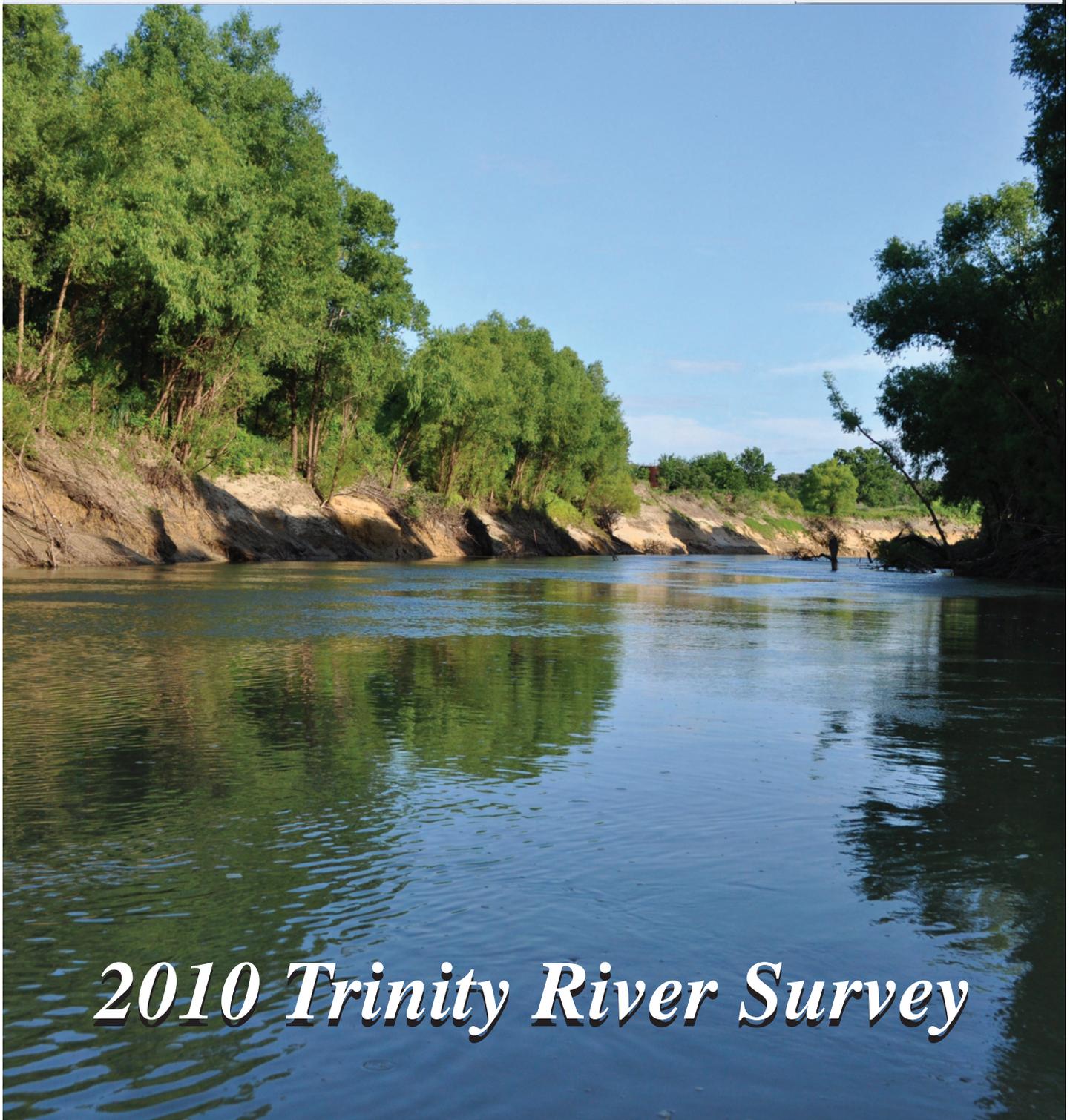


August/September 2010



Newsletter of the Trinity River Authority of Texas



2010 Trinity River Survey



TRA's projects earn Peak Performance Awards

CRWS one of only 13 systems nationwide to earn Platinum 16

The National Association of Clean Water Agencies has honored the Trinity River Authority's five regional wastewater treatment systems with Peak Performance Awards for 2009. NACWA distributes Peak Performance Awards for compliance with each system's National Pollutant Discharge Elimination System (NPDES) permit limits. NACWA has three categories of Peak Performance Awards.

Gold Awards honor projects that have achieved 100-percent compliance with NPDES permit limits for an entire calendar year. Silver Awards recognize facilities that have received no more than five NPDES excursions throughout the calendar year.

NACWA's prestigious Platinum Awards recognize 100-percent compliance with NPDES permits over a consecutive five-year period. Platinum Award status continues, year after year, as long as 100-percent compliance is maintained.

Four of TRA's five regional wastewater systems achieved

100-percent compliance in 2009, earning Gold and Platinum awards. One received a Silver Award.

Central Regional Wastewater System received a Platinum 16 Award for an outstanding 16 years of 100-percent compliance with the system's permit limits. CRWS is one of only 13 systems nationwide to achieve this difficult feat.

Red Oak Creek Regional Wastewater System received a Platinum 10 Award for continuously maintaining 100-percent compliance for an impressive ten-year period.

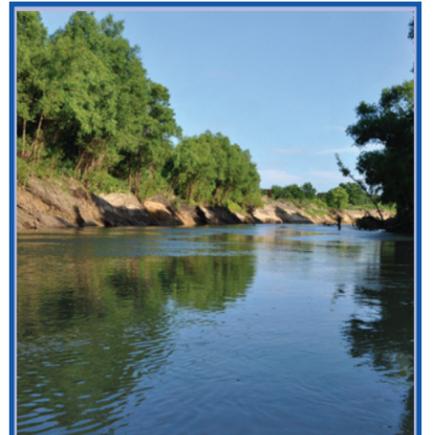
Ten Mile Creek Regional Wastewater System has received a Platinum 8 Award for eight years of maintaining 100-percent compliance.

TRA's Denton Creek Regional Wastewater System earned its first Platinum Award for maintaining 100-percent compliance over the last five years.

Mountain Creek Regional Wastewater System earned a Silver Award for fewer than five excursions from the permit limits.



