

Concrete and steel from old bridges will create artificial reefs in Gulf

The State of Texas has been actively creating artificial reefs in the Gulf of Mexico for almost 50 years using tires, automobiles, construction rubble and obsolete ships. The 71st Texas Legislature recognized the potential of artificial reefs to boost the state's fishery resources and promote economic growth by enacting the Artificial Reef Act of 1989. The act directed the Texas Parks and Wildlife Department (TPWD) to promote, develop, maintain, monitor, and enhance the potential for artificial reefs in state and federal waters adjacent to Texas.

TPWD subsequently adopted the Texas Artificial Reef Plan in 1990. Since that time, the program has developed more than 40 major artificial

reef sites in the Gulf of Mexico. The heart of the effort has been the donation of decommissioned offshore petroleum platforms by oil companies through the Rigs to Reefs Program.

In 2001, the 77th legislature recognized that suitable material was available from TxDOT's bridge demolition projects. The Legislature enacted HB 2719 directing TPWD and TxDOT to coordinate with local governments to use obsolete bridges, tunnels, and causeways to create artificial reefs.

The Gulf of Mexico seabed is relatively flat and featureless. Artificial reefs create critical habitat for reef-dwelling marine life attracted to underwater structures. That in turn attracts scuba divers and fishermen.

Concrete is an excellent reef material because it lasts longer than metal ships and rigs, which start to rust and crumble after 50 years.

"The lime in concrete is going full circle, back to where it originated, the sea," Michael O'Toole, TxDOT's point man in seeing that the legislative mandate is carried out, said.

Moreover, reefs created from discarded concrete and steel - instead of oil rigs and ships - are not as tall, meaning they can be built in shallower water without creating an underwater hazard to navigation. Such shallow-water artificial reefs are accessible to more fisherman and divers because they are closer to shore.

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Japanese look at SH 146 to research TxDOT methods for handling contaminated soil

H.G. QUINN

Environmental Affairs Division

Recently, a visit to TxDOT's Houston District to view a road-widening project was part of a 10-day whirlwind tour of this country by a Japanese delegation. The president of the Civil Engineering Research Laboratory, Dr. Toshio Iwasaki, was here to research the rehabilitation of heavily polluted soils using Superfund regulations and methods. After visiting the Environmental Protection Agency (EPA) and the USDOT/FHWA headquarters in Washington, D.C., Dr. Iwasaki

visited three cleanup sites across the country, including the State Highway 146 project in Texas City.

With a well-documented history of deadly and devastating diseases caused by industrial pollutants (see related story, Page 7), concern for public health led the Japanese Government to enact a number of environmental laws since the 1960s. The most recent is the "Soil Pollution Prevention Law" in February 2003. Tainted soil also lessens the value of land - an

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Pharr District's Iglesias enjoys the variety of environmental job

By JIM DOBBINS

Environmental Affairs Division

To paraphrase the bumper sticker, he wasn't born in the Rio Grande Valley but he got there as soon as he could. Once there, he hasn't strayed far from his west valley home in Edinburg. This is the life of Pharr District Environmental Coordinator/District Environmental Quality Coordinator Mark Iglesias.

Houston-native Iglesias moved to the valley with his family while in grade school. Following an Edinburg High School career as a multi-sports star (football, baseball and track and field), Iglesias attended the University of Texas – Pan American in his adopted hometown. He graduated in 1992 with a Bachelor of Science degree in Biology.

Iglesias worked in the home healthcare field prior to joining the Pharr District staff in 1998 as an environmental quality specialist. He moved up to district environmental coordinator in 2001. The additional duties of district environmental quality coordinator (DEQC) were added last year.

"The aspect of my job that I like the most is

that every day I get to do something different, something interesting, that is never the same," Iglesias said.

"I'm always learning something new – like archeology, hazardous materials abatement or endangered species issues. Since becoming DEQC, I visit construction sites and learn that side of the business. I now look more closely at construction plans. Before, I was just concerned with environmental commitments. Now, I look at the SW3P plans, silt fencing, and other things that I didn't pay much attention to before."

One of the more challenging projects that Iglesias has worked on was related to the repairs to the Queen Isabella Causeway (see "Emergency permits secured for Isabella repairs, ferry docks, Fall 2001 ENVision at <http://www.dot.state.tx.us/env/pdf/envisionpdf/22fall01.pdf>)

"Following the accident, TxDOT needed to establish a ferry service to get people to and from South Padre Island," Iglesias said. "The Army Corps of Engineers wanted the ferry landing in a place that did not have adequate road access. Because of my educational background, I was allowed to delineate the sea grass beds that are important endangered sea turtle habitat. Juan Alcazar and I spent about a week in waders and a mask and snorkel marking the sea grass beds. Because of that work, we were able to put the ferry landing in a better

location right between two sea grass beds without harming either one. This satisfied the Army Corps of Engineers' permit requirements. Later, when the debris was being blasted to clear the channel, the contractors had me acting as a sea turtle and dolphin lookout. They could not set off the charge until I gave them the all clear. I felt it was a rewarding project to work on."

Three other projects in the mill are keeping Iglesias busy.

