

OIL SPILLS

What's the Plan?

Some call them low-probability events, yet they happen every day. Approximately 11 million gallons of black crude gushed into the icy Alaskan waters in March 1989 when the supertanker Exxon Valdez ran aground. On June 8, 1990, four crewmen were killed and 3.9 million gallons of light crude poured into the tropical currents of the Gulf of Mexico, 57 miles off Galveston Island, as the Mega Borg exploded. Seven weeks later, 700,000 gallons of medium, partially processed crude belched from two Apex Towing Co. barges into shallow, ecologically sensitive Galveston Bay.

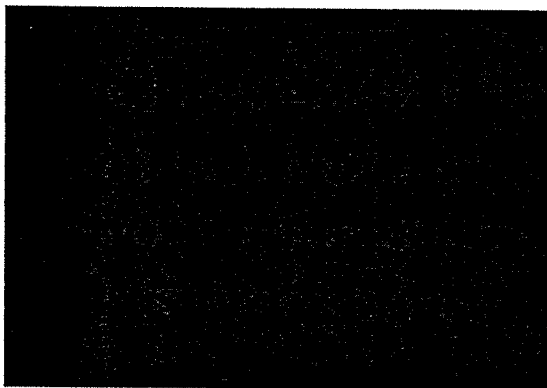
These are the low-probability events, spills brought into homes by newspapers and television.

About six times each year, spills exceeding 100,000 gallons are reported to the Coast Guard's National Response Center hotline in Washington, D. C. However, more than 6,000 marine oil spills of 100, 1,000 or even 10,000 gallons are also reported during that same period.

Galveston Bay and the Houston Ship Channel are not exempt from such statistics. Within the last 18 months, two major spills have dumped a million gallons of oil into Galveston Bay and small spills happen daily.

"We're probably number-one in the nation for petrochemical traffic," said Lee Vela, a spokesman for the Houston Port Authority. In 1989, a total of 126 million tons of cargo docked at the port. Of that total, 33.2 million tons were imported petroleum and liquid petroleum products. Another 4.2 million

tons of petroleum products were shipped from the Houston port. The channel is constantly busy. Of the 4,656 ocean vessels in the port during 1989, 2,215 were tankers. The exact number of barges is unknown but the U. S. Army



Corps of Engineers estimates between 30,000 and 40,000 move around the channel each year.

Since the Houston Ship Channel opened to deep water navigation in 1914, it has danced with the inherent risks of oil transport, the ecological balance of the bay and the economic interests of those whose livelihoods depend on both. The depth of the bay, through which the 400-foot wide, 40-foot deep channel passes, averages about 10 feet. It is surrounded by the world's second largest petrochemical complex as well as some of the richest estuaries, which nurture the tiniest links in the base of our food chain.

Some spills are adequately cleaned up by the spillers. Others must wait for nature's scrub. Then there are spills like the Valdez, the Mega Borg and the Apex barge that require a rapid response from

an organized team to avoid environmental devastation and economic ruin.

