

ST. LOUIS ARMY ENGINEER DIST
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GATEWAY TO EXCELLENCE

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Corps environmental work gets a boost through UMRS-EMP

By Brian Markert,

The Upper Mississippi River System Environmental Management Program (UMRS-EMP), was authorized by Congress to restore and enhance the ecology of the Upper Mississippi River. It is a partnership between federal and state agencies. As concerns for the environment continue to grow, the Corps of Engineers is challenged to turn its engineering expertise towards the growing business area of environmental work.

The Mississippi River is the only river in the United States to be formally recognized by Congress as both a nationally significant ecosystem and commercial navigation system.

The River has a long and colorful history, and has played a significant role in shaping our social and economic development.

The effects of river regulation, floodplain development, and watershed modifications present constant challenges to the integrity of the Mississippi River. Recognizing the need for sustainable development,

Congress, in 1986, passed the Water Resources Development Act.

The EMP is divided between the three Districts that are stewards of the Upper Mississippi River System (UMRS) to include St. Louis, Rock Island and St. Paul. The Rock Island District has the lead role in the program with oversight from the Mississippi Valley Division office in Vicksburg, Mississippi. The EMP partnership is comprised of the Corps, the U.S. Fish and Wildlife Service, the U.S. Geological Survey, and the five UMRS States (Illinois, Iowa, Minnesota, Missouri, and Wisconsin).

Working closely with our federal and state customers, the St. Louis District

(Continued on page 7)



Stag Island, in pool 25, provides off channel, deep water fish habitat.



Commander's Perspective

Looking to the future - no turning back

The Corps of Engineers has adopted the project management business process (PMBP) as the way to do business. This key decision has been made in order for the organization to remain competitive in an increasingly competitive world. It is also clear that we will remain competitive by listening to our customers and delivering what the customers want.

Most of you know by now that the PMBP applies to all work in the District and involves the formation of teams that are led by a project manager. There has been no shortage of dialogue in the past few years over whether this is a good idea or not. Let me be clear. There is no turning back. The PMBP is here to stay. Will it involve some changes in the way we have operated in the past? Yes! It is clear that we will gradually move away from the era of strong stovepipes based on functions and move into a future of cross-functional teams, team accountability, etc. Different for sure, and certain to change other processes we have become familiar with. However, this business process redirection is good for the organization and needs to be embraced by every employee in the District.

Think with me for a moment. Do you care what business processes the dealer uses when you have your auto fixed? No! You want it fixed at the lowest possible cost, done quickly, and most important to you, you want it to work properly and stay fixed. Our customers are the same way. They simply don't care that we have an engineering, construction, real estate, logistics, counsel, or even a project management stove pipe. They are also not impressed that many of our stove pipes have existed for 40, 50, even 100 years. They are definitely not impressed that any of us want to see these stove pipes remain simply because we are accustomed to them. Remember that all customers want "lowest cost," "quickly," "works," and "stays fixed." In short, why the PMBP? Answer: to help us deliver what our customers want!

I often hear whispers of "the way we always did it," or "the good old days" when discussing products or services we provide. Some in the Corps believe the final group, which needs to fully embrace the PMBP, is the "middle management" level. Further, many believe these fine branch and section supervisors, raised in an era of strong appropriations, producing quality work for the District's customers, are now wondering - what is wrong with the status quo? Consequently, this group is viewed as resisting the change to a PM led



Col. Michael R. Morrow

"There is no turning back. The PMBP is here to stay."

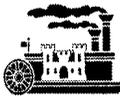


US Army Corps of Engineers
St. Louis District

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Perspective (cont.)

team based structure. Whether this is true in St Louis is a moot point. If we are to survive in an increasingly competitive environment for the Corps and still provide, quality, timely and cost effective products, any notions of a resistant attitude much change. The middle management component of our District team is extremely critical to the District's success. Consequently, I have decided they (middle managers) will become the backbone of our PMBP process here in the St. Louis District.

As we continue to forge ahead and delight our customers, we will

give the PM the responsibility (full responsibility) for the resources, finances and ultimate success or failure of their projects. With this authority comes accountability. We cannot do this without the support of the middle managers. We will form a middle management decision board that will review requests from the PMs for support. This board, comprised of the middle managers from the divisions and support elements, will place priorities on resources for the PMs based on project priorities established by the executive Project Review Board (PRB). This group of

middle managers will become key essential players in balancing and allocating the District's resources. Performance standards will reflect this responsibility. The bottom line will be total support for the PM and customer.

I am dedicated to making the PM the most sought after, highly regarded and career enhancing position in the District. Together, we will grow our programs and delight our customers with the "one door to the Corps" service.

St. Louis District Employees of the Month



From left to right: Mike Morgan, Welton Joggerst, Terry Helming, Howard Fields and Stuart Arndt.

The employee of the month for January is plural, the crew of the motor vessel Pathfinder.

In the true spirit of service to others, the crew of the Pathfinder recently brought to safe harbor a boat stranded on the Mississippi River and attended to the needs of the unfortunate individuals who had been out in the cold for 36 hours. The act itself wasn't great in the scheme of things, but speaks volumes about the kind of people who staff the Pathfinder and about the dedicated and caring service of our District team.

Congratulations to the crew of the Pathfinder, employees of the month for the first month of the new century.



News Briefs

Lake Shelbyville:

Deer Hunt

During the 10th annual lake Shelbyville Deer Hunt for persons with disabilities the success rate was 72 percent. The event, held November 19, 20 and 21, saw 29

hunters in the field. Twenty-one deer were harvested.

This event was made possible because of the generosity of volunteers. Twenty-eight people donated more than 790 hours transporting hunters, carrying gear, field dressing and transporting deer and performing many other tasks.