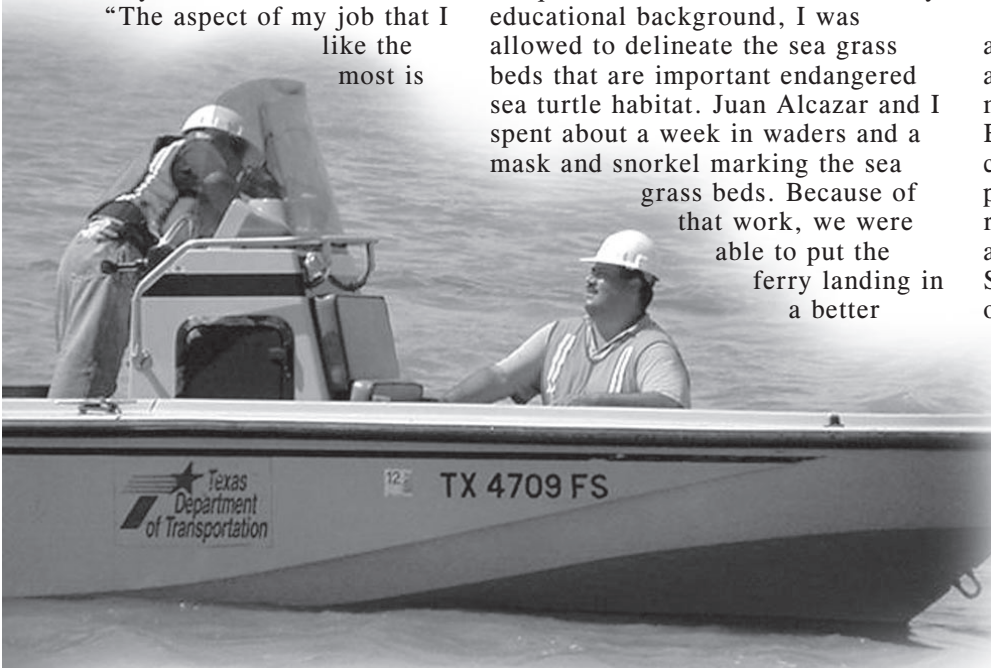
"We are working with a consultant to draft an environmental impact statement for a second causeway connecting South Padre Island to the mainland. We have had two public meetings and there has been a lot of opposition so far. Two other projects involve endangered ocelots (*Felis pardalis*). A project in Cameron County on State Highway 48 involves a conservation easement for ocelots. A project on General Brant Highway is currently installing 11 cat crossings and two and a half miles of fencing to protect ocelots," Iglesias said.

Iglesias' hard work has not gone unnoticed.

"Mark is very knowledgeable about every aspect of our operations and is focused on our goals and missions," said Pharr District Engineer Mario Jorge. "He accepts challenges without hesitation and produces results. We have had record lettings in the past three years and Mark and our Environmental Section have been instrumental in our success."

Pharr District Public Information Officer Amy Rodriguez has worked with Iglesias for much of his TxDOT career.

"Mark was featured in FHWA's Keeping it Simple publication and on the Rio Grande Valley's CBS affiliate's newscast for not trimming palm fronds on state highway right of way to help preserve Southern yellow bat



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TxDOT becomes 1st DOT to join EPA's SmartWay effort

By JIM DOBBINS

Environmental Affairs Division

TxDOT has become the nation's first state transportation agency to join the Environmental Protection Agency's clean air initiative, the SmartWay Transport Partnership.

SmartWay is a voluntary partnership focused largely on the freight carrying industry that establishes incentives for improved fuel efficiency and reduced greenhouse gas emissions. The annual goals of SmartWay by 2012 are to conserve as much as 150 million barrels of oil, reduce carbon dioxide emissions by 33-66 million tons and eliminate 200,000 tons of nitrogen oxide emissions.

SmartWay creates partnerships between transport companies and businesses that improve the environmental performance of freight operations. The program also establishes a national "idle-free corridor" to eliminate pollutants from idling trucks and trains. A third focus of the program is increased use of intermodal transportation.

Presently, 52 companies and agencies are members of the SmartWay Transport Partnership.

"We are very excited about becoming SmartWay partners," said Don Lewis, TxDOT fleet manager. "As a SmartWay partner, it will afford us the opportunity to showcase our air-quality initiatives in the area of cleaning up our diesel powered vehicles. We believe our leadership will bring additional state DOTs into the SmartWay program. EPA is looking at our participation to showcase how other state DOTs and non-industry stakeholders can participate."

TxDOT currently uses ultra-low sulfur diesel in six districts. Eventually, all of the approximately 6,000 on and off road diesel vehicles will be using this cleaner-burning fuel.

Additional information on the SmartWay program can be found on the web at: <http://www.epa.gov/otaq/smartway/index.htm>



Photo by Jim Dobbins/ENV

Sign of a Winner...

The Houston District was honored Feb. 20 with a tree planting and sign for winning the 2003 Environmental Achievement Award. From the left are: Gary Trietsch, P.E., district engineer; Craig Rollins, district environmental coordinator; James Koch, P.E., director of district design; Ethan Beeson, RLA, landscape architect; Pat Henry, P.E., director of Project Development; Ann Irwin, ENV deputy division director; Dana Coté, RLA, district landscape architect; Mike Alford, P.E., director of Maintenance. ENV presents the Environmental Achievement Award annually to recognize the best examples of projects and processes that fulfill transportation objectives while protecting and enhancing the environment. The Houston District won for its innovative landscape and vegetation management policy that integrates environmental concerns with project development, construction and maintenance. The district has moved to using 100 percent naturally derived products in its landscaping projects to positively impact the environment.

