the Heart Hats outreach program, McCarthy employees are encouraged to locate projects that meet real needs in their community and then use their building skills and other talents to encourage that success.

At Babler, the volunteers installed an asphalt walkway leading to the OEC pond, replaced a bridge over a creek on the path and expanded a concrete fishing platform at the pond. The employees also removed several old structures and overgrown vegetation from the area and made minor repairs to two shelters in the park.

McCarthy's volunteer time and material donations were supplemented by the work of several St. Louis-area contractors who also donated material and labor on the project.

In April 2010, Bill Bryan, director of the state park system, went to the park's Jacob L. Babler Outdoor Education Center to thank those who participated. Paul Hartwig, senior vice-president of operations for McCarthy and Dr. Craig Larson, superintendent of the Rockwood School District were on hand.

Since 2002, the Rockwood School District and its Community Education department has partnered with the Department of Natural Resources to operate the 300-acre outdoor education and recreational retreat for people of varying abilities. Included are

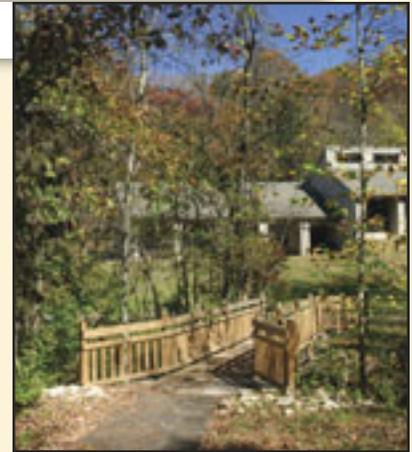
eight heated cabins, a dining hall, recreation center, conference and meeting rooms, a pond and swimming pool recreation area.

Division Director Bryan said, "We greatly appreciate the efforts by McCarthy and all those who volunteered their time and talents to this project. Our department is dedicated to bringing the benefits of nature to everyone and these improvements will make it easier for all campers to enjoy the park."

The 2,441-acre Dr. Edmund A. Babler Memorial State Park is 20 miles west of St. Louis, between highways U.S 40 and Missouri 100 on local road BA.

Visitors can see old-growth forests and dolomite rock cliffs from 13 miles of trails. Campers will find 75 campsites – 31 basic sites and 44 electric. Two picnic shelters are available for daily rental from April 1 until Oct. 31.

Find more information on Missouri State Parks at: moparks@dnr.mo.gov.



New bridge at Babler State Park

DNR photo by Scott Myers

Rock Matters



Mozarkite

Designated as Missouri's official state rock in 1967, it is only found in the Show-Me State. The most abundant deposits are found in west-central Missouri, south of the Missouri River.

DNR photo by Mark Gordon

Found only in Missouri, the colorful Mozarkite is a special variety of chert, typically red, pink, and purple with varying tints of green or gray. It has won acceptance as a distinctive variety by lapidaries nationwide because of its unique varied colors. The rock's beauty is enhanced by cutting and polishing for jewelry and is often considered a semi-precious gemstone.

The word Mozarkite is a contraction of "Mo," for Missouri; "zark," for Ozarks; and "ite," meaning rock. In 1967, Missouri legislators designated Mozarkite the state's official state rock. The majority of occurrences are in west-central Missouri, south of the Missouri River, and west of the Lake of the Ozarks. Many of the best occurrences are in Benton County.

Although it is thought that Mozarkite was discovered and recognized in road cuts made during the construction of U.S. Highway 65 in the 1950s, the possibility exists that the colorful stone may have drawn much earlier attention. Some believe that Lewis and Clark may well have referred to its colors in a limestone bluff along the Missouri River. Legend suggests it may also have been

the rock so fiercely protected by the Osage Indians in a "secret chert mine," as the beautiful stone is a form of flint and would have made attractive points and tools.

Formed in sedimentary rocks of the Jefferson City Dolomite, Mozarkite consists essentially of the minerals quartz (silica) and varying amounts of chalcedony a microcrystalline, translucent variety of quartz.