District headquarters:

Pathfinder crew rescues boaters

During a recent patrol of the Mississippi River, the St. Louis District's motor vessel Pathfinder rescued a pair a stranded boaters. The couple was en route to Clearwater, Florida, for the winter when the steering column on their boat, the "MY", broke, almost causing a collision with a southbound barge. They avoided the barge, but found themselves stranded on a remote stretch of the river for nearly 36 hours.

The crew of the Pathfinder (Terry Helming, Stuart Arndt, Howard Fields, Welton Joggerst and Michael Morgan) noticed the stranded couple and went to the rescue. In the true spirit of service to others, the crew moored the disabled boat and towed it to safe harbor in Cape Girardeau, Missouri. In the meantime, the crew cared for the cold and hungry boaters by offering blankets and breakfast. The rescued couple praised the crew of the Pathfinder, describing them as "heroes" and stating that "We cannot tell you enough how grateful we are for these wonderful group of men."



East-West Gateway Combined Federal Campaign

This year's Combined Federal Campaign, conducted under the winning slogan submitted by Rob Gramke of Mark Twain Lake - Those Who Give Forever Receive - resulted in \$65,215.28 in pledges/contributions from 316 District personnel. That's \$3,215.28 above the goal.

The District Command and Staff participated in a pre-campaign solicitation and contributed \$6,122, which was announced at the Kick Off rally on November 2, 1999.

Dick Schaumburg, District Security Officer, headed up the campaign, assisted by Latissua Tyler, who also served as Key Worker for the small offices. The other Key Workers were Mary Lou Lawson, Andrew Jefferson,

Barbara Jarman, Kathy Cranker, Dawn Smith, Karen Bautsch, Marla Hayers, Maoise Palmer, Teresa Montgomery, Claudia Tonsor, Connie Driscoll, Tom Bloor, Chris Coe, Clarice Trigg, Ladonna Supancic, Janine Hegger, Shirley Harvey, Phyllis Thomas, Wenda McGilberry, Mary Ann Dostal, Lloyd Coakley, Shirley Boyer, Sharon Hornback, Lara Anderson, Cindy Zimmerman, Casey Myers, Millie Meyer, Arnold Washington, Marybeth Ferrer, Kathy Crone, Carolyn Clark, Rosemary Craig, Natta Gill, Joanne Long and Sheila Burnett.

Congratulations to all who worked so hard to make the campaign a success, and thank you to all who contributed.

Rend Lake:

Roderick & NRRS

Park Ranger Mark Roderick has been working on the NRRS implementation team for the Corps for many months. Starting December 1st, he began the next phase of

(Continued on next page)



News Briefs (cont.) Dredge workers

work with a six-month extension to become the Corps Assistant Program Manager and Contracting Officer Technical Representative for the National Recreation Reservation Service.

Ranger Roderick's duties will include developing operating procedure manuals for use by both the Corps and Forest Service, assisting with the development and evaluation of training courses for the NRRS, and providing oversight of the NRRS contractor's performance. He will also assist in coordination of various NRRS implementation teams. From Rend Lake, Mark will work in direct contact with and assist the Corps Program Manager, Interagency Program Manager, and the staff of the NRRS contract Management Office.

Pelican

Rend Lake Rangers have had an encounter with a UFO at Rend Lake. Upon further investigation, the strange sightings were explained to be a pelican with a 2-liter soda bottle attached to its wing. It is surmised that the green 7-UP bottle was used as a float for jug fishing and the pelican became entangled in the fishing line attached to the bottle. The pelican has been seen several times over the last three months and appears to be coping quite well with the adversity. This is another reminder about your impact on our environment and the wildlife with which we share it. Please, make sure that you dispose of all trash properly.

Five workers from the Dredge were detailed to Rend Lake at the beginning of November. Robert Chitty, Coy Jackson, and Rodger Weaver reported to Rend Lake on November 1st. Paul Tummins and Ronald Tulley spent their first week at Wappapello Lake and reported to Rend on November 8th.

For the first half of their detail, they were assigned to the Facility Management shop to reshingle recreation facilities' roofs, remove hazardous trees in recreation areas, and to assist with the building and dismantling of blinds for the Rend Lake Deer Hunt for Persons with Disabilities. The second half of their detail placed them in the Environmental Management shop to do boundary line marking and maintenance. The Dredge workers temporary detail will end on January 7, 2000.

Mark Twain Lake: Zimmerman award

Recently, volunteer Jane Zimmerman received an award for outstanding service at Mark Twain Lake. September marked the three year anniversary of Jane's participation in the Green Thumb program. The main goal of the Green Thumb program is to improve the lives of participants by helping them obtain meaningful employment. It is designed to give those over age 55 a chance to gain training and skills, find jobs, confront stereotypes about older Americans, and contribute their valuable talents to the workforce. At the Mark Twain Lake Project Office, Jane's much appreciated work includes office support tasks like mailing news re-

leases, maintaining filing systems, and photocopying. She also helps with preparation for special events.



Coming shows

January and February are planning months for many outdoor recreationists.