Artificial reefs: TxDOT providing concrete & steel from old bridges

(Continued from Page 1)

primary responsibility for implementation of HB 2719. O'Toole, director of Project Development in the Bridge Division, represents TxDOT on all issues related to the use of obsolete concrete and steel material from TxDOT for use in the Texas Artificial Reef Program. He was also appointed by TPWD to be a member of the Texas Artificial Reef Advisory Committee, which advises TPWD on all matters related to the Artificial Reef Program.

HB 2719, now codified as Sec. 89.005 of the Texas Parks and Wildlife Code, does not allocate funds to create artificial reefs. Unlike the Rigs to Reefs Program, in which it costs less to transport a decommissioned offshore rig to a reef site than to disassemble it on land, it is more expensive to deploy concrete and steel than to dispose of it by conventional means. Oftentimes, the scrap steel can be sold and the concrete crushed for reuse as roadbed material.

TxDOT's approach has been to work with TPWD to develop strategies for reducing deployment costs and to find win-win situations when they exist. One of these strategies resulted in TPWD acquiring five storage locations along the Texas Gulf Coast where material can be kept until the most economical time for deployment. For example, the sea is calmer during the summer, making it less costly to move and deploy materials during those months. Also, material can be deployed more economically in larger quantities.

The Corpus Christi District's recent modifications to the JFK Causeway and demolition of the old, 605-foot Humble Channel Bridge provided an opportunity to obtain reef material for the program. Material from the bridge included 108 concrete box beams, 1,250 feet of concrete railing, and about 60 concrete piles. Steven Ashley, an environmental specialist in the Corpus Christi District, pursued negotiations with the contractor - Zachry Construction Corp. - to obtain the bridge material for the program.

"Steven grabbed the bull by the horns and made things happen," O'Toole said.

Through these negotiations it was determined the contractor could save time and expense if they could transport the beams to a nearby storage facility instead of breaking the beams up for transport to a landfill. Scott Sullivan, the Gulf Intracoastal Waterway Engineer in the Transportation Planning and Programming Division's Multimodal Section, worked to locate a possible site for storage. As a result, TPWD leased the Corpus Christi



Corpus Christi District Photo

A bridge cap is removed from the JFK Causeway's Humble Channel Bridge.

storage site, one of TPWD's five storage locations, from the Port of Corpus Christi and the contractor agreed to donate the material to the program. A formal contract between Zachry and TPWD is pending.

The bridge caps and piles were removed by American Pile Cutting, Inc., subcontractor to Zachry, using a pile cutter and a jetting system to get below the mud line.

The Humble Channel Bridge had the following "win-win" attributes:

- The artificial reef will provide habitat for marine organisms and fish that will attract fishermen that will result in a boon to the local environment and economy.
- The contractor will earn positive publicity and save money because the beams will not have to be broken before disposal.
- TPWD gets materials for the artificial reef program.
- The Port of Corpus Christi Authority receives money from TPWD to temporarily store the materials until they are ready to be deployed.
- TxDOT earns positive publicity for facilitating the donation of recycled material for an artificial reef.

Negotiations are ongoing to obtain more potential reef material from the much larger Galveston Bay Causeway bridge replacement project.

Using obsolete bridge material for artificial reefs may seem like a simple idea, but it takes a lot of people, time, and effort to make it happen. The Bridge, Environmental Affairs, Construction, Design and Transportation Planning and Programming divisions, Office of General Counsel, Administration, Texas Transportation Commission, Houston and Corpus Christi districts have spent hundreds of hours resolving issues related to TxDOT's involvement in the Artificial Reef Program. All of the hard work is now beginning to pay off.

Woodsman, spare that bat!

Dead palm tree fronds home to flying mammals

By **CHRISTINA CONNER**
Environmental Quality
Specialist
Corpus Christi District

In planning road construction, TxDOT considers the possibility that a bat colony might roost in culverts and under bridges ... so we check. However, not everyone realizes that along the coast several species of bats will roost in drooping dead palm fronds instead of more permanent structures, such as bridges.

Ornamental palms are increasingly popular in landscaping, thus, becoming more readily available as habitat for bats. Dead palm fronds not only provide the perfect conditions for roosting, but palm fronds also harbor an assorted "menu" of insects for the hungry bats.

The Southern yellow bat (*Lasiurus ega*) and its close cousin, the Western yellow bat (*Lasiurus xanthinus*), are yellowish-brown in color and camouflage remarkably well against the yellowish-brown of drooping dead palm fronds, called a "beard." Southern yellow and Western yellow bats were once thought to be the same species, but recent DNA testing proved they are separate species. The Western yellow is more common further west, but has been sighted in Texas and may be expanding its territory.

Besides being small, the Southern yellow bat is also a state-listed threatened species. Although it closely resembles the Northern yellow bat (*Lasiurus intermedius*) in color, the Southern yellow



Photo by Merlin Tuttle

A Southern Yellow bat roosts in the dead fronds, or beard, of a palm tree.

bat is smaller and is not associated with Spanish moss. Although Spanish moss is the preferred roosting material for Northern yellow bats, they are also known to roost in dead palm fronds. Recent field records show that Southern and Northern yellow bats share roosts in Washington fan palms in Nueces County year-round.