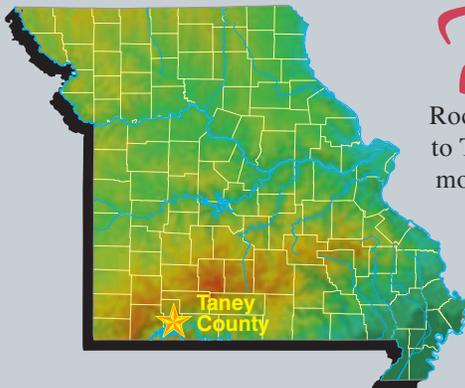
It takes a little imagination, but when cut open or sliced, the exposed surface often seems to reveal scenes, faces or animals. One such piece in the Truman Library in Independence is said to bear the likeness of a Missouri Mule.

The Benton County town of Lincoln may have the only rock club dedicated to the stone. The Mozarkite Society of Lincoln promotes awareness and education about Mozarkite and the interest in the study of mineralogy, lapidary, and jewelry. Information about the society is online at: mozarkite.com. For more about Missouri rocks and minerals, go to: dnr.mo.gov/geology/.

Table Rock State Park
A Park for All Seasons



by Shannon Whitney
photographs by Scott Myers



Tucked behind Table Rock Dam lies one of the premier tourist destinations in southwest Missouri: Table Rock State Park. With 356 acres and access to Table Rock Lake, the park is one of the most visited in the state.

The U.S. Army Corps of Engineers completed Table Rock Dam in 1958, creating the lake. Table Rock State Park was created in 1959 and is today one of more than 80 state parks and historic sites operated by the Missouri Department of Natural Resources. It offers camping, boating, picnicking, hiking trails and a full-service marina for local residents and visitors to the Branson area.

Table Rock State Park sees a steady stream of visitors year round with the summer being the busiest season. The lake and the Branson area draw tourists from all over Missouri and the United States. Visitors can stay in the well-maintained campgrounds, enjoy the shady trails and explore State Park Marina. Families can use the lake and the campground for a memorable, nature-filled vacation close to all the action of Branson. Branson is full of tourist attractions from the world-famous shows to the outlet malls so there is something for everyone in town. Nearby, Lake Taneycomo has some of the best trout fishing found in the midwestern U.S.



Visitors love watching the seasons change at Table Rock State Park, especially in the spring and the fall. Even when it is too cold for some to camp in tents, campsites with sewer, water and electric hook-ups make it easy to stay warm in a recreational vehicle or camper. The winter brings families back to see the holiday shows and lights in Branson, especially Silver Dollar City.

The campground at Table Rock State Park is very popular. Lolita Hall, from Osawatomie, Kan., has been camping at Table Rock State Park four or five times each year for the last 10 years. She returns each year with her husband and recently, her daughter and son-in-law joined the family tradition.

“The campgrounds are so nice and clean. They’re away from town a little bit so you have some privacy. We just love it here,” Hall said.

Table Rock State Park’s campground has three shower houses, laundry facilities and campground hosts to make any length of stay comfortable. Two-thirds of the 162 campsites can be reserved in advance. The remaining 54 sites are open to campers on a first-come, first-served basis.

For those who are camping or just coming for the day, picnic areas and fire pits are perfect for outdoor cooking and family gatherings. The park has a pavilion for large groups. An interpreter provides programs in the amphitheater and leads nature hikes.

Table Rock State Park currently offers two trails for visitors interested in biking and hiking. The Chinquapin Trail is a shorter, shady trail and is perfect for hikers, especially families with younger children. The Table Rock Lakeshore Trail is 2.2 miles long and winds along the lake, providing a paved surface for cyclists. Visitors enjoy panoramic lake views and listen to the gentle lapping of the waves on the shore.

With the help of volunteers and the State Parks Youth Corps, Table Rock State Park will be opening a third trail. The White River Valley Trail will consist of four loops totaling 10.25 miles. This longer trail through the woods will be a scenic and peaceful oasis for hikers and mountain bikers. Lucky hikers might see some of the native wildlife, including whitetail deer, raccoons, lizards, squirrels and turkeys.

Table Rock Lake is a major attraction in the park and the State Park Marina located on the shoreline provides many ways to enjoy the water. The full-service marina boasts the most fun above, on and even under the water.

The marina has more than 65 rental boats and wave runners available on an hourly and daily basis. Scuba divers can gear up at the scuba shop and lessons are available for those wanting to get up close and personal with the fish.

Lance Junck, age 11, recently finished his scuba certification so he can join the rest of his family in the depths of Table Rock Lake.

