US Army Corps of Engineers
St. Paul District

Crosscurrents

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Photo by Ken Gardner

Bob Dempsey, Engineering and Planning Division, wears protective gear as he chips through concrete and into a barrel retrieved from the bottom of Lake Superior near Duluth in early June. The barrel contained formerly classified munitions parts from the production of weapons at the Twin Cities Army Ammunition Plant in the late 1950s and early 1960s. (More photos on pages 4 and 5.)

Teamwork retrieves Lake Superior barrels for inspection

Teamwork, supported by high technology and a calm lake, helped to retrieve seven defense-related barrels from three sites on the bottom of Lake Superior off Duluth between May 31 and June 10.

Also, the team recovered an eighth mud-filled barrel of non-defense origin and identified the charred wreckage of a 1910 vintage yacht, buried in 415 feet of water off Knife Island.

Four of the barrels contained formerly classified munitions parts encased in cardboard cartons and concrete. Three others contained general industrial floor sweepings, ladles, a Honeywell coffee cup, a gum wrapper, slag and munitions scraps.

The St. Paul District, the Detroit District, the Navy, the Minnesota Pollution Control Agency (PCA) and two private contractors, All Fire Test and Oceaneering Technology, joined forces. The goal was to sample two to three barrels from each site to determine whether the contents of the barrels presented an environmental hazard.

The Corps and the PCA had previously identified three of six sites as confirmed barrel locations. The barrels retrieved this year, plus two in 1990, are among over 1,400 dumped in the lake by the Army in the late 1950s and early 1960s.

Navy divers searched for barrels at depths up to 155 feet while a remotely operated vehicle (ROV) identified and retrieved barrels at a depth of 415 feet. The ROV is a remotely controlled unit equipped with underwater propulsion, still and video cameras, and sonar. The Navy normally uses it to retrieve torpedoes and other equipment from the ocean bed.

The barrel search was part of the Defense Environmental Restoration Program (DERP), an effort to determine defense-

Barrels, *continued on page 4*

What is the purpose of a vacation?

Editor's note: This article by Richard S. Warn is reprinted with permission from the Daily Journal of Commerce *in Portland, Ore. Warn is a columnist with the* Journal.

Some families threw down a map, wrote out a schedule, jumped in a car, raced to see relatives, worried about time, disciplined children, cut visits short and return home exhausted.

Is that a vacation? A vacation from what?

Vacations should provide clean breaks from pressure of what we're already doing. Vacations should relax our body, clear our mind and allow us to explore a world beyond work. Like recharging batteries, vacations should renew purpose, bring greater meaning to life and cause people to be more effective upon their return.

Do most workers in our nation take meaningful vacations? Some are so caught up in working for a gold watch that they're not watching what they're doing. Others are afraid someone else might do their job better, a few believe vacations are luxuries they can't afford.

Vacations aren't luxuries. Vacations are vital steps toward experiencing a balanced and rewarding life. People who believe work is the most important thing in life become consumed by things that don't matter and slaves to jobs they no longer do as well as they once did.

Small-business owners and department managers become slaves quickly when they assume responsibility for everything and delegate nothing. By making themselves the center of everything, they become trapped in a web of their own design.

If anyone needs a vacation, it's a trapped manager. By actually leaving their work and allowing others to step forward, they'll discover several things: for every void, someone else has ability to step forward and fill it. For every decision, someone else has the common sense to make it. And, the only way to discover changes that need to be made is by getting completely away from the weekly routine.

Vacations are vital steps toward experiencing a balanced and rewarding life.

Getting away is what vacations are all about. It's not a matter of miles, it's a matter of moving your mind away from work. Close to your home are marvelous things to see, wondrous things to explore and neat people to meet. To know these things exist, you must be willing to go exploring and find them.

I found something worth exploring when I lived in Juneau, Alaska. My office window looked on Juneau's main street and directly below my office was a drugstore. Every time a cruise ship docked, I could see an invasion of gray-haired tourists slowly moving toward the drugstore. In groups of two and three, they came up the street with their canes, walkers and wheelchairs.