Cabin fever begins to set in after the holidays and folks can not wait to get outside. Boat and recreation shows during the winter months draw in many of our customers who are planning their 2000 recreation season. The shows are a great forum to disseminate information on the Corps functions and facilities in the area. Lake Staff will be attending the following shows:

January 22 & 23 - Quincy RV & Sports Show, IL

February 4, 5, & 6 - Columbia All Sports Show, MO

February 8-13 - St. Louis Boat Show

February 18, 19, & 20 - Lets Go Fishing Show, Quincy, IL

February 25, 26, & 27 - Springfield Illinois All Sports Show

March 3, 4, & 5 - Central Illinois Recreation Show-Peoria, IL

Fishing is always a hot topic at the shows, but this year we will also have the opportunity to inform the

(Continued on page 12)



Research efforts result in Commander's Awards

By Chuck Camillo, Acting Public Affairs Officer, St. Louis District

On December 8, five members of the St. Louis District's Ordnance & Technical Services Branch received a Commander's Award for Civilian Service for their efforts in aiding the Department of Defense (DoD) to disprove allegations made by the Cable News Network (CNN) that the United States dropped nerve agent-filled cluster bombs on U.S. military defectors during the Vietnam War. Colonel Michael Morrow, District Commander, presented the award on behalf of the Secretary of the Army, to Michael Dace, Thomas Murrell, George Sloan, Elinor Reinarman, and Kirk James.

The allegations surfaced when CNN aired a story entitled, "Valley of Death" on the program News Stand. The story alleged that in September of 1970, U.S. Special Forces were inserted into Laos to locate and kill the defectors. The story claimed that during the mission, code named OPERATION TAILWIND, the Special Forces unit assaulted an enemy base camp and killed the U.S. defectors, as well as enemy troops, women and children. The telecast also alleged that the Air Force dropped nerve gas munitions prior to the attack and during the extraction of Special Forces personnel. Immediately following the telecast, Time magazine included a similar story on OPERATION TAILWIND, written by CNN staff.

During the fall of 1998, the Office of the Program Manager for Chemical Demilitarization, Non-Stockpile Chemical Material, tasked the Ordnance & Technical Services Branch to provide research assistance into the allegations. The ordnance team's mission was to perform historical research to determine the availability of the chemical munitions and munitions dispensers allegedly used during OPERATION TAILWIND. To successfully fulfill its mission, the research team conducted a comprehensive audit trail of all pertinent munitions dispensers from manufacture and filling through final disposition. The team also determined the types and quantities of Chemical Warfare Material, with an emphasis on cluster bombs and GB and VX nerve



George Sloan



Elinor Reinarman



Tom Murrell



Mike Dace

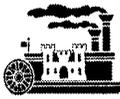
agents, shipped to and from the theatre of operations.

The findings produced by the research team served as an integral component in aiding the DoD to disprove the allegations and to conclude that OPERATION TAILWIND did not target American defectors, did not employ nerve agents, and was conducted in accordance with the Laws of War, Rules of Engagement, and United states policies in force at that time.

Test sentence

We learned, for example, that we could provide a boost in employee morale if we, on a routine basis, held a celebration to mark even the very smallest gains in market share.

Analysis on page 13



EMP (continued)

implements habitat enhancement and rehabilitation projects on the Mississippi River from just below Lock & Dam 22 at Saverton, Missouri, to the confluence of the Mississippi and Ohio Rivers, the first 80 miles of the Illinois River below the La Grange Lock and Dam, and the

berms to keep heavy silt loads out of habitat areas and to control water levels for optimum food production; building islands to decrease wind generated disturbances, reducing turbidity and creating habitat for small aquatic plants and animals; and altering the flow of water to side channels and backwaters to decrease flows of sediment laden water during high water and to in-

nual Construction General funding is just over \$18 million with an authorized potential to \$33 million annually. Current annual funding for the St. Louis District is over \$3 million with potential for growing the program to between \$6 and \$7 million per year.

The Water Resource Development Act of 1999 is great news for the District and for the environment. This continuing program with greater funding potential challenges the St. Louis District with work for many years to come, engineering sound environmental projects which seek to rehabilitate and enhance the ecosystem of the Upper Mississippi River.



Swan Lake stoplog structure using reused sheet pile from Mel Price construction.

lower 35 miles of the Kaskaskia River.

The five primary EMP elements are Habitat Rehabilitation and Enhancement Projects (HREP), Long Term Resource Monitoring, Navigation Monitoring, Recreation Projects, and Economic Impacts of Recreation. Unfortunately to date, the latter two components have not been funded.

The habitat projects employ a variety of techniques used in various combinations to address the unique circumstances of each particular area. Some of these techniques involve: dredging to remove sediment from selected backwaters and side channels to restore aquatic habitat; construction of dikes and

crease dissolved oxygen levels during low water.

Completed projects and total project costs	
* Clarksville Refuge	- \$283,000
* Cuivre Island	- \$1,831,000
* Dresser Island	- \$2,150,000
* Pharrs Island	- \$2,783,000
* Stag/Keeton Island	- \$733,000
* Stump Lake	- \$5,959,500
* Swan Lake	- \$12,000,000

The Water Resources Development Act (WRDA) of 1999 reauthorized the EMP program as a continuing authority type program. Prior to this designation the Program and its funding had a definite ending date of 2002. Current an-

District golf league will be starting

Maybe Santa brought you that new driver or putter you've been wanting. Maybe not. Either way it's time to start thinking about the big year ahead for the St. Louis District Golf League.

The League starts towards the end of April and plays after work on Tuesdays. It is open to all District employees and retirees. It's a great way to have fun, improve your game, enjoy some friendly competition, and get some exercise. We will be choosing new teams this year, so it's an especially good opportunity for new members.

The 2000 league officers are Jeff Marmorstein (8084), President, Jerry Schwalbe (8788), Treasurer, and Leonard Hopkins (8355), Secretary. Call any of them for more information.



The MVS Hunt Club

By Joe Sixpack

The St. Louis District sports scene was rocked this month by the revelation that its very own Colonel Morrow's application for membership into the prestigious and highly exclusive MVS Hunt Club was rejected during the validation process. As "proof" of his hunting prowess, the DE presented the photograph accompanying this article. The photo, it turns out, was a not so elaborate hoax, with the deer and the hunting cap and vest having been furnished by the Arkansas Game Department during the Colonel's recent participation in a Natural Resource Conference in Little Rock. Jim Lynch and Jennifer Watkins were cited as co-conspirators in the farce.