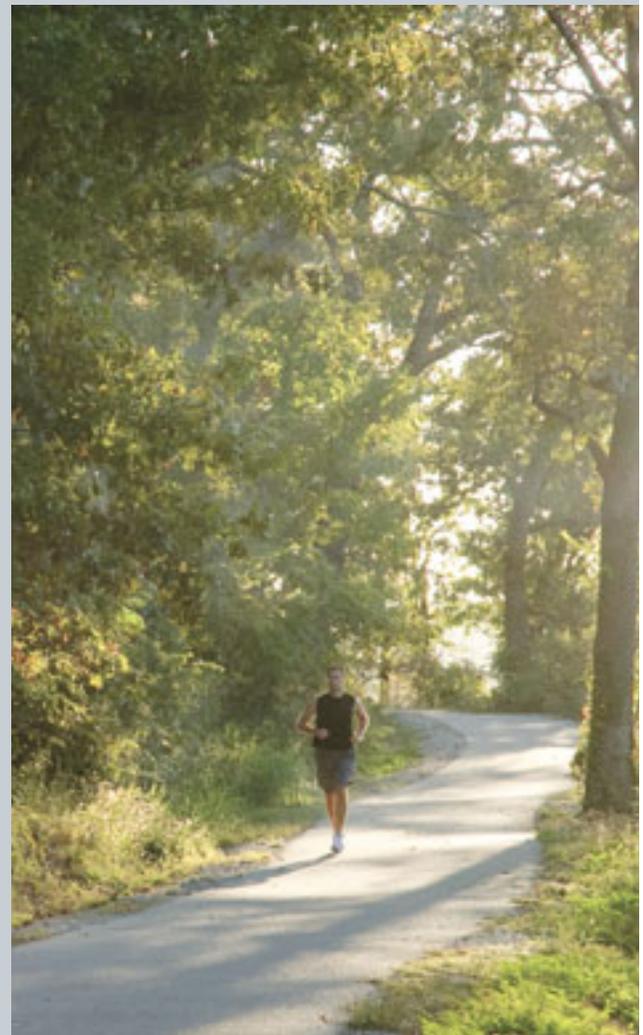
“It’s a whole new world down there. It’s not like anything you’ve ever seen,” Junck said.

Another popular activity at State Park Marina is parasailing. Those looking for an unbeatable view of the lake and the surrounding countryside can sail 300 feet behind “Captain Sam’s” boat. Getting wet is optional, so parasailing stays popular until well into the fall. Most parasailers opt for what Captain Sam calls the “Table Rock Baptism,” which is a quick dunk into the lake.

The Spirit of America, a 48-foot Caribbean-style catamaran, provides a special way to experience the lake.

(Opposite page) Table Rock State Park’s full-service marina offers many options for enjoying Table Rock Lake, from parasailing above the water to renting diving gear to explore below.

(Below) A new multi-use trail around the shore of Table Rock Lake provides a great place for a morning run.





(Above) The park's campground offers sites with full amenities for recreational vehicles. Brenda Gray of Springfield experiences nature and the great outdoors using one of the park's basic sites.

(Below) Table Rock Lake is nationally known for its bass fishing, whether you are participating in a large bass tournament, spending a quiet afternoon of fishing or exploring the lake on a cruiser or personal watercraft.

Scheduled cruises are held every day during the season and the water slide, water trampoline and kayaks that it tows are especially popular with lake enthusiasts.

After dropping anchor in a cove, everyone puts on lifejackets and plays on the inflatables. The evening cruise is geared toward relaxing and watching the sunset on the waters of Table Rock Lake. The Spirit of America is also available for group and private charters.

During the summer, guests can eat at Danna's Boathouse Barbecue or the snow cone stand. The marina store offers snacks, souvenirs and lake necessities for boaters and campers. The marina includes 700 boat slips for rent and there is a boat launch area located within the park.