Patty Cleveland, Northern Region Manager of Operations, accepts Peak Performance Awards on behalf of TRA regional wastewater systems at the NACWA summer conference July 22 in San Francisco, Calif. Seen here with Cleveland are (left to right) NACWA Executive Director Ken Kirk, President Jeff Thurman and Award Committee Chair Phil Friess.



On the cover: The Trinity River Authority Clean Rivers Program completed an extensive survey of two portions of the main stem of the Trinity River during July and August. The team spent seven days in a boat, stopping to measure bank angles and channel widths, plus taking soil samples and photos and recording observations. See pages 8 and 9 for the story and some of their photos.

Gerard appointed to On-Site Wastewater Research Council



Richard Gerard, LLP Area Administrator

Governor Rick Perry has appointed Richard Gerard, Trinity River Authority Lake Livingston Project Area Administrator, to a third term on the Texas On-Site Wastewater Treatment Research Council. Gerard is one of 11 members appointed to the council. On-site wastewater treatment

systems treat and dispose of wastewater on the business or residential property where it is generated. Septic and aerobic systems are two common types of on-site treatment.

The On-Site Wastewater Treatment Research Council promotes the development and dissemination of information concerning on-site wastewater treatment by funding grants and contracts to support applied research and demonstration projects.

Gerard manages TRA's permits section at Lake Livingston Project, which serves as an authorized agent of the Texas Commission on Environmental Quality to permit and monitor on-site wastewater treatment systems within 2,000 feet of the Lake Livingston shoreline.

Gerard is a member of the Texas On-site Wastewater Association and the Texas Environmental Health Association. He is also chairman

of the Polk County Extension Leadership Advisory Board and a member of the County Variance Commission. Gerard received a bachelor's degree from Stephen F. Austin State University. He has been employed by TRA for 23 years.

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Vance through the years

During its August meeting, the TRA Board of Directors authorized its Executive Committee to act as a search committee, taking all actions necessary to identify a candidate or candidates to succeed General Manager Danny Vance upon his retirement. The Executive Committee will keep the Board fully informed of the process at regular or specially called meetings, and will recommend a final candidate or candidates for consideration by the Board of Directors. No further developments have been made public. Vance announced in July his plans to retire from the Authority by the end of 2010.

inTRA will continue to apprise readers of further developments in the selection process, and this issue also presents snapshots of moments in Vance's career, beginning when he was named General Manager in 1979. All images have previously been published in inTRA, and they cover the span from 1979 to 1993. The next issue of inTRA will include pictorial highlights of Vance's career from 1994-present.



1981: Vance addresses the audience at the FM 1382 dedication ceremony. A three-mile section of the road was re-routed as part of construction for Lakeview Lake, now Joe Pool Reservoir.



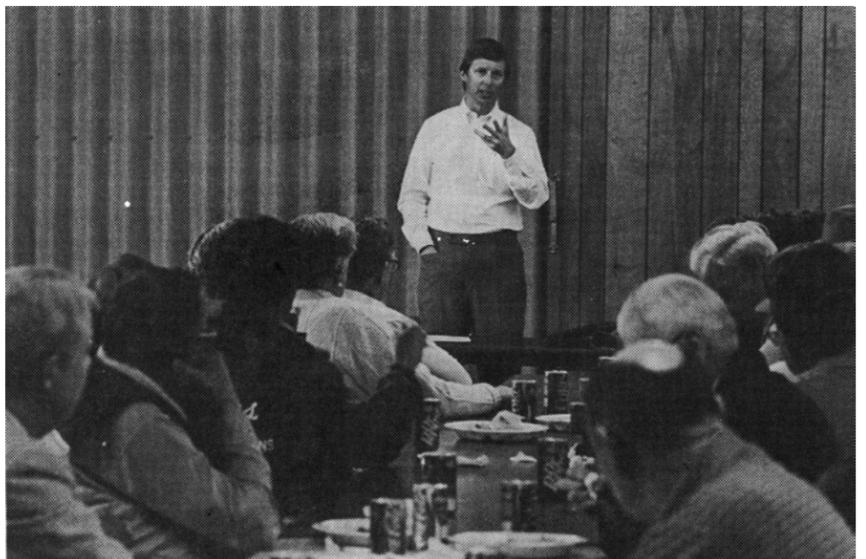
1979: Danny Vance is named TRA General Manager – the second in the history of the organization, and the youngest person to be named general manager of a major river authority in Texas. Here, he is congratulated by TRA's first General Manager, David H. Brune.



1983: Vance is the recipient of a surprise 40th birthday party given by his staff at TRA's General Office. He seems very happy with the cane he received as a gift!



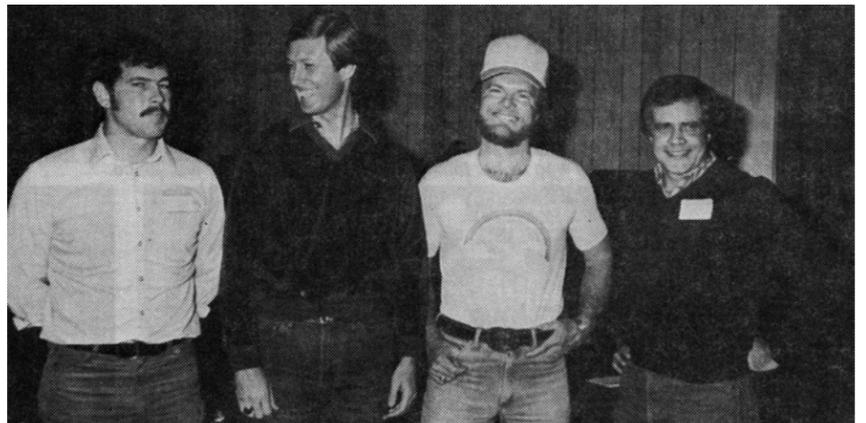
1980: Vance presents Billy Hill with an award for five years of service. At the time, Hill served as Operator IV at TMCRRS, and the project's Employee Recognition Ceremony was held at the Wagon Wheel Restaurant in Ennis.



1984: Vance addresses rice farmers and customers of the Devers Canal System, emphasizing their important role in the continuing operation of the system.



1981: Vance, along with Executive Services Manager Sam Scott (second from left) and Northern Region Manager Warren Brewer (far right) visits with members of the U.S. Army Corps of Engineers prior to a briefing at TRA's General Office.



1984: With the help of Northern Region Manager Warren Brewer (far right), Vance presents 10-year service awards to Billy Hill, Senior Electronic Technician at TMCRRS (far left) and Bill Tatum, CRWS Assistant Manager in Charge of Operations (second from right).