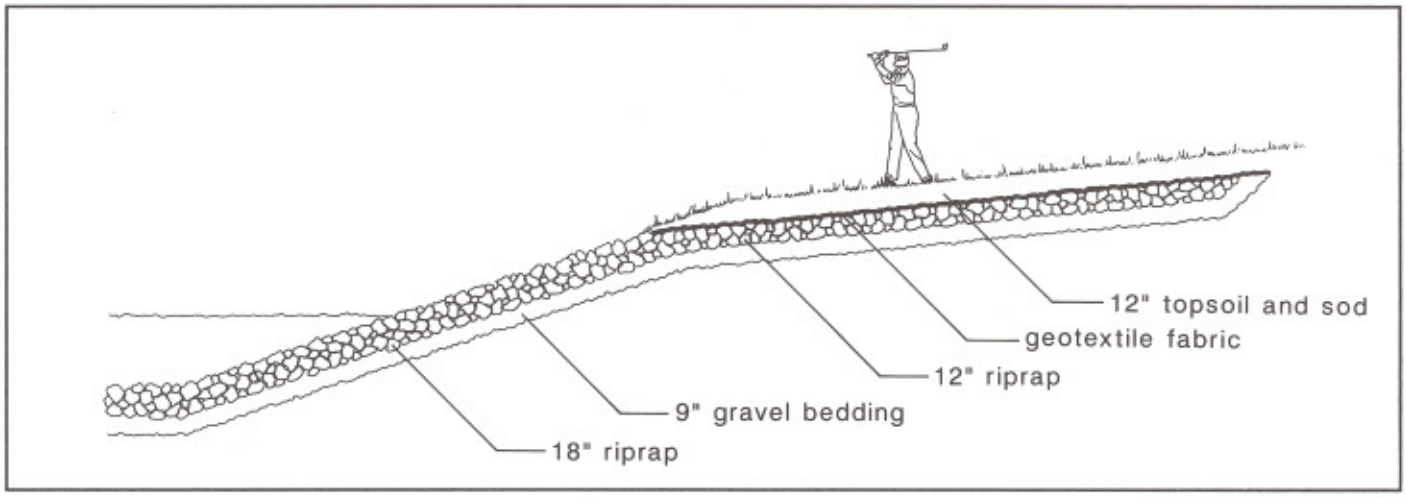
During my six years in Juneau, I spoke with many tourists on the street. When asked how they liked Alaska, they told me of the many wondrous sights they'd seen — whales playing, eagles diving, natives dancing, glaciers and Mount Juneau dropping straight into the sea with a city clinging to its side.

What intrigued me most was not what they saw, but what they said about the trip. Without exception, every tourist I spoke with was unhappy about the same thing. They regretted waiting so long to see Alaska. Most of them had their life to live over again, they would come to Alaska before walking and climbing became such a painful chore.

One of the most painful things you can do is put off living until it's too late. I'm not against work. Work brings meaning, purpose and accomplishment to life. What I'm against is being so caught up in work that we forget to live.

As Charles Reynolds Brown has said about our nation: "We have too many people who live without working, and we have altogether too many people who work without living."

Design excellence par for the course at Rochester



Graphic by Greg Johnson

The design for the Rochester Flood Control Project and Soldiers Memorial Field Golf Course pleased both judges in a landscape architecture competition and golfers. Comments from golfers in Rochester indicate that the design exceeded expectations.

Many view the course as an improvement over what it was before. Landscape architects on the design team consulted with turf experts on how to cover and shape the topsoil over riprap sections.

By Russ Snyder, Engineer Manager

The St. Paul District's design for the Rochester Flood Control Project Soldiers Memorial Field Golf Course recently won a design award from the Minnesota Chapter of the American Society of Landscape Architects (MASLA).

The winning design maintained the integrity of the existing course while providing the hydraulic capacity needed for the flood control project.

Four holes of the Soldiers Memorial Field Golf Course cross the Zumbro River channel. The channel required modification as part of the local flood control project. Designers modified the original flood channel design to preserve play on the holes that crossed the river.

The design flattens the channel side slope to a slope of 1 vertical to 10 horizontal. The riprap-fortified slope was covered by one foot of topsoil and sodded to allow fairway play. A landscape architect, hydraulic engineer and lead civil engineer collaborated on the design. Landscape architects on the design team consulted with turf experts on how to cover and shape the topsoil over riprap sections.