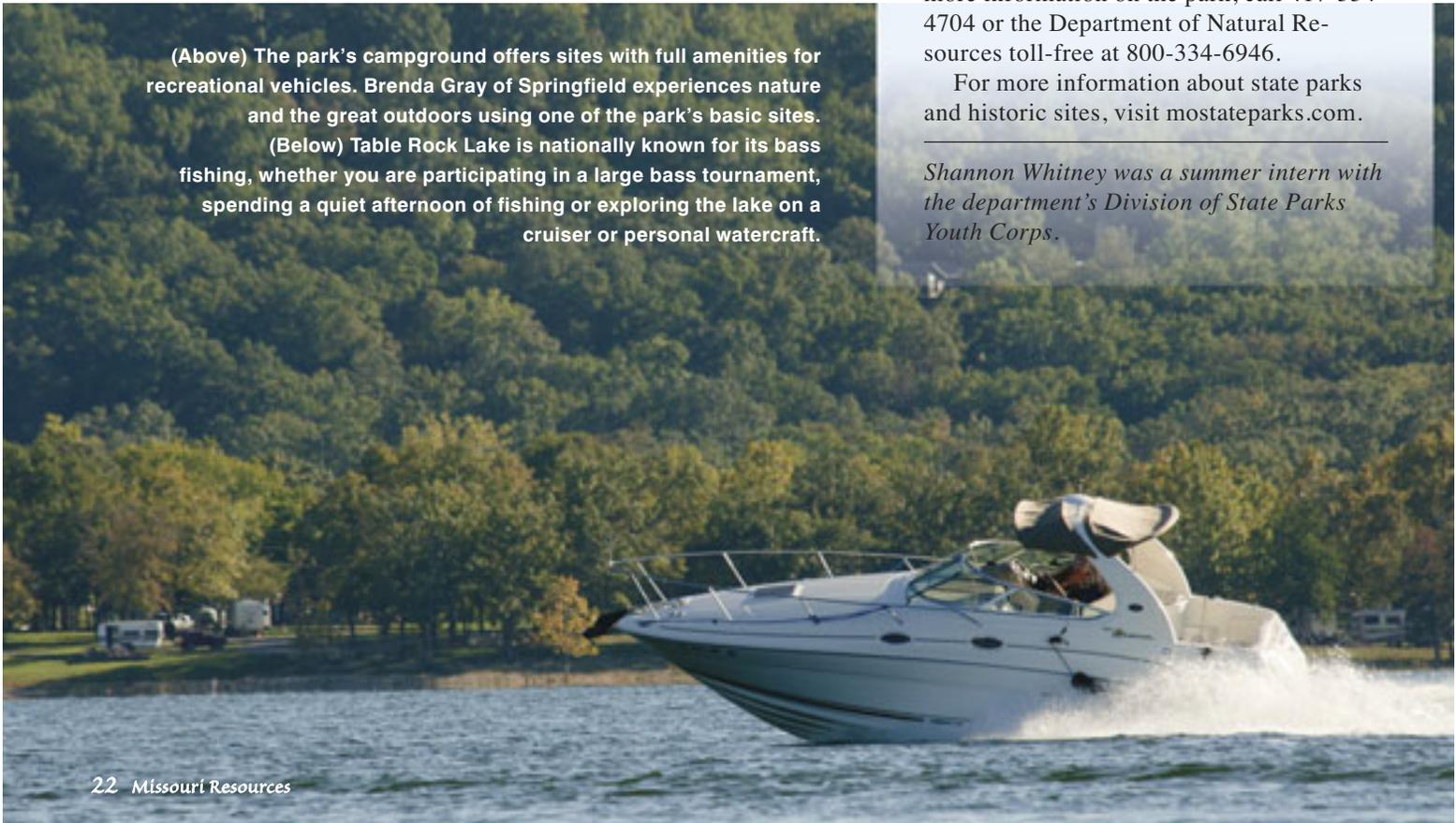
Table Rock State Park's wide variety of activities and features promise something for everyone and year-round fun. Each year, between 1.1 and 1.4 million visitors come for the camping, trails and lake access. It's easy to see why it was voted Best State Park in 2010 by AAA Midwest Traveler magazine.

When asked about his favorite part of the park, Park Superintendent Carl Bonnell said, "The water quality and view of Table Rock Lake are probably my biggest draws."

Table Rock State Park is located on Highway 165 southwest of Branson. For more information on the park, call 417-334-4704 or the Department of Natural Resources toll-free at 800-334-6946.

For more information about state parks and historic sites, visit mostateparks.com.

Shannon Whitney was a summer intern with the department's Division of State Parks Youth Corps.





Roger Korenberg

Former Pilot Gets New Energy Program off the Ground

by Dalena Hardy

photographs by Scott Myers



Roger Korenberg likes to keep busy. “I guess you might say that I am on my third career,” he said.