1986: Vance, along with Col. Albert Genetti of the U.S. Army Corps of Engineers, pushes the button to close a 10-foot floodgate and allow Joe Pool Lake to fill with water.



1992: Vance shows a CRWS effluent sample to analysts from Moody's Investors Service Inc. and Standard and Poor's Corp. during a tour of the project's laboratory.



1988: Vance compares CRWS effluent with river water and drinking water as a guest on "Arlington Business Today," with host O.K. Carter.



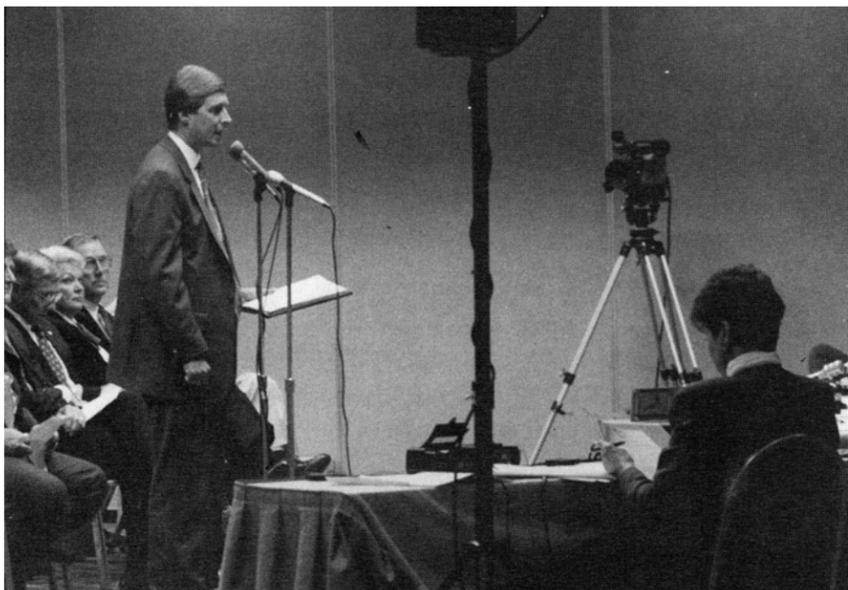
1993: Vance with River Legacy Foundation President Sylvia Greene and Arlington Mayor Richard Greene at Trinity River Awareness Day at River Legacy Park.



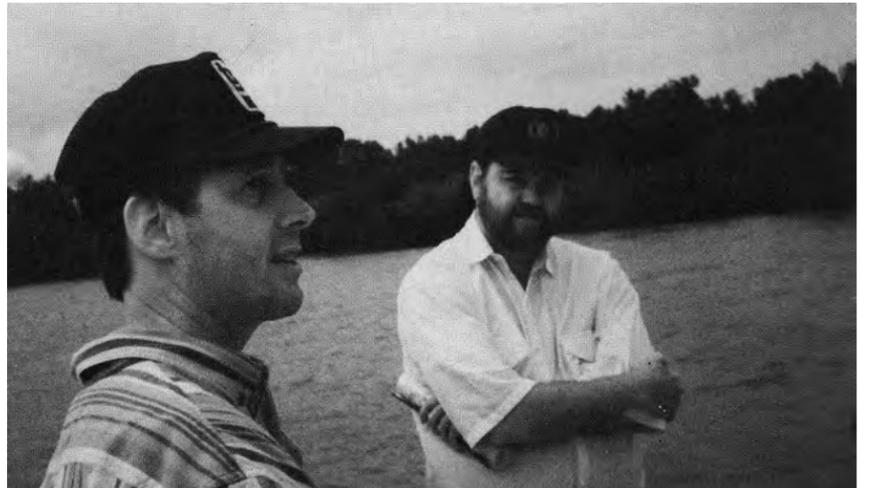
1990: Vance with President George H.W. Bush during heavy flooding events in the Southern Trinity River basin that attracted national attention.



1993: Vance with Hank Dickerson and Mildred Walker, owners of Lynn Creek Marina and the Oasis Restaurant, at the grand opening of the restaurant on Joe Pool Lake.



1990: Vance testifies at the EPA/TWC hearing on the ROCRWS discharge permit.



1993: Vance gives a tour of the Wallisville Saltwater Barrier Project. During the tour, sponsored by the Texas Parks and Wildlife Commission, participants discussed environmental issues and future operating plans for the project, which was under construction.

General Manager's Message

Budgets provide roadmap for coming fiscal year



General Manager Danny Vance

Many of us are familiar with the adage that tough times never last, but tough people do. And though this year's TRA budget preparation certainly presented some tough challenges, I remain confident after attending our advisory review meetings that TRA and its customers are tough enough – and our relationships strong enough – to effectively address those challenges.

We at TRA are committed to strong, open customer relationships that can weather the ups and downs of our industry's economic landscape. We are fortunate to have a solid base of 63 contracting parties with whom for decades we've shared the mission of providing and maintaining clean water throughout the Trinity River basin. One of the key ways in which those relationships are exemplified is through our advisory committee budget review process. In fact, this process is so instrumental to our fiscal success that to date, TRA has never submitted to its Board of Directors a budget that has not already been approved by the customer cities that it directly affects.

During times when everyone faces financial challenges, these relationships are more important than ever. We rely heavily on our customer partners each year to accurately estimate their service demands for the upcoming year.

Their expertise in the areas of growth or other factors that affect their communities' services is invaluable in helping TRA develop an accurate, appropriate document for planning and fiscal control. In essence, we work in partnership with our contracting parties to develop the roadmap that provides direction and stability for the next fiscal year.

The comprehensive budget we present to the TRA Board of Directors actually consists of 42 individual budgets that encompass our financial operations and goals for the coming year. We strive, above all, for equity in our budget process – all of TRA's projects are independent financial entities, which helps us guarantee that no one project, city or group of cities ends up subsidizing any other project, city or group of cities.

August and September, as they usually are, have been busy months both for TRA and for its contracting customer cities – we have spent a great deal of time across a conference room discussing goals and their anticipated costs for the coming year. I can certainly say that we are all in the trenches together – there is no municipality or region in our area that isn't feeling the pinch of reduced resources combined with expectations for an increase in required services.

It's an undeniable challenge.