In relation to humans, bats are a natural ally in the control of nuisance insects such as mosquitoes and moths. However, lack of education and fear of the unknown are the primary reasons why this unique group of flying mammals are included in the growing list of vanishing animal species and are not readily

protected. European folklore has traditionally associated bats with evil. However, Oriental cultures consider the bat a symbol of happiness and longevity.

So, before conducting a "trimming of the fronds" event at your home or TxDOT property, consider an evening "bat watch" and enjoy the show!

Trimming should be avoided in the months of April thru November, limiting trimming to the four months of December thru March. Because maternity seasons vary between bats that use palm fronds to roost, and because young bats take anywhere from 1-1/2 to 2 months to fly, avoiding any trimming during these months should eliminate

any chance of harming young, flightless bats. Removing a palm tree beard bat roost before the pups can fly means their demise.

To learn more about bats (including the rabies fear) visit the Bat Conservation International website at www.batcon.org. For specific information about the state-listed Southern yellow bat and the Northern yellow bat, visit the Mammals of Texas - Online Edition at www.nsrl.ttu.edu/tmot1/lasiaga.htm. You can also find ENV's "Bats 'N' Bridges" brochure online at <http://www.dot.state.tx.us/env/pdf/publicat/Bats.pdf>

Japanese delegation: Superfund site highway project looked at for TxDOT cleanup methods

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important consideration in dealing with western investors accustomed to stringent environmental protections. The latest estimated nationwide cleanup cost for polluted soil in Japan is 13.3 trillion yen (7.8 trillion U.S. dollars). With this much at stake, interest in soil remediation is a top priority.

Dr. Iwasaki was accompanied by his hosts, Dr. C. Vipulanandan, Chairman, Department of Environmental Engineering at the University of Houston; and Dr. Noel Raufaste of the National Institute of Standards and Technology, who coordinated Dr. Iwasaki's trip. They were given a detailed presentation at the Galveston Area Office in LaMarque. ENV's Dan Neal explained the procedures TxDOT uses to evaluate the environmental aspects in project development, specifically to determine the potential for impacts from contamination. Larry French, URS Corporation consultant, described the general geology, environmental assessment, levels of contamination, and the actions taken at the site. Carlos Sanchez, of the EPA, gave an overview of the Federal Superfund Program and discussed the history of the Tex Tin site and the cleanup actions taken there. To emphasize the complexity of the project Jose Ramirez, P.E., Galveston Area Engineer "held up a one inch thick document indicating that this represented the road project. Then he held up a three-inch thick document and said this represented the project to close the highway, excavate the arsenic contaminated soil for

placement on the Tex Tin superfund site, and to rebuild the road," ENV's Dan Neal said.

After a question and answer session, Dr. Iwasaki was shown the site. Looking north from the bridge he viewed the cleanup activities within the right of way. Various Tex Tin features to the east and northeast were pointed out and their significance explained.

SH 146 is the southwest border of the triangular 170-

acre Tex Tin Superfund site. The other borders are FM 519 to the north and the Texas City Terminal Railway to the southeast. According to an EPA website posting, "Superfund is the Federal government's program to clean up the nation's uncontrolled hazardous waste sites. EPA works closely with communities, Potentially Responsible Parties (PRPs), scientists, researchers, contractors, and state, local, tribal, and federal authorities. Together with these groups, EPA identifies hazardous waste sites, tests the conditions of the sites, formulates cleanup plans, and cleans up the sites." The Tex Tin site contains five wastewater treatment ponds, slag piles, a landfill, open acid ponds and other waste disposal areas associated with a copper and tin smelter that was active for 60 years. The site was given Superfund status in 2000.

The area that later became the right of way was contaminated by the operations at the Tex Tin facility prior to the construction of SH 146. The contaminate of major concern is a potentially deadly element - arsenic.

Before soil removal could begin the entire roadbed had to be stripped away, including the bridge approach.

"With regard to the excavation at the site, the deepest excavation occurred at the southern end of the project adjacent to the bridge," Dan Neal said. "After the clean embankment soils were removed, an additional 11 to 12 feet of soil was excavated to remove the contaminated material. As excavation activities progressed further north, the contamination material didn't extend quite as deep, so the excavations were much