Until next year's review of his application, the Colonel has, for the most part, the same status as Pete Rose has in the baseball world. He confessed that he got the idea from Wally Feld, whose membership application had been previously rejected when he turned in a photo of himself with a "road kill" whitetail deer he found along Interstate 70 on his way to a Missouri Tigers' football game. Until further review of their reapplication at some future date, both Colonel Morrow and

Wally Feld shall remain Hunt Club "wannabes" and denied use of the Club's secret handshake and other rights and privileges appertaining thereto.

The Hunt Club was founded by Bob Mesko and other charter members years ago as a means to obtain equal status and recognition with the group of golfers who brag about their accomplishments, usually by stubby pencil only, on the area's well manicured golf courses, and the joggers who annually log more miles in their sneakers than the rest of us do in our cars. Mesko's place in District hunting lore is assured for future generations by his being the only MVS hunter to actually have a whitetail buck abscond with his rifle. After stunning the deer with a bullet that ricocheted off a brow tine, Bob placed his rifle on the buck's antlers whilst he posed for a picture, which was apparently the deer's cue to get up and depart for the adjacent countryside.

The Hunt Club membership is comprised of various District luminaries: The rifle hunters from Missouri, who strive to place 10 bullets into the same hole at 100 yards (Dan Ragland); and the shotgun-only hunters from Illinois, who are content to hit a five-gallon jerry can at 50 yards (Alan Brandt and Mike Krukeberg). Admittedly the club's elite are the bowhunters (Tom Miller, Brad Strauser, Bruce Douglas, etc.) In addition to the Black Powder devotees, there are members who hunt with handguns, upland game bird specialists (John Naeger), the "No Pain, No Gain" set of crazy waterfowlers (James Conner, Dave Berti, Pat McGinnis, etc.), the turkey specialists (the

McClendon Boys), the Timothy Leary set of whacked out coon hunters, and lastly the big game shooters (Pucel, Brown, Miller, etc.) Actually Tom Miller does all of the above. Linda Wichlan is an accomplished shooter and deer hunter as well. Stilts would be a better hunter if he did not let fishing interfere as much.

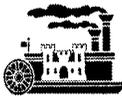
Kornberger has developed a low energy style of deer hunting to match his sedentary lifestyle. Prior to the season, he places ironing boards with sandbag gunrests, (vintage 1993) and lawn chairs at strategic locations around the perimeters of various fields. On opening day, he snipes--you cannot really call it hunting--the deer with a scoped magnum rifle and souped-up handloads that would make Darth Vader turn green with envy. His motto: "Use Enuf Gun."



Until next year, when the Club will again consider Colonel Morrow's new, and hopefully improved, membership application, I would recommend you give him a wide berth. Meanwhile, if you want to hear more hunting scene reports, try the restrooms, any water fountain, or any copy machine. Until next time, this correspondent, with tongue firmly in cheek, reminds you to keep your powder dry.

Editor's Note: The acting Chief of Public Affairs has received un-

(Continued on next page)



A family hunting tradition

By Tim Bischoff, Rend Lake Park Ranger

The holidays are a time of family, friends, and tradition. My family, like yours, has many traditions, some old, some new, and some probably a little odd, too. But one tradition that my father started when I was in high school has become a premier event that is waited for all year long. My father spent most of his time working many long hours to provide for his family. He woke up one morning and realized that his sons were almost grown. So instead of losing any more time, he chose to do with his sons what he had enjoyed doing in Michigan with his father, pheasant hunting. The day after Thanksgiving has become the day that four guys get together, drive to a hunt club, and spend the day in the field enjoying being with each other.

Rend Lake offers the chance for families and friends to start a tradition of their own at a reasonable cost. The Wayne Fitzgerald State Park and the Rend Lake Conservancy District's Shooting Complex have pheasant hunting packages from the total guided hunt to supplying only the birds. Rend Lake and the surrounding area also offers a myriad of activities for the non-hunting members of the group.

The Rend Lake Hunting Preserve, part of the Rend Lake Shooting Complex, was established to meet the needs of sportsman of all interests and skill levels. The hunting preserve operates controlled game hunts for pheasant, chuckar, and quail at any time of the year, with professional guides and highly trained dogs. They have recently

unveiled a new vehicle to assist persons with disabilities while they hunt. At the conclusion of the hunt, the birds are cleaned, packaged,



and refrigerated. The Seasons Lodge offers an "Upland Hunters Delight" package for those hunters interested in hunting at the Rend Lake Hunting Preserve and staying at Rend Lake. The hunting and shooting package includes guides, dogs, a round of clay targets, 2 pheasant, 2 chuckar, refreshments brought to the field, birds cleaned, and overnight accommodations for \$150 per person. If you are interested, contact the Season at Rend Lake at 1-800-999-0977 for reservations or gift certificates.

Each November and December, the Wayne Fitzgerald State Park and the Rend Lake Resort operate a controlled pheasant hunt in the park. The controlled hunt has become known throughout the Midwest with hunters coming from Missouri, Kentucky, Tennessee, and

Ohio. For just \$15, hunters can get a permit and kick up a limit of two birds, both hen or cock pheasant, and head home for the day. Guides and dogs are not supplied, but there is a kennel for guest dogs at just \$5 a day. For the participants interested in staying at Rend Lake, the Rend Lake Resort offers a hunt package that includes overnight lodging and dinner for two for \$79 or \$85 depending on choice of accommodations. Reservations for accommodations and the Controlled Pheasant Hunt can be made by calling the Resort at (800) 633-3341 or (618) 629-2211.