In response, TRA has made it our goal to reduce or maintain costs at every opportunity; we have pushed for innovative, cost-effective solutions that make it possible for us to meet our customers' needs at the highest level. In return, our customers have taken the time to peruse budget documents, listen to presentations, raise questions and offer insight into their particular situations. This method of collaboration helps us ensure fiscal responsibility that is in everyone's best interests.

During this year's budget cycle, most TRA project budgets saw deep reductions in costs wherever possible. TRA's chief concern is our commitment to meeting contracting parties' water needs and protecting capital investments, all while keeping operational expenses to a minimum and maximizing operational efficiency to meet regulatory requirements. TRA's comprehensive budget includes only those increases required to meet contractual obligations for our services. We are unwavering in our resolve to make aggressive decisions that improve effectiveness and efficiency and move us toward deeper cost reductions. We closely scrutinize all anticipated expenditures.

Because most of our customer cities are facing some

level of economic tension, we have carefully assessed our needs for operation during fiscal year 2011, and we have crafted our budgets with significant deferrals of needed purchases and program implementations. We will continue to review these needs, and we will closely monitor our operations to remain in compliance with regulatory requirements and provide exemplary service to our customer city members.

I cannot adequately express how much we at TRA value the spirit of cooperation exemplified during our advisory committee meetings this year. Difficult economic times have the potential to elicit either the best or the worst in people – we are fortunate indeed to have seen nothing but the best of our contracting parties throughout this process. We greatly appreciate the time and care they expended in examining the budget and offering thoughtful feedback. I am certain that when these tough times are over, our business relationships will be stronger than ever.

LRWSS pipeline construction begins

The Trinity River Authority's Livingston Regional Water Supply System will soon have increased capacity to deliver treated water to the city of Livingston. At its August meeting, TRA's Board of Directors approved a construction contract in the amount of \$1,646,707 to install a new 20-inch diameter PVC water line. Total project cost for the new line, including design, easement acquisition and construction, will be approximately \$2,473,000.

LRWSS provides 1.2 million gallons of potable water per day to Livingston and .83 MGD to the Texas Department of Criminal Justice Polunsky Prison Unit and the IAH Detention Facility.

The planned 20-inch PVC pipeline will run for 18,900 linear feet along FM 350 South, beginning

at the LRWSS treatment plant and continuing east to a point near the intersection of FM 350 near Kate Lowe Road.

The new 20-inch line will parallel a 12-inch line that was a part of the original LRWSS project brought online in 1981. The existing 12-inch line is too small to handle current peak flows, which results in poor pump performance and inadequate water flow to the city.

"If the weather cooperates, we expect the new line will be installed and ready for use within a year," said Jim Sims, Manager of TRA's Southern Region.



Construction to install a new 20-inch diameter PVC treated water line from the LRWSS plant, seen here, to the city of Livingston began in August. The new line will parallel an existing 12-inch line. The system needs additional capacity to improve pump performance at the plant and water flow to the city.

Employee Milestones

New Hires

James Collins joined CRWS as Electrician II. **Dwayne Melancon** joined CRWS as Operator I. DCRWS welcomed both **Andrew Moore** and **Clifford Woods** at the Operator I level. **Christopher Salazar** joined CRWS as Storekeeper II.

Promotions

Jesse Borries was promoted to Environmental Inspector at CRWS.

Robert Britton was promoted to Inspector II at CSS.

Arthur Encinas was promoted to Maintenance Mechanic

II at the GO.

Vickie Richards was promoted to Park Ranger at LRF.

Rusty Thompson was promoted to Inspector II at CSS.

Current Events

Congratulations to **Anthony Chavarria**, CRWS Maintenance Mechanic II, and his wife, Lorrie, on their third wedding anniversary.

Congratulations to **Bill Taylor**, CRWS Electrician II, and his wife, Charla, on their first wedding anniversary.



Shreyash Rai, son of **Yesha Rai**, Senior Secretary of Northern Region, won two medals at the 2010 Texas Cup International Taekwondo Competition August 21. He won a gold in sparring and a bronze in poomse.



Patrick and Abby Mackey were wed June 26 in Celina, Texas. Patrick is the son of **Alison Mackey**, Executive Assistant to the General Manager.

Jason Coles' project was incorrect in New Hires in the June/July issue of *inTRA*. Coles is Operator I at TCRWSS.



Chad Alec graduated June 4 from **Chester High School**. Chad, a proud member of the **Coushatta Tribe of Louisiana**, plans to attend **Angelina College** in the fall. His proud parents are **Cecil Alec**, Security Guard at LLP, and his wife, **Charlene**.



Nathan Hines and **Lisa Upton** are engaged to be married October 17 at **Soldiers Chapel at Fort Campbell, Ky**. Lisa holds a bachelor's degree from **Nyack College** in New York and a doctorate from **Belmont University** in Nashville, Tenn. She is a physical therapist with the Department of Army at the 5th Group Special Forces at Fort Campbell. Nathan earned a bachelor's degree from the University of Houston in 2002. He is a Green Beret and medic with the U.S. Army Special Forces. Nathan is the son of **Bart Hines**, Northern Region Assistant Manager of Development.



Ben Vance (left), brother of TRA General Manager **Danny Vance**, and **Anthony Chavarria**, CRWS Maintenance Mechanic II, shared a good laugh and a brief visit after parking next to each other at a recent sold-out game between the **Houston Texans** and the **Dallas Cowboys** at **Reliant Stadium**. It truly is a small world when, in a crowd of more than 71,000 people, two Cowboys fans can meet and discover their TRA family connection.

2010 United Way campaign gets under way

The Trinity River Authority's general office kicked off its 2010 United Way campaign August 27.

Each year, general office employees donate to the campaign in a number of ways. Cash contributions and payroll deductions continue to be a popular option. Employees are also given the opportunity to purchase blue-jean casual days for \$3 per day. This year, executive managers sold snacks each Friday of the campaign, with all profits going to United Way. In addition, employees donated cash for the opportunity to challenge each other to play golf, ping pong and beanbag toss games.

The golf course was challenging, frustrating even the most dedicated enthusiasts.

"It was a killer," said **Randy Brooks**, Manager of Engineering Services and avid golfer. No one was able to score a hole-in-one.



Sue Beard, CSS Executive Secretary, celebrates making a tough shot on a difficult course. GO employees donated cash for the opportunity to play golf, ping pong and bean-bag toss during the United Way campaign.