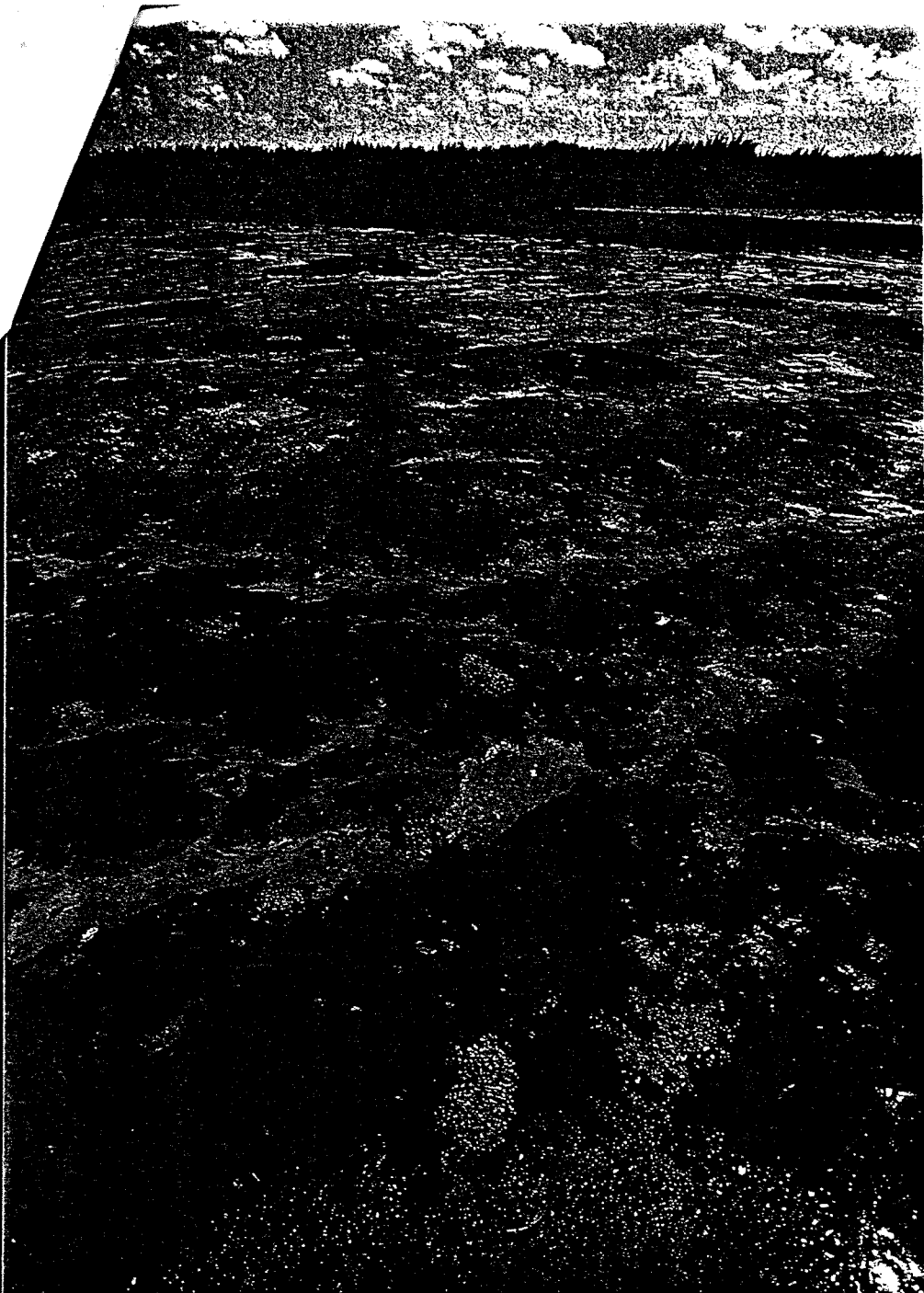
On Saturday afternoon, July 28, 1990, near Red Fish Island, the tanker Shinoussa, carrying 25,000 metric tons of jet fuel, collided with two of three barges traveling in the channel. One of the barges sank and balanced on a channel ledge. Both leaked oil. The vessels radioed the Coast Guard who, in 30 minutes, circled the wreck in a plane and a small, inflatable boat. Although they closed the channel, they were unaware of the extent of the damage, initially estimating the spill at 50,000 gallons.

Statutorily, oil spills must be reported to the Coast Guard and the Texas Water Commission.

According to the Clean Water Act, the spiller is responsible for the cleanup effort, which is overseen by the Coast Guard's federal on-site coordinator, who in this case was Capt. Tom Greene. However, Texas also has a state on-site coordinator, Texas Water Commission Chairman B. J. "Buck" Wynne III, who takes charge of oil spill control in the bay when private and federal initiatives have been deemed inadequate.