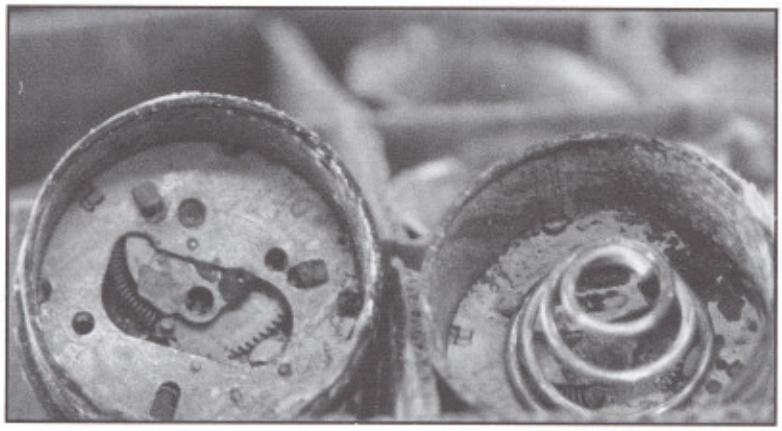
Comments from local golfers indicate that the design exceeded expectations. Many view the design as an improvement over the pre-project course.

An independent jury of landscape architects from Nebraska judged the entries in the awards program. The district received a Certificate of Recognition that will be displayed with the Districts other design awards.

District Commander Col. James Scott and Bob Post, chief of Engineering and Planning Division, commended the design team in a May 19 ceremony.

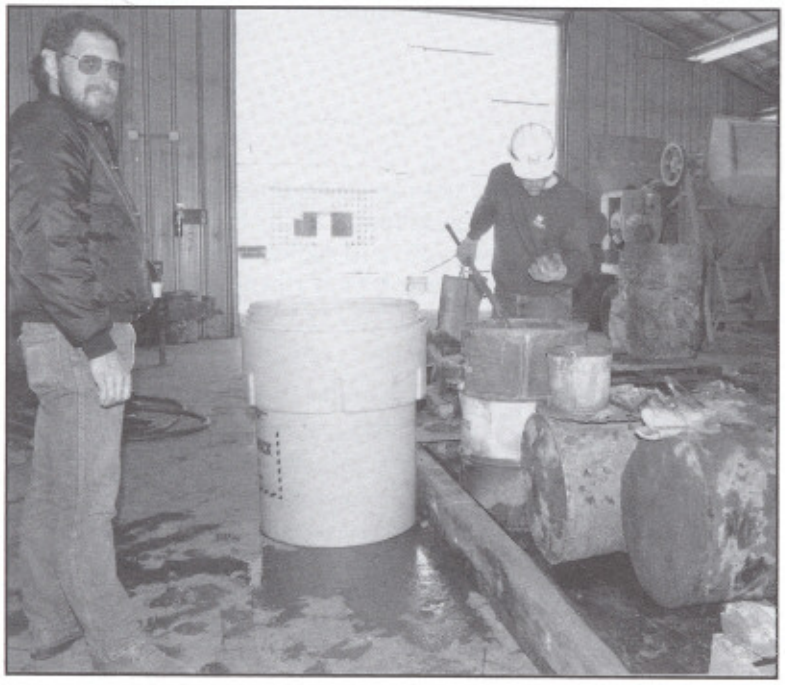
The award recognizes the work of Minnesota landscape architects. The award was issued under the entry category of Public Landscape Design. Award winners were publicly recognized at an awards banquet in late April. Award winners will also be featured in the MASLA Newsletter and in a traveling exhibit displaying the awards program winners.

Other award winners in this category include the City of St. Paul for their Mears Park rehabilitation and Dahlgren, Shardlow and Uban, Inc. for their West Broadway Feasibility and Streetscape design.



The photo at left shows parts of timing fuses for anti-personnel mines retrieved from inside the barrels at the bottom of Lake Superior.

Photos by Peter Verstegen



Robert A. Cross (left) of the Minnesota Pollution Control Agency and Dempsey examine the barrels in a containment area at the Duluth Vessel Yard.