If you miss the chance to start a new tradition this year, don't worry these opportunities will be waiting for you at Rend Lake. "We won't have a hunt on Christmas Day," Ralph Hamilton, Park Superintendent, says. "But we will be open on New Year's Day 2000- and all our birds are guaranteed to be Y2K compliant. They'll still fly on January 1."

Hunt Club (cont.)

confirmed reports from a reliable source that Paul Kornberger's low-energy style of hunting actually entails paying members of the Missouri Department of Conservation to trap deer at Wildwood, Missouri, and tie them to trees on the land he hunts. A thorough investigation is being initiated by Colonel Morrow. Results of the investigation will be released after action has been taken on Colonel Morrow's reapplication for membership into the MVS Hunt Club next fall.



Investigation of Dam 24 tainter gate vibration

By Tom Ruf, Structural Section
Lock and Dam 24 at Clarksville, Missouri, has been operating for nearly 60 years. Routine maintenance has been performed to keep the project operating, but some of the project features have deteriorated beyond what routine maintenance can correct. In 1997, the St. Louis District prepared a major rehabilitation report to seek funding so these dete-

riated features could be repaired. Two of the project features identified for potential rehabilitation were the dam tainter gates and dam tainter gate anchorages.

Sixteen tainter gates are used to regulate pool at Lock and Dam 24. Although the gates look somewhat similar to other tainter gates on the outside, the Dam 24 gates are rather unique structures. In order to minimize gate weight, the designers used an elliptical shell to form the main horizontal load carrying system. This makes the internal structure different

from most tainter gates, which utilize a radial skin plate supported by horizontal girders. The 80 foot wide gates at Dam 24 were the widest tainter gates on the Mississippi River system of locks and dams until the 110 foot wide gates were built at Melvin Price Locks and Dam.

The Dam 24 tainter gates transfer the water load resulting from the elevation difference between upper and lower pool into the dam piers by

that under repeated loading can eventually increase in size and lead to failure of the member. There has been a great deal of research done in the field of fatigue since the 1930's when the Dam 24 gates and gate anchorages were designed. Research has shown that the types of welded details used on the anchorage at Dam 24 are prone to fatigue cracking and eventually failure. The tainter gates themselves, which have riveted connections, have much better fatigue resistance than the anchorage.

Normally a tainter gate does not experience enough loading cycles of sufficient force to cause a fatigue problem, however the gates at Dam 24 are relatively light and wide which makes the gates prone to vibration. In addition, the bottoms of the gates have become damaged from debris and ice. It is suspected that the damage causes flow conditions that intensify the vibrations. Under certain conditions, significant vibration of the tainter gates is easily seen. Gate vibration causes the gate anchorage to undergo fatigue loading.

The vibrations tend to occur under two conditions. The first condition is when there is high head on the gate, which occurs during low flow river conditions. The second condition that causes vibrations is when ice is passed beneath the gates. The personnel at the project must pass ice through the dam so that the ice doesn't gorge upstream of the dam and create excessive loads on the structure and also to create a clear zone upstream of the lock to facilitate passing tows through the lock. Vibrations of the gates and dam due to ice passage have been reported to be so severe as to shake the town of Clarksville. Low flow and ice passing



means of riveted structural steel frames embedded into the concrete piers. To facilitate construction, the designers used welded plates to reinforce some of the connections on the steel frames. These plates are the source of the potential problem at Dam 24.

At the time the gates were designed, fatigue was not a major consideration in the design of steel structures. Fatigue is defined as cumulative damage caused by repeated fluctuating loads. Small imperfections in welded steel joints create tiny flaws

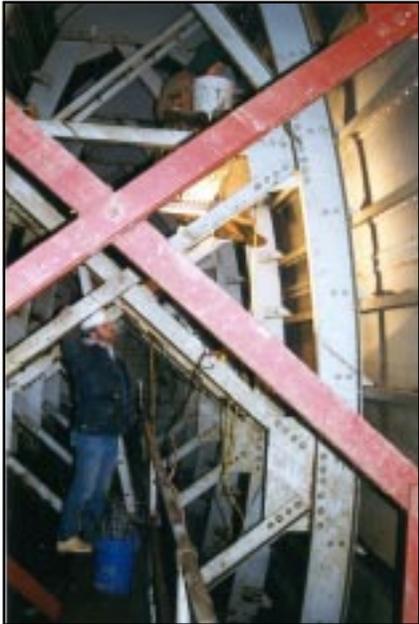
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vibrations could eventually cause fatigue cracking of the anchorage and loss of support for a gate.

As a result of recommendations in the major rehabilitation report, studies were funded to assess the magni-



tude of the fatigue loading on the gate anchorage. As part of these studies, strain transducers (small electrical devices that measure how much a steel member is stretching) were installed on some of the gate anchorages so that stress fluctuations during low-flow and ice passing conditions could be measured using the Structural Section's portable structural testing system. This system allows us to field test existing structures to determine operating stresses. The type of structural testing system we use was developed by Bridge Diagnostics in Boulder, Colorado, to field test highway bridges in service. The system requires a structural engineer to go to the site, connect the structural testing system to the transducers, and conduct tests. With this system we could only capture a small percentage of the vibration events despite numerous trips to the site during low-flow and ice-passing operations.