Sixteen hours after the accident, containment booms surrounded the scene and most of the bay was closed to oystering. On Monday morning, skimmers, vacuum hoses, pumps and trucks got involved in the cleanup. By afternoon, the Coast Guard realized it had seriously underestimated the amount of oil and reclassified the spill as major.

On Tuesday a thick mousse, which is sticky, orangish, emulsified oil, began



Sticky, orangish, emulsified oil known as mousse invaded Galveston Bay's marshes and estuaries following a July 28 accident that dumped 700,000 gallons of partially processed crude oil into the shallow, ecologically sensitive waters of Galveston Bay.

washing ashore and two dead oiled birds were found. Salvage crews pumped the sunken barge's tanks dry, stopping the flow of oil. At 4 p.m., one-way traffic resumed in the channel. However, the oil had spread 17 miles through Galveston and West Bays.

It was also on Tuesday that Wynne and Texas Land Commissioner Garry Mauro submitted a proposal to the Coast Guard and the Regional Response Team (RRT) concerning the use of bioremediation, an experimental method of spraying microbes onto the oily water

to speed up the natural biodegradation process. The RRT consists of one state and several federal representatives who offer guidance and technical advice to the federal on-site coordinator.

On Wednesday, August 1, Governor Bill Clements signed a disaster declaration that gave him control of the state's cleanup effort and suspended regular state agency rules to allow for a more rapid cleanup response. However, it did not provide financial assistance to businesses or homeowners damaged by the spill. Also, the State Health De-

Article by Christina Leimer,
Photos by Stephan Myers

partment closed the bay to the taking of any aquatic life and the RRT approved the use of bioremediation.

On Thursday, August 2, Clements flew over the bay and determined that too little oil existed to justify the use of bioremediation. After some shuffling by Wynne and Mauro—both members of the Governor's Oil Spill Advisory Committee formed after the Valdez spill to look at oil spill response-related issues and make recommendations—a 400-yard stretch of Pelican Island was sprayed with the oil-eating microbes. Having spent at least \$500,000 on the cleanup, Apex turned the project over to the Coast Guard through a process known as federalization. This gives both the control and the cost of the cleanup to the Coast Guard. However, expenses are eventually expected to be recovered from the responsible parties.

On Saturday, most of the bay was reopened to fishing and two shallow-water skimmers brought in from California were deployed. Texas Parks and Wildlife (TP&W) officers, in air boats capable of maneuvering in the marshes, transported personnel to and from impact sites, and put absorbent pads across northern Trinity Bay.

Audubon Society volunteers monitored the area for distressed wildlife. The spill resulted in dead fish around Red Fish Island and some dead crabs, snails, worms, mussels and small marine animals along shores. However, obvious and visible damage to wildlife was minimal. Thanks in part to the migration patterns at this time of year, fewer than a dozen birds were taken to the Texas Wildlife Rehabilitation Coalition's (TWRC) cleanup stations.

On Sunday, microbes were sprayed at Houston Point. On Friday, August 10, the last portion of the barge was towed away and normal ship traffic resumed. Ironically, shrimping was still banned in the bay at the 23rd Annual Blessing of the Shrimp Fleet in Seabrook.

Within two weeks, having recovered approximately 325,000 gallons of oil, the Coast Guard declared the spill adequately cleaned up. Cost of the cleanup reached \$3 million, plus the money Apex spent prior to federalization. Officials estimate the spill cost the shipping, tourism and fishing industries at least \$4.2 million a day. And, according to Steve Spencer, a TP&W biologist in

Seabrook, the damage assessment and settlement may take years.

The pungent, oily smell has left the air and most bay area residents are satisfied with the outcome. However, they do find fault, but not with the oil companies. Instead, they blame the news media, nature and the bureaucracy, primarily the bureaucracy.