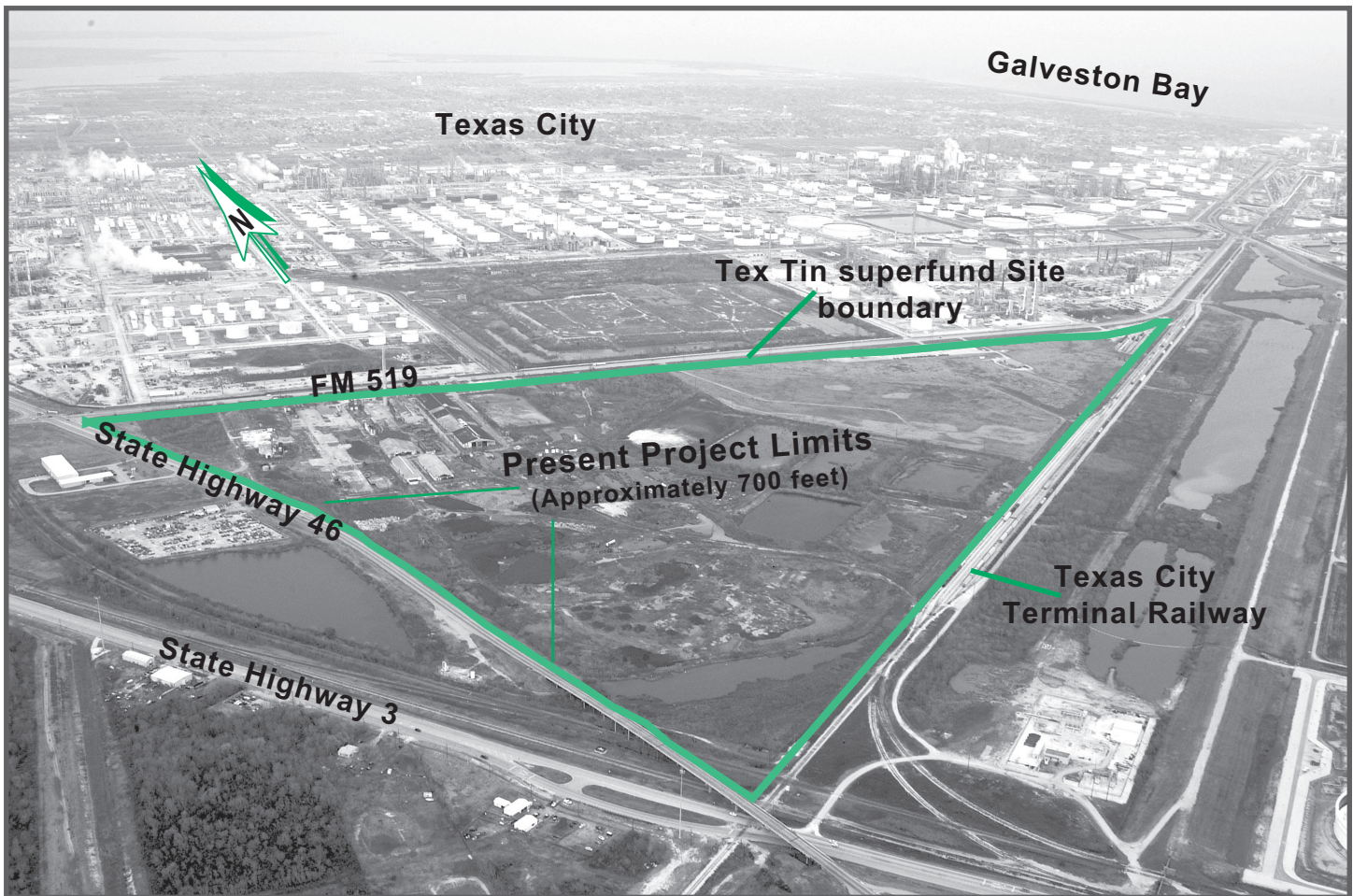
From the left are: Carlos Sanchez, EPA Region 6; Dr. Toshio Iwasaki, CRL; Jim Barta, ENV; Noel Raufaste, consultant; Dan Neal, ENV; Duncan Stewart, ENV; Dr. C. Vipulanandan, University of Houston; Larry French, URS.

ENV Photo

shallower."

To date, over 60,000 cubic yards of soil have been moved and contained in two disposal cells within the Superfund site from the 700 foot section of right of way that defines this phase of the project.

In a thank-you letter from Japan, Dr. Iwasaki said, "We had informative discussions with you and your staff and obtained meaningful information and survey results."



An aerial photo (above) shows the Tex Tin Superfund site and the Houston District's project to widen State Highway 146 from two lanes with a

shoulder to four lanes with a shoulder. Right of way for the project includes contaminated soil that must be remediated. Houston District Photo

Japan's environmental laws the result of mass poisonings from industrial pollution

In the early 1950s a mysterious disease appeared in the small Japanese fishing village of Minamata. People started acting strangely. They occasionally shouted uncontrollably. They would stagger as though drunk. They were not able to write or button their clothing, had trouble hearing or swallowing, and some trembled uncontrollably. The disease was first called 'cat-dancing disease' for the effects it had on pets, and created dread throughout the area as it reached epidemic proportions.

The origin of Minamata Disease, discovered in 1963, was a nearby industrial plant that for many years dumped large amounts of methyl mercury into Minamata Bay. The mercury migrated up the food chain.

The effects of severe mercury poisoning

were devastating. Almost an entire generation died and children were born with symptoms. The local economy was ruined. The bay was closed to fishing and the population of the area declined.

It wasn't the first contamination-related mystery illness to strike Japan.

In 1912 a new disease appeared in the downstream basin of the Jinzu River. Locals called it "itai-itai" ("itai" is Japanese for "it hurts"). Generations of women were afflicted with intense pain. The more severely afflicted cases suffered broken bones when trying to move on their own. Since authorities considered the disease endemic, it wasn't until the 1950's that research began.

In May 1968, the Ministry of Health and Welfare officially announced that the

"itai-itai disease was chronic cadmium poisoning." Victims suffered from kidney damage and severe calcium deficiency since cadmium drives calcium from the body. The report followed that the cadmium came from the "upstream discharge by the Kamioka Mining Co."