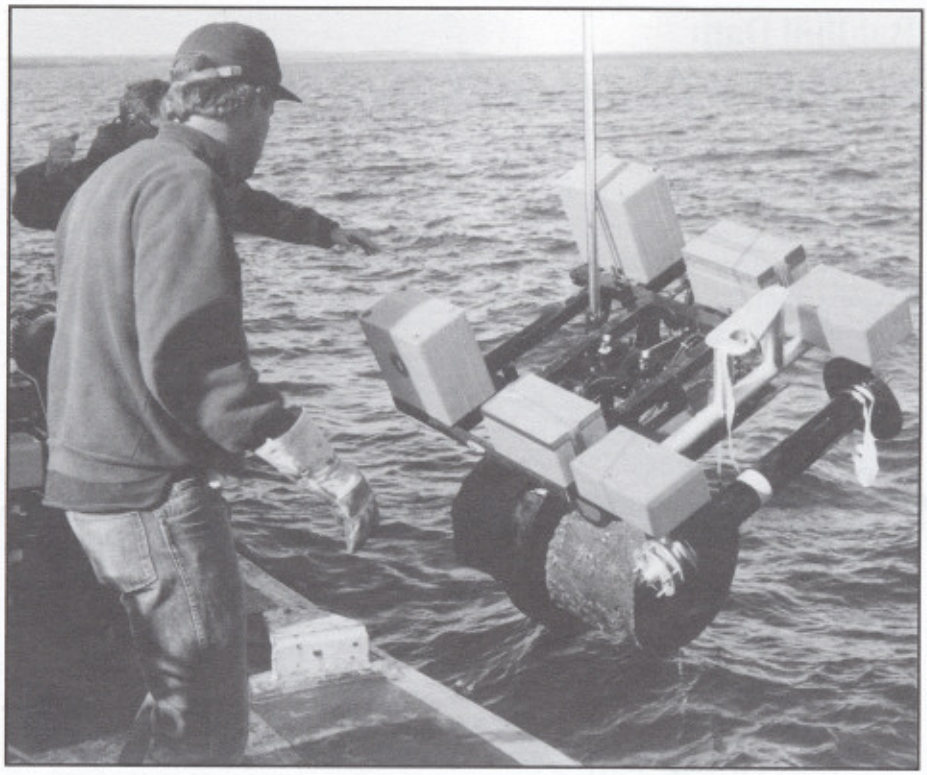
In the photo above, Bob Dempsey, project coordinator, displays a handful of slag he pried loose with a crowbar.

Barrels, *continued from page 1*

related environmental hazards. Bob Dempsey, DERP coordinator for the district, supervised the barrel sampling operation.

The St. Paul District, the Detroit District's Duluth Area Office, crews from the Duluth Vessel Yard, and the Minnesota PCA participated in a similar effort in 1990. Two barrels of munitions scrap were recovered during that effort. This year's effort was the first time Navy salvage experts and Navy divers worked closely with the St. Paul and Detroit Districts to locate and retrieve barrels.

The contents of the barrels are now being tested by a lab in Minneapolis.



At left, Bob Dempsey, the project coordinator, supervises the retrieval of a barrel from the clamps of the remotely operated vehicle (ROV). The ROV has two modules, one with sensitive electronic equipment and the other with mechanical clamps to retrieve the barrels.

The photo at bottom left shows Navy divers as they suit up and check their equipment before entering Lake Superior. The divers breathed mixed gas and wore suits designed to keep them warm and dry in deep water.

Below, divers worked in 155 feet of water to loop this barrel before the crane could lift it to the surface.

Photos by Ken Gardner

The 1993 summer flood at Baldhill Dam

The Corps' innovative dam tending saved Valley City

Editor's note: One year ago this month the St. Paul District was fighting unprecedented summer floods in Valley City, North Dakota. In contrast to the soggy summer of '93, a hot and muggy summer of 1994 marks the first anniversary of last year's floods.

By Rosemarie Braatz
Construction-Operations

Innovative dam tending by a St. Paul District team paid off by "buying time" for Valley City last July. Torrential rains twice within a week dumped into the Sheyenne River Valley, threatening the southeastern North Dakota community of some 8,000 people.

"We'd had no previous experience with the subtleties of summer flooding," Western Area Resource Manager Tim Bertschi. "It has different travel time and spreads out differently due to the heavier vegetation, actually reaching higher levels. The usual rating curves were rendered useless. We had saturated ground, and we had a high pool rather than a drawn-down spring pool."

But the Corps averted over $37 million in flood damages to the community by balancing the reliability of its upstream dam against the onslaught of the river.