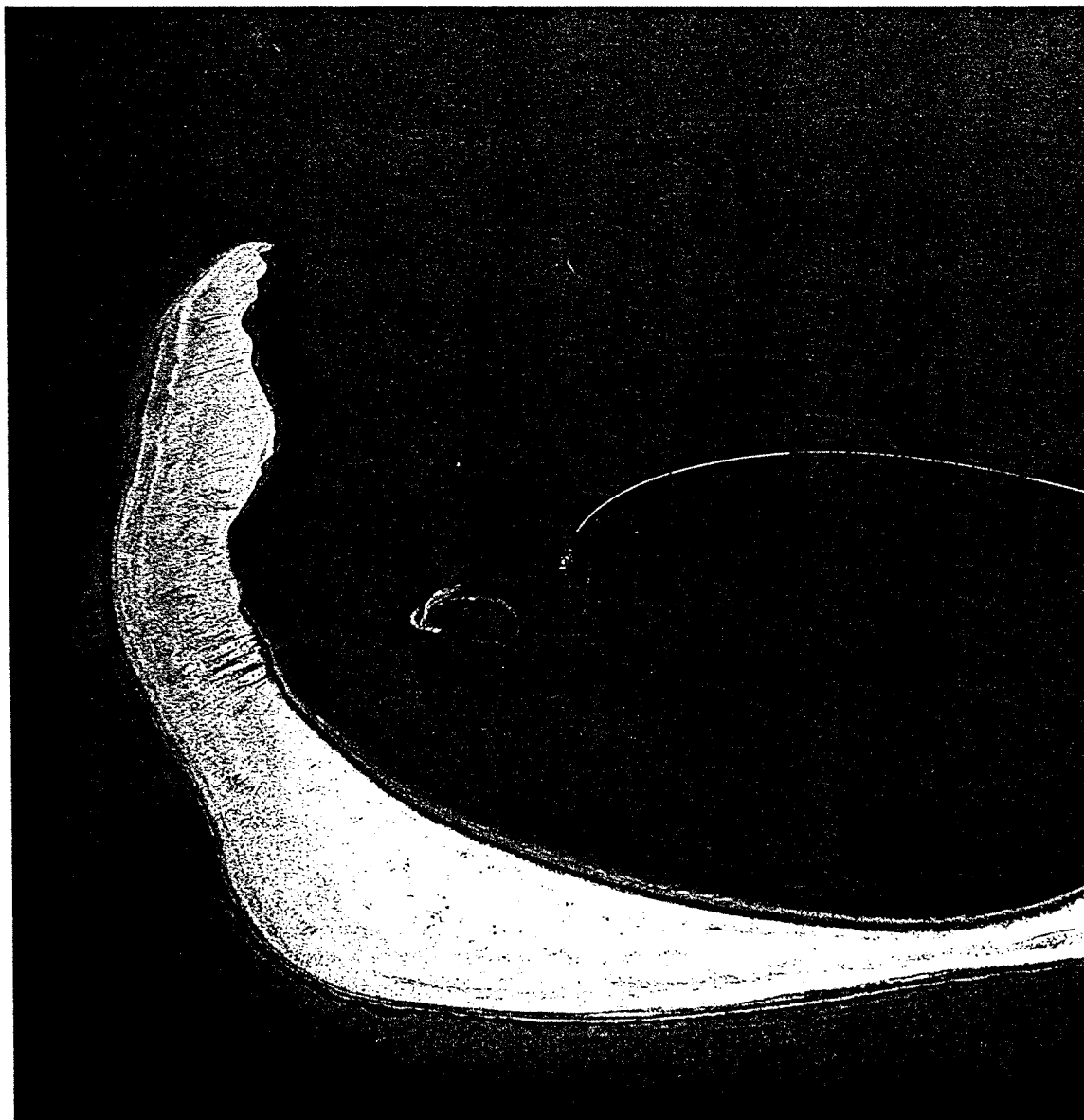
News media, many businessmen claim, cost them money by making the spill appear worse than it was. Others minimize the spill's damage by comparing it to the recent hardships caused by hurricanes, freezes and floods. However, they all see spills as inevitable and point to the same mistakes made during the Valdez spill: slow initial response

time, disorganized bureaucracy and a lack of coordination of people and equipment.