Other less notorious mass poisonings have occurred. Respiratory disorders have been seen in the Tokyo/Yokohama, Nagoya and Osaka/Kobe industrial belts. Chronic arsenic poisoning was found in the Toroku district. The effect of unmitigated pollution has a long and ignoble history in Japan. However, mass poisonings have declined due to stringently enforced environmental laws, giving hope to an otherwise bleak picture.

— H.G. Quinn



Pharr District Photo

Pharr District Environmental Coordinator Mark Iglesias (far right) works to delineate seagrasses for a temporary ferry landing after the collapse in 2001 of the Queen Isabella Causeway.

Iglesias: *Didn't* compete in 1988 Seoul Olympics

(Continued from Page 2)

habitat," Rodriguez said (see related story, Page 5). "He has also served on a committee representing TxDOT at South Texas Community College in McAllen to help design an Environmental Science Curriculum."

The occasional moment of levity is allowed in the work day.

"During this past year's short course I did a presentation on project specific locations," Iglesias said. "Dianna Noble, the moderator for the panel, e-mailed all the presenters asking them to please register on-line for the conference. This I did. The next day she e-mailed everyone informing us not to forget to fill out the biography as well. This turned out to be too late for me because the on-line registration did not allow me to add any additional data, it just said that I was already registered. So I did not get to fill out my biography. Right before my presentation, Dianna told me that since I did not provide one she was going to make up one! So when she introduced me, she told the audience that I was a former Olympic wrestler and had won a bronze medal in the 1988 Seoul Olympics! It turns out many believed her. During the break between sessions several people came up to me and asked me what it was like being in the Olympics!"

Mark and his wife, Elizabeth Paradise (an internal auditor at the Pharr District), reside in Edinburg. Their daughter, Chloe, 6, is a kindergartner at St. Mathews Episcopal School. A second child is due in December. In his free time Iglesias coaches his daughter's T-ball and basketball teams and enjoys playing golf.

Resource sharing proves valuable

When you face a tough, new issue, the experience you need may be in a neighboring TxDOT district.

"I have been partnering experienced district personnel with other districts that may need just a little aid with 404 permit issues," Carla Kartman, ENV permits officer, said.

Jay McCurley of the Dallas District has years of experience with mitigation for waters of the U.S., including wetlands. So when Bill Leach of the Abilene District contacted ENV looking for help with a fee in lieu mitigation plan, which was proving difficult due to a lack of mitigation sites in the vicinity of the project, Kartman put him in contact with McCurley. After McCurley and Leach discussed the proposed construction and its impacts to the jurisdictional water, McCurley suggested spanning the water crossing to avoid impacts so that in the end no mitigation was needed. Presley Hatcher of the U.S. Army Corps of Engineers (USACE) found out about the district partnering venture and praised TxDOT for its problem solving skills. Recently Jocelyn Thomlinson of the Lubbock district called ENV because USACE did not accept her mitigation plan and requested help. Once again, ENV asked McCurley to help and he made suggestions based on his experience. He also offered to join Thomlinson in a meeting with the Fort Worth District of the Corps to work out any additional issues.

Does your district have a resource sharing story you'd like to share? If so, please send it by e-mail to ENVision Editor Richard Goldsmith via GroupWise, or rgoldsmi@dot.state.tx.us

Training video earns award

ENV's Jim Dobbins won an "Award of Distinction" for script work on the training video "Taking Care of the Environment – It's Part of the Job" in the 2004 Communicator Awards.

The competition recognizes talented work in the communications field. This year's contest had 3,743 entries with about 13 percent, or 486, earning the highest recognition, the "Crystal Award of Excellence"; and another 18 percent, or 674, winning the "Award of Distinction." An additional 10 percent earned an honorable mention.

The Travel Division produced and edited the video.

***Pavo Real* website showcases camp of prehistoric travelers at present Loop 1604 and I-10 in San Antonio**

By AL MCGRAW

Environmental Affairs Division

During construction of the modern Loop 1604 West and I-10 interchange in northwest San Antonio, archeologists uncovered the remains of a significant prehistoric campsite buried in the right-of-way along Leon Creek.

First identified in the 1970s, the archeological site was later named Pavo Real and contained the remains of one of the earliest human occupations in Texas, dating to about 11,500 B.C. TxDOT conducted full-scale archeological excavations at the location

to save and analyze the unique cultural materials before they were impacted by impending highway construction.

The collection was only partially studied in the intervening years and as a result, TxDOT contracted with the University of Texas at Austin to conduct a detailed study of the finds. Completed in October 2003, the joint UT/TxDOT archeological report is a scientific summary of the lifeways, stone tools and activities of some of the state's oldest inhabitants.

As part of TxDOT's commitment to public and educational awareness,

TxDOT also supported the development of the Pavo Real web page on UT's website, Texas Beyond History. The interactive website presents the significance of some of the state's most important archeological and historical sites and targets a wide range of audiences and interests, including public awareness and education.

The Pavo Real web page is an educational outreach effort intended to illustrate the importance of such finds to the public. The page is at: <http://www.texasbeyondhistory.net/pavoreal/>

2002 recycling of old tires in Texas surpassed supply for the first time

By H.G. QUINN

Environmental Affairs Division

In 2002, Texas reused a million more scrap tires than were discarded, the first year during which the state recycled more tires than were thrown away.