Hong Wu, Planning and Environmental Management Assistant, and **Susan Davis**, Northern Region Senior Secretary, were unbeatable at the ping-pong table. By the end of the campaign, Wu had to spot four points to entice challengers.

As always, a team competition was at the heart of the United Way campaign. General office employees were randomly assigned to a team, and team members earned points by making donations, purchasing casual days and playing games. The red team accumulated 1,446 points and won the General Manager's prize – an afternoon at the Texas State Fair.

The general office United Way campaign is one of several at TRA. *inTRA* invites photos and campaign details from other projects.

In 2009, the total United Way contribution for all TRA projects was \$48,863.50.

Winning team

- Ann Carver**
- Annette Morris**
- Bart Hines**
- Belen Campos**
- Charles Burns**
- Charles Carder**
- Howard Slobodin**
- Huong Le**
- Jeffrey Saunier**
- Karen Stafford- Brown**
- Kenny Nguyen**
- Linda Vice**
- Maggie Owen**
- Scott Hill**
- Yesha Rai**



Howard Slobodin, Staff Attorney (in the chef's hat), makes rounds with the United Way snack cart. Seen here gathered around the cart from left to right are **Connie Jones**, ESS Executive Secretary, **Michelle Harlan**, Real Estate Specialist, **Brenda Porter**, Land Records Research Specialist and **Bob Moore**, Financial Services Manager.

TCWSP addresses taste and odor compounds in raw water

Lake Arlington is home to blue-green algae and manganese

Water treated at TRA's Tarrant County Water Supply Project (TCWSP) historically has a musty or earthy taste and odor for a brief period in late summer and again in early winter. Though this may be unpleasant for the end user, it does not pose a health threat.

TCWSP provides drinking water to the cities of Bedford, Euless and Colleyville, along with portions of Grapevine and North Richland Hills. Raw water is pumped from Lake Arlington to the project's 87-million-gallon-per-day treatment plant, where it undergoes a series of treatment processes to remove particles and organic compounds. The water is disinfected with a combination of ozone and chlorine. Water quality, including taste and odor, is closely monitored.

The musty, earthy taste in the water is primarily caused by the organic compounds Geosmin and 2-Methylisoborneol (MIB). Both MIB and Geosmin have a strong odor that is readily noticed in water. Humans can detect MIB and Geosmin in very small concentrations, as low as 10 nanograms per liter (ng/L), which is equivalent to one package of artificial sweetener dissolved in 100 Olympic-sized swimming pools, according to Ron Tamada, TRA Manager of Engineering Services for the Northern Region.

MIB and Geosmin are produced by blue-green algae, or cyanobacteria, that grow in natural bodies of water like Lake Arlington. Blue-green algae have evolved to withstand extreme temperatures and varied dissolved

oxygen concentrations that are challenging to other types of algae. Thus the high water temperatures experienced in late summer and the low temperatures in early winter decrease other desirable algae populations, giving blue-green algae a chance to thrive and bloom. The musty, earthy taste and odor is particularly strong when these algae bloom.

MIB and Geosmin have increased dramatically in Lake Arlington over the last ten years. Pilot testing carried out in 2000 and 2001 showed Geosmin levels at 20 to 60 ng/L with spikes up to 180 ng/L. During the winter of 2005-2006, Geosmin levels peaked above 300 ng/L. By February of 2008, Geosmin was spiking above 700 ng/L, and in January of 2010, Geosmin was measured at 1,500 ng/L.

Taste and odor compounds may be increasing in Lake Arlington because of the location of the lake within the Dallas/Fort Worth Metroplex. Lake Arlington is becoming an urban lake and is increasingly surrounded by development, which tends to contribute nutrients such as lawn fertilizer to the watershed. Fertilizers spread on lawns and landscaping are washed into storm drains feeding into creeks and tributaries that eventually lead to the lake and encourage algae growth.

TCWSP treats taste and odor compounds with ozone. Ozone treatment, added to the project's processes in 2006, has improved the overall aesthetic quality of the water. However, ozone treatment



TCWSP's raw water pump station in Lake Arlington is seen near the center of this photo. The water near the bottom of the lake has the highest concentration of manganese while algae tend to grow near the surface of the lake. TRA is pursuing methods for pulling water from the lake level that offers the best water quality.

has not been able to completely eliminate taste and odor compounds year-round for several reasons.

Ozone is effective at eliminating taste and odor compounds occurring at concentrations up to approximately 200 ng/L. Pilot testing prior to design and construction of the ozone processes at TCWSP indicated that taste and odor compounds fell well below this upper limit. Since then, dramatic increases have been seen in Lake Arlington.

Last winter, TCWSP added a hydrogen peroxide feed system to supplement the ozone process. The ozone and hydrogen peroxide combination is a technique capable of removing taste and odors at higher concentrations than ozone alone. Called peroxone, the combination was successful in reducing taste and odor compounds by 12-15 percent.

"We are continuing the process of implementing peroxone treatment," said Gary Smith, Senior Biologist at TCWSP. "We are fine-tuning the process to respond to raw water conditions that vary with the seasons."

The use of ozone for reduction of taste and odor compounds at TCWSP is also limited by the presence of naturally occurring manganese in Lake Arlington water. Manganese is a capricious metal that frequently changes states in response to changing environmental conditions. The same high temperatures that encourage blue-green algae growth also cause manganese to enter a dissolved state in the water. Manganese does not pose a health threat but may discolor the water.

During the treatment process, ozone causes dissolved manganese to form particles. In water treatment parlance, particles in water affect the

clarity and are measured as turbidity.

"We can see a tenfold increase in turbidity after increasing the ozone dose to combat taste and odor compounds," said Smith. "State regulations require very low levels of turbidity in treated water because more particles could shelter bacteria from disinfection."

The plant's filters effectively remove manganese particles, but doing so slows down the treatment process. In the winter, when water demand is low, slowing the treatment process causes no issue. But in the summer, the plant processes water at near-maximum capacity to keep up with demand.

TCWSP is pursuing another option to meet taste and odor challenges.