"It looked like a Keystone Cops movie at Eagle Point during the cleanup," said Jim Holley, owner of Bacliff's Spillway Fishing Pier. Holley claims his business dropped 40 percent following the spill and the ensuing publicity. "Nature takes care of the little spills, but for the big stuff, we need immediate response. It's crazy that we don't have a warehouse at Morgan's Point to respond to spills. My government, which I pay thousands of dollars to in taxes, is not doing the job."

Experts agree that the initial spill response containment must be within

Containment booms were deployed at Redfish Island (right). The comma-shaped oyster shell island helped trap some of the oil, but a sheen spread across miles of the bay.



four to six hours. "We had a small, light sheen and mayhem," said Kelly Valentino whose family are shrimpers and owners of the Eagle Point Fishing Camp. "There were cleanup crews here six hours after the spill but they couldn't get authorization to go out until two days later. They didn't know how to get activated because they didn't know who would pay for it. Later we had the Coast Guard (attempting to set up a command station) and five satellite dishes. Then, in the middle of the night, the Coast Guard pulled out and went to Houston Point."

One local contractor put out containment booms on Sunday. Another was told by Jim O'Brien of O'Brien Oil



Employees of the Parks and Wildlife Department's Resource Protection Division examine damage to the estuary.

Pollution Services, Inc., a Gretna, Louisiana company hired by Apex to lead the cleanup effort, to bring equipment Sunday afternoon and stand by. Em-Tech, the Houston company contracted to spray the microbes, was put on standby from July 30 to August 3 by the State Water Commission.

Although the U. S. Fish and Wildlife Service contacted the TWRC to set up bird-cleaning stations, neither they nor TP&W officials were formally notified of the spill. They received information through the news media.

"The biggest problem is a lack of coordination. It would help if we received direct notification by the Coast Guard when things happen," said Steve Spencer. "And too many people are involved. When 30 people are in a room talking about bioremediation, each with his own and his agency's agendas, it takes hours and hours to make decisions."

Although each spill is different, and winds, tides and the chemical make-up of the oil are some of the variables influencing the cleanup process and the extent of damage, Spencer believes response plans should predetermine what methods can be used when, where and

under what conditions.

Currently, state agencies handle spills according to the State of Texas Oil and Hazardous Substances Spill Contingency Plan, which lays out jurisdictions and responsibilities, legal codes and names of state and federal agencies and how to contact them. But it does not include site-specific information regarding the location of people and equipment.

"It's painfully clear that the entire bureaucratic decision-making process is flawed, that the response is confused, contradictory and unconscionably slow," said Mauro, who supports the idea of a state-owned spill response center run by a single agency. "We've simply got to unravel the bureaucratic snarls that endanger our state's economy."

"It takes time to get things organized. These things (skimmers) aren't sitting in a firehouse waiting to be ridden out," said Greene. Citizens want to know why not.

Local private contractors say it's too costly to purchase such equipment. However, the petrochemical industry may fulfill the need. The Clean Channel Co-op is a group of industry executives who would set up a team with immediate response capability in the ship channel and the bay, similar to the Channel Industries Mutual Aid program which responds to fires and explosions on land. However, the question of liability has, so far, prevented them from organizing.

"Statutory immunity is needed before the co-op can get going," said Steve Valerius, vice president of Hollywood Marine in Houston. "Our concern is the liability incurred by one company responding to another's spill. The pending Texas State Oil Spill Liability Act will determine if the co-op is viable."

"Industry should take the initiative in oil spills," said Linda Shead, executive director of the Galveston Bay Foundation, a nonprofit organization dedicated to the preservation and enhancement of Galveston Bay. "Because industry can act faster than the government and they have the equipment and the know-how, they can take that first containment step quickly."