That's just one of the upbeat facts found in the "2004 Progress Report on Using Scrap Tires and Crumb Rubber in Highway Construction Projects," an annual report by TxDOT and the Texas Commission on Environmental Quality (TCEQ).

Scrap tires are a national problem. Texas generates some 24 million waste tires a year out of the estimated 272 million generated nationwide in 2001. At least 310 million may be stockpiled throughout the nation according to the Rubber Manufacturers Association. At the end of calendar year 2002 it was estimated that 69.1 million scrap tires lay on the ground in Texas.

Mountains of discarded tires are an eyesore. They also provide an ideal breeding ground for disease-bearing mosquitoes and pose a fire hazard. The Texas Legislature has mandated that TxDOT recycle used tires whenever possible.

The report contains positive news about the trends in recycling scrap tires:

- A total of 25 million scrap tires were used beneficially, which is a million more than generated in 2002. This the first time that recycled tires outnumbered scrap tires produced in a single year.
- The volume of scrap tires legally placed in landfills decreased 56 percent from 2.3 million to 1 million in 2002, largely due to recycling efforts.
- The volume of stockpiled scrap tires at previously registered storage sites was reduced by approximately 6.3 million.

- TxDOT increased its use of viable tire-rubber products including anti-vegetation mats for use around sign posts and guard rail posts, delineator posts and guard rail spacer blocks.
- Successful projects using crumb rubber or other scrap tire materials in several TxDOT districts, including asphalt-rubber paving and scrap tire bales, have garnered industry attention around the state and beyond.

According to the TxDOT website "In parts of Texas, good quality materials are scarce, and recycled materials can relieve shortages. Recycled materials can save money by reducing purchase and transportation costs. Recycled materials can, in some instances, exceed the performance of traditional materials. Finally, using recycled materials extends landfill life, reduces air and water pollution, and extends natural resources."

Although TCEQ and TxDOT continue to expand the scrap tire recycling program, illegal dumping continues in areas with few end users or disposal facilities and demand for scrap-tire products is not yet high enough to clean up illegal dumpsites. Texas has 150 known illegal dumpsites holding about 4.5 million tires.

There is concern that when funds appropriated for cleanup of existing stockpiles have been exhausted, very limited funding will be available for the cleanup of remaining illegal stockpiles. However, the answer may be in the success of the recycling program. As the demand for recycled materials by end users grows it may become profitable for illegal dumpsites to recycle their tires.

Visit the TxDOT website to learn more about this successful recycling program. (<http://www.dot.state.tx.us/GSD/recycle/roads.htm>).

FHWA says new noise modeling software required for projects begun after Oct. 14

In an April 14, 2004 memo, the Federal Highway Administration (FHWA) announced the release of the latest version of its Traffic Noise Model (TNM), version 2.5.

The FHWA memo says TNM version 2.5 will be required for all new traffic noise analyses for all highway projects that begin on, or after, Oct. 14, 2004. That means that on Oct. 14, previous versions of TNM (v1.0 thru v2.1) may not be used. The only exception is that previous versions of TNM may be used (grandfathered) to complete traffic noise analyses for highway projects

begun before Oct. 14, 2004.

TNM version 2.5 has been distributed at no charge to all registered users of TNM versions 2.0 and 2.1 as well as all registered users of any TNM versions purchased on or after March 1, 2002. All other registered users of TNM can upgrade to version 2.5 for \$495. New TNM users can obtain version 2.5 for \$695. Specific information on how to purchase TNM can be found on the McTrans website (<http://mctrans.ce.ufl.edu>) or by contacting McTrans directly at 1-800-226-1013.

New DAM, GIS analyst join ENV

James Melton is ENV's new Division Administrative Manager (DAM) as of Feb. 1. Melton began his TxDOT career as a senior budget analyst in the Budget and Forecasting Section of the Finance Division. He previously completed a civilian career with the Air Force, serving in several capacities that included contract administration, aircraft production management, and as program manager for large transport aircraft. His experience also includes human resource management. Melton earned a bachelor's degree in management from Texas Lutheran University. He has also completed several Air Force sponsored courses in personnel management, training and instructional systems development, contract administration and contract quality management. Melton and his wife, Marylou, have three children and four grandchildren.

Peggy Isaacs joined ENV Jan. 12 as the new GIS systems Analyst, replacing Sean Ayala, who left in June 2003. Isaacs was with the Transportation Planning and Programming Division where she gained a wealth of GIS knowledge and experience. She also has a

bachelor's degree in computer information systems from the University of Nebraska.

Bill Jordan, ENV's transportation air quality specialist since August 2002, was promoted in January to take over as the new Biological Resources Branch chief. Jordan completed his master's of science in biology in 1993, soon after he joined the Texas Commission on Environmental Quality (TCEQ) as an environmental quality specialist. He spent the next eight and half years at TCEQ working in the field of mobile sources and air quality. He was head of the State Implementation Plan Team that put together the attainment demonstrations for the Houston/Galveston, Dallas/Fort Worth, and Beaumont/Port Arthur areas. He left TCEQ as manager of the Texas Emission Reduction Plan team responsible for implementation of Senate Bill 5. Jordan brings 10 years of state agency environmental experience and six years of progressively responsible management experience to his new position. He lives in Austin with his wife and three children.