Korenberg grew up on a farm in north-west Iowa. He enjoyed life on the farm, but knew he would need to leave home to pursue his dream of becoming a pilot. After rigorous training at the U.S. Air Force Academy, he became a pilot and officer in the U.S. Air Force.

During his first career, he flew transport and H-53 helicopters and traveled to places such as Germany, Italy, Spain, Korea, Japan, an array of other countries and nearly every state. Korenberg retired from the Air Force in 1989, attaining the rank of Lt. Colonel.

The former pilot never lost his love for the skies, as he immediately turned his flight training and engineering education into tools to combat air pollution. He began his second career as an air resource engi-

neer for the State of California. Korenberg enjoyed his time in California, but soon he realized it was time to move closer to friends and family.

“My wife and I both have family in Iowa, but I couldn’t stand the Iowa winters so living there wasn’t an option,” said Korenberg. “We drew two circles on a map. The smaller circle was an hour away from our parents and the larger one was a day away. We chose the larger circle and ended up settling down in mid-Missouri.”

Today, Korenberg is an environmental engineer for the Missouri Department of Natural Resources’ Division of Energy. His efforts are now devoted to improving energy efficiency on farms and in agricultural facilities across the state.

Missouri farmers face increasingly shrinking profit margins – the difference between operating in the black and operating in the red may well be determined by

Clyde Hesemann of Gasconade County shows Roger Korenberg the GPS field guidance system that he purchased under the DNR cost share program – funded by the federal American Recovery and Reinvestment Act.



(Above) Clyde and Lynn Hesemann show Korenberg the new frost-proof livestock watering system that was purchased with the help of ARRA funding. (Below) Chad Bruns, an Audrain County farmer, explains the energy-saving benefits of a computerized grain dryer, installed on his farm with DNR assistance and federal cost-share funding.



“When I talk with them, it is like talking with a neighbor.”

- Roger Korenberg, DNR environmental engineer

whether they’re operating in the “green.” While many factors facing farmers are beyond their control, one important variable remains partially within their control – energy usage.

Korenberg got the agricultural energy-use mission off the ground in a hurry, and so far, it’s been a smooth and successful flight. He has been instrumental in creating and implementing the Energize Missouri Agriculture Cost Share Program, an initiative made possible by funds from the American Recovery and Reinvestment Act of 2009. The department developed the cost-share grants to reimburse farmers for up to 75 percent of the cost of energy-saving equipment. Farmers received

grants to purchase energy-saving equipment such as solar-powered watering systems and fencers, GPS and auto-steer systems for tractors and applicators, and irrigation system upgrades.

So far, more than \$6 million in grants have been awarded through the ag cost-share program. Numbers aside, the best aspect of this project for Korenberg is forming bonds with the farmers.

“They are so appreciative. We get handwritten notes with some of the reimbursement checks,” said Korenberg. “When I talk with them, it is like talking with a neighbor.”

Now that farmers are receiving their energy-saving equipment, Korenberg will spend his time calculating energy savings generated by the equipment. He hopes to publicize them to farmers across Missouri so they will continue the process of incorporating energy-efficient practices and technologies into their operations. His enthusiasm for agriculture and energy efficiency are evident to his colleagues.

“Roger knows his stuff, is extremely professional, and is dedicated to energy efficiency,” said Eric Medlock, an energy specialist who works closely with Korenberg on the program. “He is also a very funny guy with a noticeably dry sense of humor.”

Korenberg says the leadership, education and training he has acquired come into play as he approaches new challenges.

“I definitely won’t be quitting anytime soon,” he said. “I want to keep busy.”