Working with Bridge Diagnostics, we recently developed a new automated system that continuously records the stress fluctuations in two of the tainter gate anchorages. Using a "rain-flow" fatigue cycle counting process, the system counts the number of loading cycles at various stress ranges and saves the data locally. The system can be accessed directly from the District Office via modem to download the data for processing. This allows us to capture all the vibration events without having to actually be at the site. We can also perform "real-time" testing by changing the system settings via modem so that it continuously records stresses. For instance, if we wanted to see what effect gate position has on the vibrations, we could telephone the project and ask the personnel at the project to change the position of the gates while we view the stress data.

I recently installed the new automated system with help from Pete Eschbacher and Ray Burrows from the structural section. Bob O'Shea, Bob Dien, Terry Meyers, and Dave Nulsen from the project also provided valuable assistance. With the recent "low-flow" river conditions, a good deal of data has already been collected. So far the data appears to

show that our original assumptions concerning the magnitude of the fatigue stresses in the anchorage were fairly accurate, however the number of fatigue cycles may have been underestimated. We are continuing to collect and analyze the data to try to better determine the fatigue loading due to low-flow conditions.

The last few winters have been rather mild so no significant ice passing conditions have occurred so far (blame El Nino!). However with any "luck" we'll have a "good" ice year and be able to come up with some conclusions concerning the fatigue loading on the anchorage due to ice passing operations.

Once we determine the fatigue loading due to the low-flow and ice passing operations we will know the fatigue demand on the anchorage. As part of the major rehabilitation investigations, other studies will be performed to better determine the fatigue capacity of the anchorage. A letter report that addresses both the fatigue demand and fatigue capacity of the gate anchorage along with recommended remedial measures will eventually be prepared. It's estimated that remedial measures could cost up to \$11,000,000 if the investigations show they are necessary.





News Briefs (cont.)

public of the new NRRS system. The National Recreation Reservation Service (NRRS) is a new system that allows a customer to call toll free 1-877-444-NRRS to reserve a campsite at Corps, Forest Service, and BLM campgrounds. Mark Twain Lake will have 252 campsites, shelters, and group camps on the NRRS system. If you get a chance, please stop by our booth at one of the boat shows this winter.

CEOP talk

Many members of the Career Enhancement Opportunity Program (CEOP), see firsthand the opportunities and benefits that the program has to offer. This voluntary program allows individuals to realize their possibilities and take control of their career path.

CEOP started in the St. Louis District, but the success of the program is causing it to spread. Dave Berti and Ginny Mueller recently spoke at the U.S. Army Construction Engineering Research Laboratories (CERL). Their presentation introduced the CERL staff to the St. Louis District and the CEOP program. The presentation consisted of a PowerPoint presentation followed by a question and answer session related to CEOP implementation and programming.

The CERL is a Corps of Engineers Research and Development facility located in Urbana-Champaign, Illinois. A unique partnership with the University of Illinois allows the two entities to share research projects, equipment, and work forces. CERL supports all Corps missions including military/

government construction, navigation, recreation, environmental stewardship, flood control, and emergency response. They are planning to implement the CEOP program very soon thanks in part to Dave and Ginny's presentation.

Wappapello Lake:

Safety partnering

The second annual Partnering for Safety meeting has been scheduled for February 15-16, at Tantar-A Resort, Lake of the Ozarks. This statewide meeting will include every agency and organization in Missouri that has or wants a public safety program. All in attendance will work as a unified team for the purpose of developing partnerships and initiatives that promote public safety whether on highways or waterways.

On the first day public safety concerns and possible ways of partnering for the purpose of promoting it will be outlined. By the end of the second day, a plan of action and who will implement what phases of each partnering initiative will be determined.

Lake staffs partner

Wappapello Lake and Clearwater Lake staffs will staff a booth at the Heartland Agriculture and Natural Resource Expo at Three Rivers Community College in Poplar Bluff, Missouri, on January 21-22. Wappapello and Clearwater will partner for several other upcoming events.

Hypothermia: A killer to beware of

Winter is arriving, and many people are enjoying the variety of recreational opportunities that our lakes have to offer. Please play it safe while outside during cold weather. Hypothermia occurs when the body loses heat faster than it can be replaced. The temperature does not necessarily have to be below freezing for hypothermia to set in. Shivering and chattering teeth are two of the first indicators of hypothermia. In more serious cases, the victim will be experiencing disorientation, extreme fatigue and loss of coordination. Death may occur if the core body temperature is not kept above 80 degrees Fahrenheit.

Many accidents that occur during outdoor recreational activities involve alcohol. Avoid drinking before or during your activity. Before going outside or on the water, check weather conditions. Be sure you are dressed properly for inclement weather. Wearing your clothes in layers so you will be able to reduce or add clothing as weather permits is highly recommended. Since heat rises it is a good idea to wear a hat to conserve your heat. While out on the water, wear a Coast Guard approved Personal Flotation Device (PFD). A PFD, also referred to as a life jacket, can prevent drowning and will help keep you calm to save energy.

If someone falls into the water, keep him or her calm and try to get the person out of the water as soon as possible. Cold water lowers the body temperature faster than cold air thus affecting your ability to

(Continued on next page)



What the new superchips can do

PCs are now shipping with Intel's Pentium III processors. Is it worth the cost to upgrade? Technology expert Joshua Quittner thinks it is. For \$2,679, he bought a machine with the new chip, a 4.8X DVD player, 20-gigabyte hard drive, 128 megs of ram, a 17 inch monitor and more. At 500 MHz, it's one of the fastest PCs you can buy today.

The unit Quittner tested was a Dell Dimension XPS T500, but many computer makers are offering models with the new chip.

When news of the Pentium III chip was first heard, many people thought it wouldn't be much of an

improvement over the Pentium II that most of them already had. But this new generation of superchips will push home computing to a high level that will be immediately apparent to anyone, says Quittner.