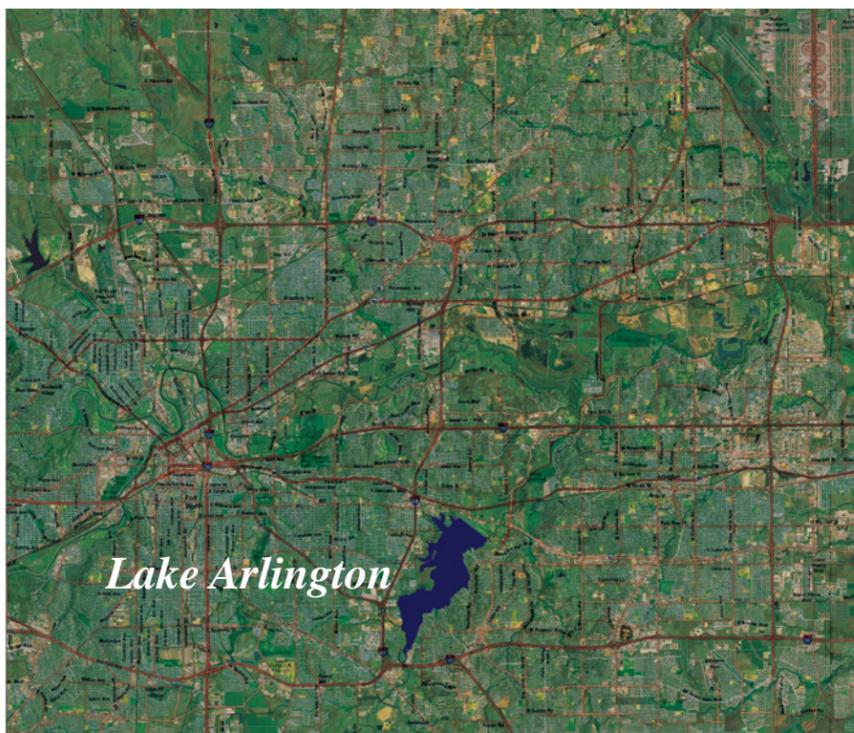
"Improving the quality of the raw water would go a long way toward producing better tasting water," said Smith.

To that end, TCWSP is investigating a method for withdrawing water from Lake Arlington at various depths.

"The water at the deepest levels tends to have the greatest concentrations of manganese," said Smith. "There tends to be more algae growth near the surface."

The layer of manganese at the bottom and the layer of algae near the surface vary in depth with environmental conditions. TCWSP would like the ability to pull water from an area between these two layers that offers the best water quality, especially during the summer. Plans are under way to have divers examine TCWSP's intake structures at Lake Arlington with the hope of adding intake points at various levels.

"With more flexibility to take water from different levels, we could take the best water available at any point in time," said Smith.



Lake Arlington is located centrally in the Dallas/Fort Worth Metroplex and is increasingly surrounded by development, which tends to contribute nutrients such as lawn fertilizer to the watershed that feeds into the lake. Increased nutrients in the lake may be encouraging algae growth that produces musty, earthy-tasting compounds. TCWSP pumps raw water from Lake Arlington for treatment and distribution to Bedford, Euless and Colleyville, along with portions of Grapevine and North Richland Hills.

DCRWS expansion to 11.5 MGD complete

New processes and equipment save electricity, curtail odor

The Trinity River Authority has completed construction to expand the Denton Creek Regional Wastewater System (DCRWS) from a treatment capacity of 5.0 million gallons per day to 11.5 MGD.

DCRWS provides wastewater treatment services for Fort Worth, Haslet, Roanoke, Southlake, the Circle T Municipal Utility Districts Nos. 1 and 3, Keller, Northlake, Flower Mound, Westlake and Argyle. Since it came online in 1990, TRA has expanded DCRWS several times in response to extensive industrial, commercial and population growth in the geographic area served by the system. The original plant was sized at .85 MGD and expanded to 1.68 MGD in 1994 and to 2.5 MGD in 1996. The last expansion, completed in 2004, increased the plant capacity to 5.0 MGD.

Construction to expand the plant to 11.5 MGD included a screening facility, grit removal facility, aeration basins, final clarifiers, a blower building, effluent filters, UV disinfection units and additional

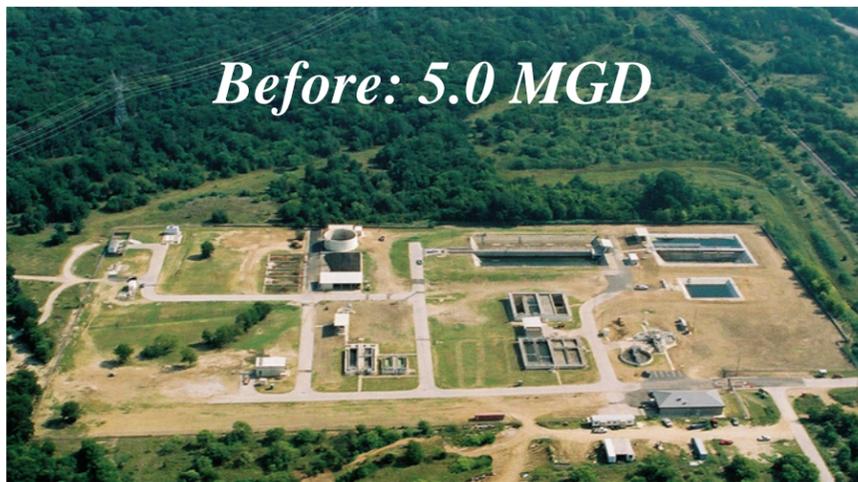
pumping capacity.

These processes and equipment provide several benefits for DCRWS.

“Our effluent quality improved with reductions in total suspended solids, ammonia and Carbonaceous Biochemical Oxygen Demand,” said John Bennett, DCRWS Project Manager.

In addition, the plant was designed to minimize odors. The most odoriferous facilities, such as raw wastewater pumps and screening and grit removal facilities, are located at the back the plant, away from its nearby neighbors. Where possible, areas containing raw wastewater are covered and treated with an ozone fog that reduces odorous compounds in the airspace above the raw wastewater.

The new equipment and processes also bring with them energy efficient pumps and motors, resulting in a reduction in the system’s electrical costs.



LLP makes land available for children’s camp

At its August meeting the Trinity River Authority Board of Directors authorized the sale of two surplus tracts of land on Lake Livingston to Corbin J. Robertson Jr. for use in Camp Olympia and the Whispering Pines Golf Course.

Camp Olympia and the Whispering Pines Golf Course are located in the Dad’s Creek area of Lake Livingston in Trinity County.

Camp Olympia is an overnight summer youth camp that provides outdoor and nature activities for more than 4,000 campers annually. In addition, the Houston Independent School District’s Outdoor Education Program brings 5,000 fifth-grade students to Camp Olympia each year.