Longtime Project Manager **Kyle Ford** left ENV Feb. 6 for an

Ecuador. Ford was with the Project Management Section since December 1998.

Project Manager **Margaret "The Chicken Lady" Canty** left April 14th for a job in the Risk Assessment and Toxicology Section of the Texas Department of Agriculture. Canty was with ENV for two years and supplied coworkers with yard eggs from her free-range chickens.

Ken Bohuslav has announced that he will retire June 30th after about 2 and a half years as director of the Design Division. Before taking over the Design Division, Bohuslav was ENV's deputy division director from 1994 to November 2001. From 1987 to 1993 he was director of Design's Environmental Studies Section, which was combined with a smaller, policy-making ENV to create the current Environmental Affairs Division.

Former ENV archeologist **Michael "Muffin Man" Jordan**, who left in December 2002 for a civilian job with the Army National Guard, is on a hot streak. He is accepted for this fall at the University of Oklahoma on full scholarship for his Ph.D., largely due to his outstanding work on Kiowa art and artists. This summer he is interning at the Smithsonian. Not bad for a guy best known in ENV for setting his breakfast muffin on fire in a microwave, creating an impromptu fire drill that cleared the building.

opportunity to work with his family on a project in the Amazon Basin of

Don't peek unless you have tried the puzzle on Page 11!

Answer to Rebus Ruckus on facing page:
"pet-roll-E-rum" = petroleum

Fun Facts

by Christina Conner, Corpus Christi District

A group of _____ is called a _____:

bacteria = a culture

boars = a sounder

cats = a clowder (clutter)

cattle = a herd (drove)

Cows = a kine (dozen called a flink)

chickens = a brood (peep)

Crocodiles = a float

crows = a murder

coyotes = a band

dove = a dule

frogs = an army (colony)

hogs = a drift (parcel)

horses = a team

jellyfish = a smack

mallards = a sord

moles = a labour

monkeys = a troop

owls = a parliament

quail = a covey

rattlesnakes = a rhumba

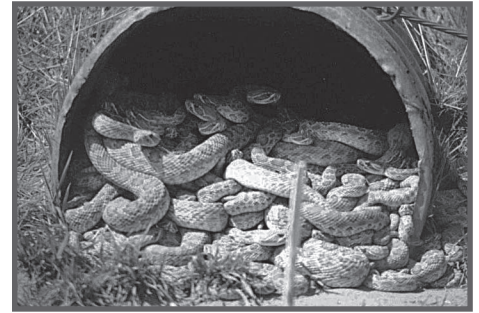
rhinos = a crash (herd)

squirrels = a dray

swans = a bevy (herd, wedge, lamentation)

turkeys = a refter

turtles = a bale

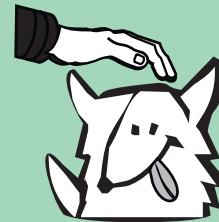


Look out! A 'rhumba' of rattlesnakes.

Rebus Ruckus

By H.G. QUINN

Decipher the environmental term!



E



_____ : a highly polluting ingredient if allowed to get into a waterway.

A "rebus" is a representation of words in the form of pictures or symbols, often presented as a puzzle. Good luck! Answer on bottom of Page 10.



Jamandre's Jumbly Word Jambalaya

by Orlando Villa Jamandre Jr.

Unscramble the four jumbled words (one letter to each circle or square) to form four ordinary words and arrange the circled letters to form the puzzle answer.



The shortest distance between two Section 401 certification reviews?

TRAWE

□○□○○

CLOMPY

□□○□○□

ALWENDT

□○□□○○□

IMPREST

□□□□○○○

Print your answers in the circles below.

○ "○○○○○○○○-○○○○"

Answers on back page.



Environmental Affairs Division
125 East 11th Street
Austin, Texas 78701-2483

Address correction requested



Jumbly Word Jambalaya Answers

**‘The shortest distance between two Section 401 certification reviews?’
 A “STREAM-LINE”**

WATER – COMPLY – WETLAND – PERMITS

The Texas Commission on Environmental Quality (TCEQ) is responsible for conducting Section 401 certification reviews of U.S. Army Corps of Engineers Section 404 permit applications for the discharge of dredged or fill material into U.S. waters, including wetlands. TCEQ is the lead state agency that administers the Section 401 certification program in Texas except with respect to oil and gas exploration, which is the responsibility of the Railroad Commission of Texas. The goal of these certification reviews is to determine whether a proposed discharge will comply with state water quality standards.

TEA-21 mandated Environmental Streamlining as the timely delivery of transportation projects while protecting and enhancing the environment. The objectives of Environmental Streamlining include:

- expedited transportation project delivery
- integrated review and permitting processes that identify key decision points and potential conflicts as early as possible
- full and early participation by all relevant agencies that must review a highway construction project or issue a permit, license, or opinion relating to the project
- coordinated time schedules for agencies to act on project decisions
- dispute resolution procedures to address unresolved project issues
- improved NEPA decision-making

ENVision is a publication of the Environmental Affairs Division, Texas Department of Transportation, 125 East 11th Street, Austin, Texas, 78701-2483.

We welcome ideas for stories and standing features. Submit those to the above address, attention Richard Goldsmith, phone 512.416.2743; via GroupWise to “rgoldsmi” within TxDOT; “rgoldsmi@dot.state.tx.us” for e-mail from outside TxDOT.

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