You'll see it in games, whose graphics will suddenly seem to punch out into three dimensions. You'll hear it in audio that can use surround sound so music will seem to come from the corners of your room.

You'll also appreciate it in programs like voice recognition, which needs lots of computational muscle and now can be trained in a fraction of the time required on a Pentium II machine.

There's a big difference in working on the Web with this new chip. Some very interesting stuff is about to take place there. For example, sharperimage.com offers free software that adds function to your browser. With it, you can do such things as view a gadget and rotate it with the mouse and open the cover to see what's inside.

Writing in Time, Quittner also says Intel is capitalizing on the Webworthiness of its chips by launching WebOutfitter, a site that caters to superchip owners. It will also mail them a free CD-Rom with new plug-ins.

Hypothermia (cont.)

swim or stay afloat. If the victim cannot get out of the water, but is wearing a life jacket, they should draw their knees to their chest, cross their arms and place their hands out of the water to help save body heat. Once out of the water, remove wet clothing and wrap the victim in warm, dry blankets. Whether the accident takes place on dry land or water, it is important to keep the core body temperature from dropping. Immediately seek professional medical care.

Knowing the how to prevent hypothermia, recognizing the signs of hypothermia and how to treat it is the best way to defend yourself and others from this condition. Always plan ahead and let someone know where you are going and when you will return. Being prepared for the unexpected and using your head will keep your winter fun from turning into a tragedy.

Where's the remote?

Ever wondered how long those annoying TV commercial breaks are?

According to the media review magazine, **Brill's Content**, MTV is the worst commercial offender, running 18 minutes and 42 seconds worth of commercials, public service announcements and promos and credits each hour.

The fewest commercials are on TNT with just 9:24 minutes of commercials.

Other commercial rates: TBS, 17:58; E!, 17:48; ABC, 16:27; UPN, 16:22; NBC, 16:05; WB, 15:56; Fox, 15:37; ESPN, 14:50; CBS, 14:45; CNN, 14:43; A&E, 14:37; Discovery, 13:20; and USA 12:07.

Photo byline

Editor's note: The photo of the opening of the new Missouri Department of Natural Resources office that appeared in the December issue was taken by Mr. Van Beydler. We apologize for failing to add Mr. Beydler's byline.

Quote of the month

If you're looking for perfection, look in the mirror. If you find it there, expect it elsewhere.

Malcolm Forbes

Sentence analysis

We learned, for example, that we could boost employee morale if we routinely celebrated even the tiniest gains in market share. *Traps avoided: provide a boost, on a routine basis, held a celebration and very smallest.*



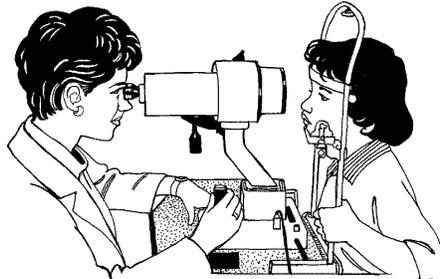
To your health

Glaucoma: Beware the sneak thief of sight

If you have recently been diagnosed with glaucoma, consider yourself lucky. You have been given the opportunity to preserve your vision.

Glaucoma is a condition in which the optic nerve, which carries the images we see to the brain, is damaged. The optic nerve is like an electric cable containing about 1.2 million wires. Glaucoma damages these fibers, causing blind spots to develop and eventually complete loss of sight.

Ophthalmologists used to think that high intraocular pressure was the cause of optic nerve damage in



glaucoma. Now they know that even people with normal pressure can have vision loss. Blindness can be prevented if the condition is caught and treated in time. Glaucoma is one of the leading causes of preventable blindness in the U.S. It is the most common cause of

blindness among African-Americans, who are 14 to 17 times more likely to suffer from it.

Called the "sneak thief" of sight, the most common kinds of glaucoma cause no symptoms until vision is already damaged. The best way to prevent vision loss is to have medical eye examinations at appropriate intervals.

The American Academy of Ophthalmology recommends the African-Americans ages 20 to 39 have a comprehensive eye examination every three to five years and every two years after age 40.

Dramatic finding

People with rheumatoid arthritis have joints that may swell, stiffen and become extremely painful. Now researchers have discovered a protein dubbed TNF that not only eases symptoms, but slows the rate at which further damage occurs. "It's the most dramatic thing I've seen in 30 years in rheumatology," say Michael Lockshin of New York's Hospital for Special Surgery.

Herbs & anesthetics

Anesthesiologists in Texas found that a significant percentage of patients awaiting surgery took some kind of herbal remedy or supplement. That can put them at risk of serious interactions with anesthesia if they don't tell their doctors before a surgical procedure.

E and lung cancer

Vitamin E may reduce the risk of lung cancer in smokers by up to 23 percent, according to a study of 29,000 male smokers in Finland.

The best protection against cancer of the lung, mouth, pancreas and other areas is to stop smoking, says Dr. Demetrius Albanes of the National Cancer Institute.

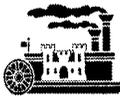
Vitamin E is found in nuts, whole grains and dietary supplements. Previous studies show that vitamin E gives some protection against heart disease and stroke.

Exercise for asthma

A recent study published in the **Archives of Physical Medicine and Rehabilitation** analyzed the effects of exercise on asthma patients over three years. Overall, there was a significant decline in emergency room visits and an improvement in asthma symptoms for patients on the exercise program.

Coffee & conception

A study at Johns Hopkins University shows that nonsmoking women who get more than 300 milligrams of caffeine a day reduce their chance of conception by 26 percent. The 300 milligrams of caffeine can be found in three cups of coffee.