As in the aftermath of any big spill, proposals and plans are everywhere. Without some kind of coordination,

available resources could be wasted and underutilized and an even greater organizational catastrophe could be created. "We want to get the responsible entities together to develop a site-specific plan for Galveston Bay," said Shead. "There are a lot of plans out there now and we want to promote their coordination to be sure it's as thorough as it needs to be."

Another group carving its niche is the Houston Audubon Society. It is proposing a support response plan and voicing its concerns and suggestions to Mauro. Having received more than 1,000 calls from volunteers in two days following the spill, the society has created a reserve list of people who can help clean up beaches and put booms and absorbent pads into inlets.

"Government agencies are not funded properly, not equipped properly nor have they rehearsed for a spill," said Gary Clark, society president. "The Forest Service has an action plan for fires and there's an action plan for

hurricanes but there's no disaster response for oil spills. They're ad hoc, piece it together when it happens. When crime takes over your neighborhood, you form a neighborhood watch. That's what Audubon is doing with oil in the bay."

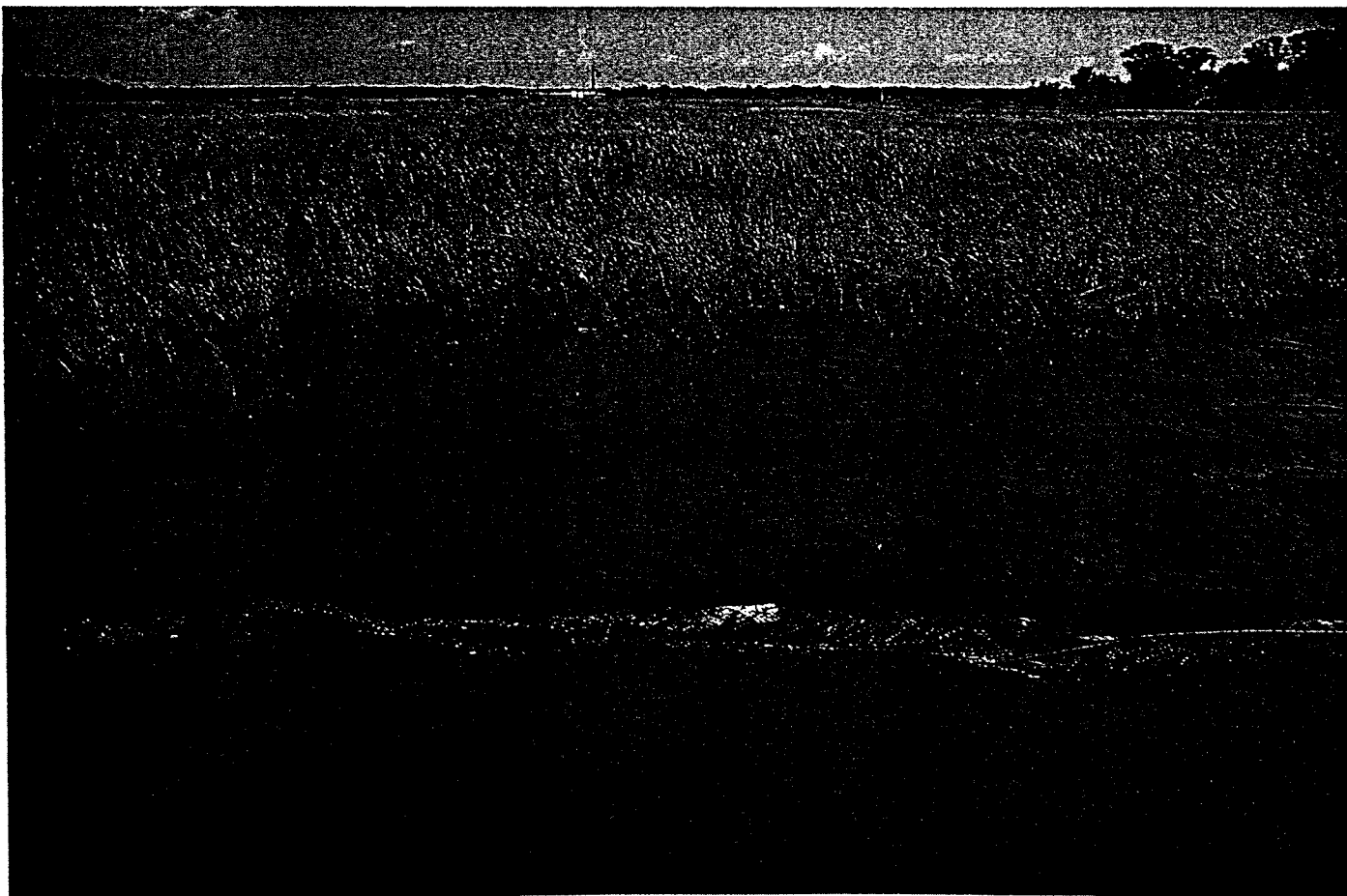
Another controversy that springs to life in a spill is the proposed deepening and widening of the ship channel. Coast Guard marine investigation statistics show 592 vessel accidents in the channel from 1981 to June 1989. Many of these were harmless groundings. However, the Port Authority relies on these and previously cited statistics to support the project, claiming it is a preventive measure that will increase safety in the channel. Residents, however, generally see such statistics increasing as more and bigger ships use the channel. They are also concerned about stirring up pollution that might kill the bay.