"City Declares Emergency" announced the Valley City Times on July 16, as flash flooding swamped many areas along the river, despite frantic sandbagging throughout the previous night and day by volunteers. Highways, even Interstate 94, were closed by pooling water, railroad tracks were washed out, lighting disrupted telephone and radio contact.

Twelve miles to the north, 60-foot high Baldhill Dam held back the Lake Ashtabula reservoir. Up to 8 inches of rainfall during the night had centered between the dam and the community. The lake had been at its full summer pool elevation, and it was now swelling rapidly.

> **"The usual rating curves were rendered useless."**
> ***-Tim Bertschi***

"The best we could do was to cut down flow from the dam until the peak runoff passed Valley City" says Reservoir Manager Steve Odegaard. With clearance from the district's water control center, the discharge through the tainter gates was cut from 500 cubic feet per second (cfs) to 50.

"Knowing how critical the situation was, some of the Baldhill Dam staff people showed up even before I could call them, despite slow, dangerous driving across the countryside, with its flooded roads. The eight-mile trip from Valley City took us as long as 2 1/2 hours," Odegaard said. "They patrolled the dam continually, until the situation stabilized, working 12-hour shifts,"

At 3 a.m., Ed Eaton, Chief of Water Control in St. Paul, received a call from Odegaard. Says Eaton, "Steve said he was holding the gates at 500 cfs, and water was rising at Valley City at the rate of one foot per hour. I told him he could close the gates to 50 cfs. Then I headed for the office to monitor the water's rise on instruments there." Eaton, too, sacrificed a great deal of sleep before the rains in North Dakota quit.

The Sheyenne crested at 18.10 feet by noon, over five feet above the 13-foot flood stage. Thanks to the half-foot reduction in flow from Baldhill, the levees were not overtopped.

The shriek of fire sirens in Valley City announced the next "state of emergency" on the morning of July 24 after up to 10 inches fell into the watershed, mostly upstream of the dam.

Volunteers again began sandbagging after the Corps notified the city that more water would need to be released from Baldhill Dam because of the torrential rains. The Lake Ashtabula reservoir was already 2 feet over the normal summer level, and would soon overtop the spillway gates of the earthen dam.

But by now the Corps flood-fighting team had gone into action: Dean Peterson, area flood engineer, and Loren Nishek, sub-area engineer, had arrived to direct operations to brace Valley City for a crest of 19 feet — with Corps technical assistance and pumps, by sandbagging low-lying areas, and raising and reinforcing

existing dikes, remnants of earlier flood events.

At the St. Paul office, Engineering Chief Bob Post decided to cut discharges at Baldhill Dam to allow for storage of an additional 13,000 acre-feet of water in the reservoir. The lake was receiving runoff of more than 6,000 cubic feet per second.

It was calculated risk-taking," says Post. "At one point, we had about a half foot of water spilling over the gates, but we figured we could go some over that without real danger of structural damage." The pool level rose, before the crisis was over, to 2.6 feet above normal pool, but the 3.1 foot reduction at Valley City kept the crest at 17.36 feet, preventing overtopping of the city's 18- to 19-foot levees.

Odegaard's staff at Baldhill pitched in with reconnaissance duty to back up the hydrologic engineers sent from St. Paul, who were busy throughout the Red River of the North Basin. The Baldhill staff worked throughout the night in the rain, around the reservoir and on the river and the tributaries. They read gages and piezometers, estimating amounts and timing of runoff into the reservoir. They looked for erosion of embankments. When gages malfunctioned, the staff provided best estimates.

"We had a truly solidified team, working together to focus only on the mission — caring for the people who were threatened with the devastation of flooding," concluded District Commander Col. James T. Scott.

Bits and Pieces

Retirees reunion scheduled for Sept. 8

The 19th annual reunion of Corps of Engineers employees, past and present, is scheduled for the Kelly Inn in St. Paul on Thursday, Sept. 8. For further information, contact Peggy Peterson at 776-8740.

Floodplain team holds open houses

The Floodplain Management Assessment team, led by the St. Paul District, held public open houses at two district locations in June. Over 55 people attended meetings at St. Paul and La Crosse, Wis. on June 13 and 14. Between June 13 and June 30, the team held open houses at 12 locations throughout the Upper Mississippi and Lower Missouri River Basins. The open houses gave interested public information and opportunities to discuss floodplain issues with technical specialists working on the assessment. Congress directed the assessment after last year's disastrous flooding in the Midwest. The 18-month effort looks at floodplain use, floodplain management and flood control along the lower Missouri and Upper Mississippi Rivers. The assessment's focus is on areas that were flooded during 1993.