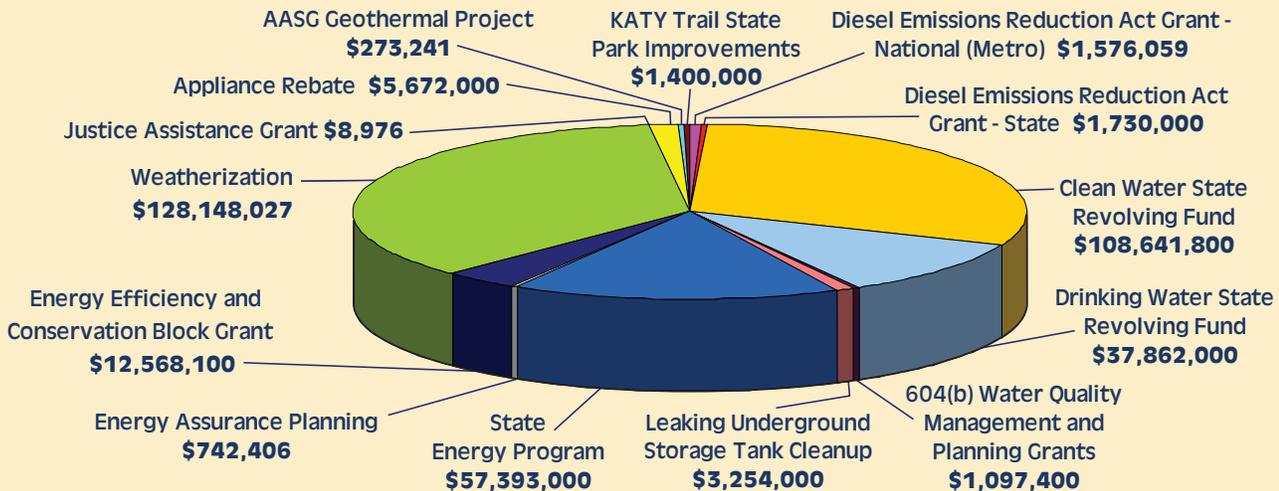
Korenberg earned a bachelor’s degree in Basic Science from the U.S. Air Force Academy in Colorado Springs, Co. and a master’s in Aeromechanical Engineering from the Air Force Institute of Technology at Wright-Patterson Air Force Base, Ohio.

For more information about this job or other career opportunities with the Department of Natural Resources or other state agencies, visit the Office of Administration’s website at: [//oa.mo.gov/pers/](http://oa.mo.gov/pers/).

Dalena Hardy is a public information specialist with DNR’s Division of Energy.

Missouri Department of Natural Resources Recovery Act Funds Received *

See map on page 5 for Missouri fund distribution by county.



Diesel Emissions Reduction Act Program

ARRA funding for national and state projects will help reduce diesel emissions and improve air quality in Missouri.

Clean Water State Revolving Fund

Assists 44 cities and counties in upgrading their water treatment facilities. Additional assistance will be provided to disadvantaged communities.

Drinking Water State Revolving Fund

Assists 19 cities, counties and public water supply districts in upgrading their drinking water facilities. Additional assistance will be provided to disadvantaged communities.

604(b) Water Quality Management and Planning

ARRA funds will help DNR protect and improve water quality water quality monitoring and assessment; implementing Missouri's water quality standards; conducting water quality planning activities and administering grants and subgrants.

Leaking Underground Storage Tank Cleanup

Eliminate abandoned underground storage tanks such as those found at former gasoline stations. Cleaning up these former properties may make them available for redevelopment for new businesses or the expansion of existing businesses.

State Energy Program

Increase energy efficiency and create jobs through various state energy programs by reducing energy usage, carbon emissions and fossil fuel use.

Justice Assistance Grant - Ranger Lights

Provides new emergency light bars for the park ranger vehicles used in Missouri State Parks.

Energy Assurance Planning

Facilitate utility-based energy assurance planning to adopt policies and practices that reduce the potential impacts of energy-related emergency events and to assure sufficient energy resources following an emergency event.

Energy Efficiency and Conservation Block Grant Program

Reduce fossil fuel emissions; reduce the total energy use of the eligible entities; improve energy efficiency in the transportation, building and other appropriate sectors; and create and retain jobs for 66 projects (as of 7/9/10).

Weatherization for Low-Income Families

Increase the number of low-income families who could receive energy-efficiency upgrades (weatherization) to their homes. The funding will allow approximately 10,814 homes to be weatherized and reduce future energy costs.

Energize Missouri Appliance Rebate Program

Help lower appliance purchase costs, reduce home utility expenses and benefit Missouri businesses by stimulating sales of energy-efficient appliances and other household systems.

KATY Trail State Park Improvements

Help coordinate construction and administration of transportation enhancements for the KATY Trail State Park in Boone, Cooper and St. Charles counties.

AASG Geothermal Project

Allows Missouri to compile location information for water wells, oil and gas wells, ground source heat pumps, core and cuttings. Temperature data will be collected from oil and gas producing wells, and existing and new deep municipal wells.

* Please go to dnr.mo.gov/transform/recovery-act-photos/index.html to see DNR staff that put \$358 million into the hands of local communities, contractors and individuals.

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