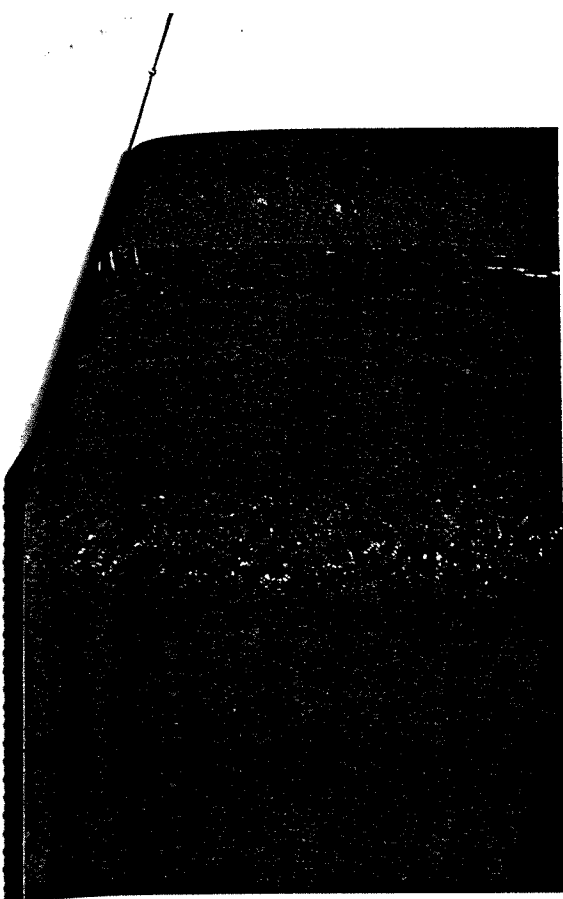
"Oil is not the only thing we're dealing with out there," said Spencer. "There's a lot of other things that can be

spilled that can cause more damage: gasoline, jet fuel and refined products. Recently, only 12 gallons of a toxic substance entered the bay and 5,000 fish were killed. Six hundred pounds of another substance killed 300,000 fish. A lot of these spills can't be cleaned up. If it's soluble in water, we can only hope it dilutes. Other compounds are heavier than water so they sink to the bottom and are difficult to deal with. Oil tends to be very visible, very graphic, so there's more concern."