Retiree Review

By the Retiree Correspondent

The retirees had their wishes granted for the December luncheon---good weather. As we mature gracefully, over the years, we tend to shy away from the rigors of winter weather. We prefer cool and dry, but will settle for cold and dry. As a rule we don't like snow and ice. Gee, that's a change from our youth.

There was a very good attendance, greater than the normal monthly luncheons. That can be expected, since there was mention that the Huizenga's were venturing up from Cape-Jackson. A number of retirees just love to listen to Elmer tell of his experiences.

Speaking of the Huizenga's, Elmer wasn't his usual self. He was somewhat serious, (he must have been under the weather). He made mention that he enjoyed seeing all the retirees and remembering the good encounters with each of them. He also gave the Real Estate retirees considerable credit for all his good fortune as their leader. They made him what he was. His wife, Estelle, mentioned that Elmer's seriousness was somewhat out of character for him, but then everyone knows Elmer.

Don Wampler and his wife, Othella, invited every one back for the monthly luncheons. He said it was great to see everyone, and would enjoy seeing them more often during the year.

George Clapp, said that he recently went on a cruise and that it started with a very hilarious incident. It involved putting carryon luggage in the overhead area of an airplane and his pants. Elmer suggested that the retirees take up a collection and buy George suspenders, so George would not have the same problem again. George did mention that he was stopped when he got off the plane, by a young lady, who said that she thoroughly enjoyed the show he put on.

Lew Scheuermann and his wife, Helen, said that since the Huizenga's were there, he would limit his comments to wishing everyone a very Happy Holiday Season.

Pete Puricelli and his wife, Marie, mentioned that they have heard that the new District Engineer is considered one of the best to be assigned to the District in

recent times. (Considering Pete's memory, there is no telling what he means by "recent times".) Pete said that he will attempt to get on the DE's calendar and invite him to one of the monthly luncheons. He also mentioned that there was a world renowned author in the retirees, Sandor Dombi, and asked him to say a few words.

Sandi Dombi, said that he wrote his book "FROM THE KEROSINE LAMP TO THE INTERNET", as a self biography because he wanted to leave a written history for use by his family and friends. The book covers his life and experiences, here and overseas. He mentioned that many people are into family history, and he felt that this is his way of recording his family history. He also invited anyone interested in senior citizen automation to attend an automation meeting at the Weber Road Library. They will discuss automation and even automated income tax preparation. If you are interested, give Sandi a call at: 314-631-1587.

Bill Sutton and his wife, Judy, mentioned that there were two new retirees by the end of December, John Gaal and Gary Dyhouse. They decided to change careers. The retirees extend a welcome to both of these "new retirees" and invite them to the monthly luncheons.

Rich Mills and his wife, Mary, said that since he has had his eye operation, he sees things a lot differently. He can now not only see the golf ball on the tee, but can even see where it lands. He also indicated that people look a lot older now. (My, what a difference being able to see makes.)

Many of the other retirees were content to just socialize and not make any pronouncements.

Everyone there was in the holiday mood and wished the group and their families the best of Seasons Greetings, and a healthy New Year.

Charlie Denzel and George Clapp were the story tellers, with appropriate tales.

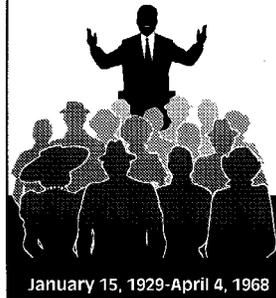
The next monthly luncheon will be on January 20th, at the Salad Bowl at about 11:00am. Lets hope the weather cooperates and that we have a large attendance.

Dr. Martin Luther King, Jr. was a man of destiny and an apostle of peace. His wisdom and goals were breathtaking in their scope: the complete liberation of mankind and the elimination of injustice.

He was a preacher, a moralist, and a decent human being. His contributions were so dramatic that they are universally appreciated. He received the Nobel Peace Prize as a symbol of world recognition, and the entire world is the beneficiary of his efforts.

He was an eloquent speaker whose words were infused with a poetic majesty that stunned and

Dr. Martin Luther King Jr.



uplifted his audiences. All who heard him speak took pride in their won self-worth.

He strode forth in the quest for social justice and racial equality, yet felt that he would never walk upon the final road. He was prepared to give his life for the struggle.

Martin Luther King changed the terms of debate in America. He won overwhelming support not only

throughout his nation but throughout the world as he marched for social justice, reaffirming the dream that all people are created equal.

We honor him.

New Year's Day: The world's oldest celebration

The new year has begun. It's our chance to start again, to do it right this time and have another shot at success. The idea has prevailed since the dawn of history.

New year celebrations date back to the ancient Egyptians and Babylonians more than 4,000 years ago. They celebrated the new year on March 23. It was logical because spring was the time of new life.

The Babylonians made new Year's resolutions too, but their most popular goal of self improvement was "to return borrowed farm equipment."

Romans observed the new year on March 25, but their calendar had become out of sync with the sun. Then in 46 B.C. Julius Caesar established what is known as the Julian Calendar with January 1 as the first day of the year.

In order to do it, Caesar had to let the previous year run 445 days!

The tradition of using a baby to signify the new year was begun in Greece around 600 B.C. Greeks honored the god of wine, Dionysus, with a baby in a basket, representing the annual rebirth of that god as the spirit of fertility. Egyptians also used a baby as the symbol of rebirth.

Although Christians denounced the practice as pagan, the popularity of the baby as a symbol of rebirth forced the church to reevaluate its position. Its members were finally allowed to celebrate the new year with a baby, which was said to symbolize the birth of the baby Jesus.

The use of an image of a baby with a new Year's banner as a symbolic representation of the new year was brought to early America by the Germans. They had done so since the 14th century.