The Whispering Pines Golf Course was developed in 2000 to promote amateur golf at all levels and to support health-related charitable causes in Texas and around the world. Whispering Pines serves as host to the Spirit International Amateur Golf Championship and the

Big 12 Conference Men’s Golf Championship, both of which contribute significantly to the lake-area economy.

Robertson plans to use the additional tracts of land to expand facilities and infrastructure to accommodate increasing participation at both the camp and the golf course. At Camp Olympia, the land will enhance conservation education and nature studies.

Jim Sims, TRA’s Southern Region Manager, notes that TRA has enjoyed a long-term working relationship with Camp Olympia and Corbin J. Robertson Jr.

“We first entered into a lease agreement with Mr. Robertson in 1970 for the development of the original Bridgeport KOA Campground and Marina, now known as the Lakeside RV Resort,” said Sims. “Camp Olympia and Whispering Pines Golf Course contribute to the attractiveness of Lake Livingston and the economy of the area.”

Anniversaries

40 years

Robert Starkey, System Specialist, CRWS

25 years

Daniel Gonzalez, Chief Operator, CRWS

Michael Neeley, Chief Operator, CRWS

10 years

Debbie Garrett, Senior Secretary, GO

Connie Jones, Executive Secretary, GO

Linda Kuntz, Office Coordinator, LLP

5 years

Thomas Aaron, Maintenance Mech. II, CRWS

Danilo Lopena, Senior Maint. Mech., CRWS

Matthew Scogin, Operator I, CRWS

Melanie Weikum, Senior Account. Clerk, GO

3 years

Kelly Hunter, Senior Technician, TCWSP

Jeffrey Saunier, Inspector I, CSS

Stephanie Schultz, Inspector I, CSS

Gary Smith, Senior Biologist, TCWSP

Clayton Tidwell, Operator I, CRWS



TMCRRWS Tornado

Numerous funnel clouds touched down near TRA’s Ten Mile Creek Regional Wastewater System during September 8’s stormy weather.

2010 Trinity River Survey



TRA Clean Rivers Program surveys main stem of the Trinity River

The Trinity River Authority Clean Rivers Program completed an extensive survey of two portions of the main stem of the Trinity River during July and August.

Angela Kilpatrick, Clean Rivers Program Coordinator, Webster Mangham, Planning and Environmental Management Assistant, and Chris Simeone, CRP Summer Intern, boarded a small boat and spent seven days and four nights gathering data on the river.

The CRP team conducted the first segment of the survey July 19-21, starting at the U.S. Highway 287 bridge over the Trinity River. The first day they traveled 19 miles, stopping to measure bank angles and channel widths, and to take soil samples and photos and record observations.

“Our goal was to document river conditions during base flows that occur in summer,” said Kilpatrick. “When the river is swollen with rainwater runoff, measuring bank angles and channel widths is impossible.”

“We also wanted to personally connect with the river, see it in person,” said Mangham.

This section of the river is remote and inaccessible. The river banks are covered with wet silt that is the consistency of pancake batter, sticky and hard to wash off. The team sank into knee-deep

mud when climbing banks to take measurements.

“During the first part of the survey, we went for an entire day without seeing any evidence of mankind,” said Kilpatrick. “No cars, no people, no roads.”

The team’s progress down the river was often impeded. They frequently had to navigate around rafts of trees and debris piled in the river bed.

“Many of the obstructions were under water. We had to take it slowly or risk damaging the boat,” said Mangham. Even so, they managed a moving average of 4.5 mph.

With the sun setting and darkness coming on, the team stopped at 8 p.m. to set up camp on a sandbar. The ground was wet, and it was hot and humid. They didn’t sleep much but managed to get some rest in the cooler early morning hours.

They were back out on the river by 7 a.m. The team kept up the 4.5 mph pace, and with the longer day, covered 41 miles the second day out.

The CRP crew observed several changes in the river farther downstream. The river channel was wider in some places, with gravel beds. The banks were steeper and the silty mud gave way to bedrock where the river cut deeper into the

earth. The trees along the river banks were also taller, and the rafts of trees and debris in the river bed were larger.

Due to the terrain, the team spent the second night under the bridge on U.S. Highway 79 near Oakwood.

The team managed to travel 47 miles during its third day on the river. On this section of the river, they observed high river banks where the river cut deeply into the bedrock, exposing colorful shale outcrops. The river channel was consistently wider and held more rock in the river bed, which created riffles in the water. Sand and sand bars began to appear. The river channel meandered through tall trees and grasses, and invasive bamboo flourished on the banks.

At the end of the third day, the team exited the river at State Highway 7 near Crockett. Extracting the boat proved to be a daunting challenge.

“Our Lake Livingston Project (LLP) staff sent an experienced team with the necessary equipment,” said Mangham. “Otherwise, we couldn’t have gotten the boat out of the river under those conditions.”

LLP staff, headed by Bill Holder, LLP Project Manager, and Darrell Davis, LLP Maintenance Supervisor, assisted CRP with accessing and exiting the river on both legs of the survey. After putting the team in at U.S. Highway 287, they visited the takeout point at Crockett to observe conditions and plan for a successful takeout.

“That’s how they knew we



Webster Mangham, Planning and Environmental Management Assistant, sinks knee-deep into the silty mud that characterizes the banks of the river below U.S. Highway 287.



The Trinity River below U.S. Highway 287 is remote and inaccessible, and the river banks are covered with wet silt.



The CRP team spent the first night on the river on a wet sandbar. Chris Simeone, CRP Summer Intern, checks gear in the boat at sunrise.



Webster Mangham extracts a soil sample. The CRP team gathered data from 600 points along the Trinity.

would need lots of people and equipment to get the boat out,” said Mangham.

LLP also assisted with some repairs to the boat trailer and truck while the CRP team traveled the river.

“The river survey wouldn’t have been possible without assistance from LLP,” said Kilpatrick.

The CRP team embarked on the second leg of the river survey on August 2, just downstream from Lake Livingston Dam. Stopping periodically to take measurements, notes and photos, they covered 108 miles in four days, camping for two nights on sandbars in the river.

The river becomes progressively wider, deeper and slower as it flows

south. It is sinuous, with sweeping curves and wide sand bars on the inner side of the turn. Riverbank height gradually decreases from 12-15 feet to three feet.

“At some locations the river bed was very wide, flowing with shallow water,” said Kilpatrick. “We often had to drag the boat past sandbars.”