"There are a lot of incidental spills into the bay from petrochemical companies and a lot of toxins resting inactively on the bottom," said a Clear Lake resident who is also an oil company employee. "I'd like to see an economic advantage for the port but I'd also like to be able to catch a trout. The bay might come back but I don't know."

The dredging project is awaiting the results of environmental studies and pending legislation before proceeding. At the present pace of progress, solu-





By the time a boom was deployed to protect the estuary at left, wind had pushed the oily mousse toward the shore, trapping the oil between the boom and the marsh. Residents of a bayside community adjacent to Houston Point watched helplessly as wave after wave of gooey mousse washed ashore (above).

tions to chemical spills may be far into the future. Little, if any, research is being conducted on the cumulative or long-term effects of spills.

One multi-faceted piece of legislation prompted by the Valdez spill was signed into law August 21. The Oil Spill Pollution Act of 1990 increases the liability of shippers, creates a billion dollar oil spill response and cleanup fund, requires new tankers to be built with double hulls and existing tankers to be retrofitted, tightens requirements for licensing of tanker operators and funds research on oil pollution control.

The Marine Spill Response Corp., often mistaken for part of the government's plan, is an independent, nonprofit organization developed by the American Petroleum Institute. Formerly known as PIRO, this organization draws fire from bay area residents for locating its main Gulf Coast response

center in Louisiana rather than Galveston. Instead, although not expected to be fully operational for 30 months, Galveston will receive a prestaging center that will employ 10 people, be manned on a 24-hour basis and store equipment, including an offshore cleanup vessel.

"PIRO is not the answer to Galveston Bay's spill response," said Linda Shead. "Its equipment is designed for deep water, open ocean, not for bays and marshes. The best thing it might offer is research and better trained personnel."

It is also uncertain whether the federal government's proposed response centers will benefit Galveston Bay, for the same reason. The fund set up under the Oil Spill Pollution Act allows the Coast Guard to establish 10 individual response sites with the amount of oil being handled at each port as a major criterion for site selection. The Coast Guard will also be given more latitude in deciding whether to purchase equipment or contract with the private sector, and more authority to federalize a project and thereby require specific actions from private companies.



Biologists from the Texas Water Commission collected surface water and mud samples from an area that was treated by bioremediation, an experimental method of spraying oil-eating microbes onto oily water.

"On January 1, 1990, we began a five-cent-per-barrel tax on all oil transported in U. S. waters," said Harry Burroughs, Counsel on the House Merchant Marine and Fisheries Committee in Congressman Jack Field's Washington office. "It has already raised \$60 million and eventually will be a \$1 billion fund for cleanups and aid to those businesses, individuals and communities affected by oil spills."

The Coast Guard has not yet determined the location of its sites nor is there a time frame estimated for implementation of this part of the plan.

This same bill also allocates \$30 million for various research projects focusing on oil spill cleanup techniques. Texas A&M at Galveston will receive part of that funding.

Widening the channel, funding research, strengthening licensing requirements and modifying tankers may be worthy preventive measures, but when the majority of accidents involve human error, transporting such toxic products always remains risky. Gary Clark believes prevention requires drastic social change.

"We can't blame oil companies for responding to a market demand for cheap oil. We depend on oil so much that we've created a monster," said Clark. "We're going to have problems until we stop our addiction to oil and fund our Coast Guard properly. It's the same kind of sociological problem as crime. Galveston Bay is incredibly important and fragile and one major spill could wipe it out. We need to start conserving oil, overcome our addiction, and develop alternative energy sources and an action plan for spills."

Others pose a very direct, immediate question. "How much more pollution can this bay stand and how many more spills will we have to live through?" Ask almost anyone what the plan is today and it becomes obvious that we are still crossing our fingers and carrying a rabbit's foot in our pocket. ★

Christina Leimer is a freelance writer living in Houston. She has previously written for Texas Parks & Wildlife, Texas Highways, Art of the West, The Woman's Newspaper and a variety of other publications.