Rosenberg acts up

Al Rosenberg, chief of Con-Ops Administration Branch, plays the "dirty old Roman" in the Steven Sonheim play, *A Funny Thing Happened on the Way to the Forum.* He plays Senex. Rosenberg's wife, Roza, is also in the play, which runs weekends from July 8-31 at the Phipps Center in Hudson.

Award ceremony marks completion of State Road Coulee

Officials from the Corps, the contractor, the City of La Crosse, and Shelby Township gathered in La Crosse on June 27 to commemorate the completion of the State Road Coulee Project. At a brief ceremony, District Commander Col. James Scott presented the City of La Crosse with a reimbursement check for $1,467,000. Scott also recognized the safety record of Edward Kraemer and Sons, the prime contractor of the six-year, $29.5 million flood control project, by presenting the North Central Division Contractor Safety Award for 1993.

Corps hooks "Fishing Opener" at Great River Park

Ken Gardner, chief of Public Affairs, and John Anfinson, historian, represented the district at the first annual "Fishing Opener" at Great River Park on Harriet Island, Saturday, June 25. Their display featured information on the Corps mission and projects and included historic photos. The event is part of a St. Paul initiative to redevelop the downtown riverfront along the Mississippi River.

More Bits and Pieces, *page 8*

More Bits and Pieces

Corps participates in national wetlands conference in St. Paul

Officials from the district and Corps Headquarters contributed to a national symposium on "Restoration of Aquatic Ecosystems," in St. Paul, June 20-23. The Corps was one of 21 cooperating organizations at the event, sponsored by the U.S. Environmental Protection Agency and hosted by three wetlands-related groups.

From the St. Paul District, Aaron Buesing discussed "Two Dimensional Hydrodynamic Modeling of Lake Onalaska." Economist Curt Meeder moderated an overview of the Corps' Floodplain Management Assessment. Historian John Anfinson presented a "History of Floodplain Ecosystem Change on the Upper Mississippi River."

Edward Dickey, Ph.D., chief of Planning, discussed the "Corps of Engineers Perspective on Aquatic Ecosystem Restoration." Assistant Secretary of the Army Michael Davis participated in sessions on wetlands policy. Robert Brumbaugh updated the Corps' National Wetlands Mitigation Banking Study.

District employees attend presentation on Lyme Disease

Employees in the district office, the dredge and field sites now know more about Lyme Disease, thanks to a presentation by Jo Ann Heltzel, Ph.D.

More than 50 people packed a fourth floor conference room on June 22 to hear Heltzel's presentation. She spoke as part of the brown bag lunch program sponsored by Federal Women's Program (FWP) Committee.

Heltzel visited the Dredge Thompson and will visit the Rivers and Harbors Unit, the Fountain City Service Base, the survey crew and a number of field sites.

Heltzel described how to identify deer ticks, proper tick removal technique, preventative measures, and the symptoms of Lyme Disease. Deer ticks are the primary carriers of Lyme Disease. Over 30 crew members of the Dredge Thompson attended the presentation while the dredge worked on the Mississippi River near Winona in late June.

FWP committee members are Doris Sullivan, chair; Linda Wiley, recorder; Mary Kay Linder, vice chair; and Al Geisen, Angie Peterson, John Welch, Susan Robinson, Roselyn Atkin, Cathy Greguson, Dale Gross, Dave DePoint and Susan McGarity.

Wopat gives talks about wetlands

At the national meeting of The Nature Conservancy in Milwaukee on June 9, Ben Wopat, chief of Regulatory, gave a brief presentation on a section 404 permit action in which he acknowledged the successful partnership of Wispark, Inc., the Nature Conservancy and the Army Corps of Engineers. Steve Eggers was the district's ecologist assigned to monitor the permit action and the restoration done by Wispark.

Wopat also discussed the Corps' permit process at a wetland seminar sponsored by the North Star Chapter of the International Right-of-Way Association in Hudson, Wis., on June 16.

On July 21 in Minneapolis, Wopat is giving lawyers, real estate and business professionals and others an overview of current issues in federal wetlands regulations at the "Wetlands 1994" conference. Law Seminars International produces the conference.

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