The survey ended at the mouth of the river, the point where the Trinity River flows into Trinity Bay.

The team made measurements and observations at more than 600 points along the river and snapped more than 2,600 geo-referenced photos – photos with locations pinpointed by geographical coordinates. In addition, the crew identified areas in need of further



With help from a cable and winch, TRA’s Lake Livingston Project staff pull the boat from the river at State Highway 7 near Crockett.

study.

Despite harsh conditions, long days of hard work and little sleep, the trip was an adventure the CRP team will never forget.

“I felt like Huckleberry Finn,”

said Mangham. “And we are pleased with the amount of data we gathered and the knowledge we gained.”



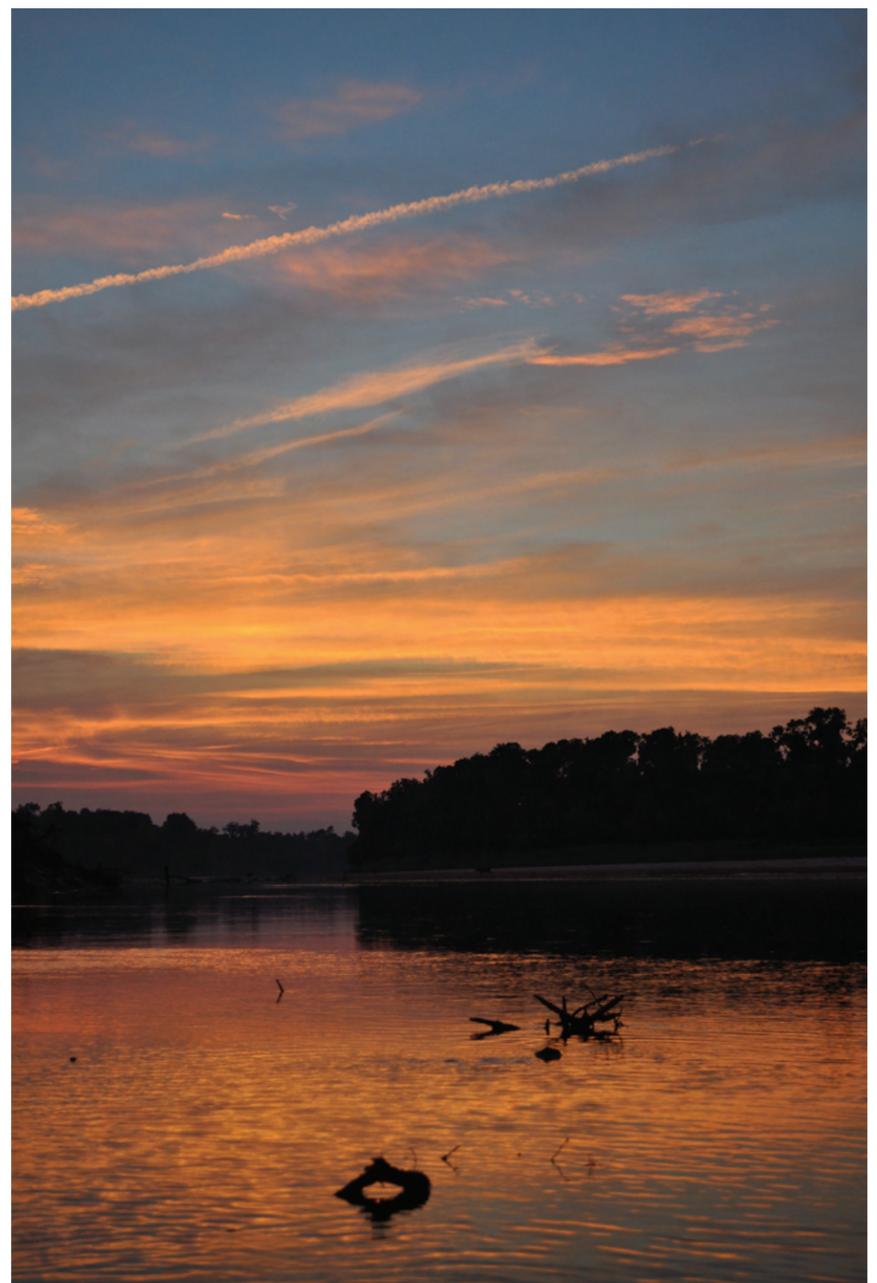
A pair of great blue herons sun themselves on the Trinity River.



Angela Kilpatrick, Clean Rivers Program Coordinator, drags the boat through shallow water in the lower Trinity River.



Chris Simeone, CRP Summer Intern, guides data-gathering equipment across the river. Before his time at TRA, Simeone served in the U.S. Marine Corps in Iraq, where he gained experience and skills surveying beachheads and rivers that proved useful during this survey trip. Simeone currently studies accounting at Tarrant County College.



The CRP team enjoyed this sunset over the Trinity River.



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2010 Gatorfest fun

Considered by some the most unique festival in the state, Texas Gatorfest 2010 lived up to its reputation at Fort Anahuac Park in Anahuac, Texas, Sept. 10-12. This robust blend of alligator lore, Texas whimsy and family fun included the Great Texas Alligator Roundup, open to anyone holding a valid Texas Alligator Hunter's License. Hunters from all over Texas competed for cash prizes totaling more than \$4,500, with this year's winner from Matagorda measuring more than 13 feet long. Participants brought in approximately 200 alligators during Saturday and Sunday.

Besides checking out the Alligator Roundup, the more than 30,000 attendees at this year's Gatorfest could take an airboat ride or river boat tour, or enjoy carnival rides, pony rides and a petting zoo, plus more than 25 merchants, three entertainment stages and a waterfront beer garden.

TRA's Planning and Environmental Management Assistant Dr. Hong Wu, Public Information Officer Michelle Clark and Lake Livingston Project Field Inspector Jacob Young represented TRA as part of the Alligator Education Tent, where they spoke with attendees and distributed materials touting ways for residents of the Trinity River basin to help maintain a clean watershed. Fellow exhibitors from the Texas Parks and Wildlife division were also on hand to offer an up-close view of live alligators – which outnumber Chambers County citizens by almost three to one. For more information, visit www.texasgatorfest.com.



Above: Suzanne Wen, daughter of TRA's Planning and Environmental Management Assistant Dr. Hong Wu.



Right: Michelle Clark, TRA Public Information Officer, and her son, Jamie.