

Your Role in Reducing Nonpoint Source Pollution

In the past, waste management choices were limited to comparing the costs of disposal or treatment, without regard to long-term costs or environmental effects. The traditional order of waste management methods selected was:

1. *Disposal*—dispose of it properly
2. *Treatment*—treat it to make it less hazardous or to reduce its volume
3. *Energy Recovery*—use it as fuel
4. *Recycling and Reuse*—recycle or reuse it
5. *Source Reduction*—avoid producing it in the first place

Disposal and treatment may have been the most convenient and cheapest methods in the past, but improved technologies are making the three methods of waste minimization—energy recovery, recycling and reuse, and source reduction—more efficient. Emphasizing these methods reverses the historical approach and gives us a new order of waste management:

1. *Source Reduction*
2. *Recycling and Reuse*
3. *Energy Recovery*
4. *Treatment*
5. *Disposal*

This modern approach to managing wastes is similar to the approach used by business in controlling costs: eliminate costs where possible, and minimize all other costs.

Why is Pollution Prevention Important for Small Businesses?

There are at least four reasons why pollution prevention is important for small businesses:

1. *Economic*—it pays to reduce waste.
2. *Regulatory*—it may be required by law.
3. *Liability*—it's your responsibility.
4. *Public Concern*—it's the right thing to do.

It Pays to Reduce Waste

The biggest incentive for small businesses to reduce waste is economic. Pollution costs. Preventing pollution pays.

The cost of managing waste is increasing 10 percent per year. Waste disposal is becoming more expensive as older landfills close. The remaining landfills face more stringent restrictions on the kinds of materials they can accept. Some wastes that once could be sent to landfills now must be incinerated. It can cost between \$300 and \$2,000 to incinerate a drum of hazardous waste today, depending upon the characteristics of the waste.

Disposal costs reflect only part of the cost of waste. Generating and managing waste involves potential liability. There are costs associated with that liability. Waste regulations change. Often there are costs involved in complying with new regulations—costs of modifying facilities, managing new activities, or even just keeping new records.

In spite of these rising costs, you can take steps to control your waste management expenses. Reduce the amount of waste you produce. Find out whether it is possible to reuse or recycle wastes you can't avoid producing. Chapter 3, "Recycling and Recycling Businesses," gives you more information about finding ways to reuse rather than dispose of difficult wastes. By following these steps, you can make waste reduction pay off in your business's bottom line.

It May Be Required by Law

Since the 1980s, both Congress and the Texas Legislature have enacted laws that call for waste minimization. Congress specifically mandated waste minimization in the 1984 Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act (RCRA). In the Texas Waste Reduction Policy Act, the Legislature has required any person or business that generates more than 2,200 pounds of hazardous waste in any year to plan for pollution prevention. For more information on these state requirements, get a copy of *Does the Waste Reduction Policy Act Apply to You?*, TNRCC publication RG-209.¹

Other new federal and state laws and regulations have placed restrictions on the kind of waste

¹There are four ways you can request a free copy of this or any other TNRCC publication mentioned in this manual:

- Access the TNRCC Web site (www.tnrcc.state.tx.us).
- Fax your request to 512/239-4488.
- Telephone 512/239-0028.
- Mail your request to Publications Unit MC-195, TNRCC, PO Box 13087, Austin TX 78711.

that can be put into landfills and other land-based disposal facilities. Because of these regulations, your business may have to find other ways to deal with some or all of its waste. Of course, the most effective way to avoid the impact of these rules is to avoid generating waste when possible.

It's Your Responsibility

Every business is responsible for the proper management of its waste. Even if you have a reputable contractor treat, store, or dispose of your waste, that does not release you from liability for its improper management. If waste from the treatment, storage, or disposal facility contaminates the local soil or groundwater, who is liable? Of course, the owner of that facility is first in line. If the owner cannot or will not pay the cost of cleaning up the contamination or restoring the site, you and the other waste generators could be held liable under common law for the harm caused—absolutely, strictly, jointly, and severally liable. In other words, the waste is still yours. A single waste generator thus could be held financially responsible for the entire cleanup or restoration. Even when the facility owner is reputable, your risk is not reduced to zero. But reducing the amount of waste your business generates can reduce your potential for long-term liability.

It's the Right Thing to Do

The public today is more informed about environmental issues. They are aware of the potential effects that hazardous waste and the release of pollutants can have on human health and the environment. Therefore, companies that are environmentally aware and work towards waste reduction can improve their working relationship with the public—their neighbors and their customers.

The Galveston Bay Region: One Example of a Watershed

As Figure 1-1 shows, the body of water many people refer to as “Galveston Bay” is actually a large bay system. This system includes four larger bays—Galveston Bay, Trinity Bay, East Bay, and West Bay—and a number of smaller bays—Clear Lake, Dickinson Bay, Chocolate Bay, Bastrop Bay, Christmas Bay, Dollar Bay, Jones Bay, Tabbs Bay, San Jacinto Bay, Moses Lake, and Drum Bay.

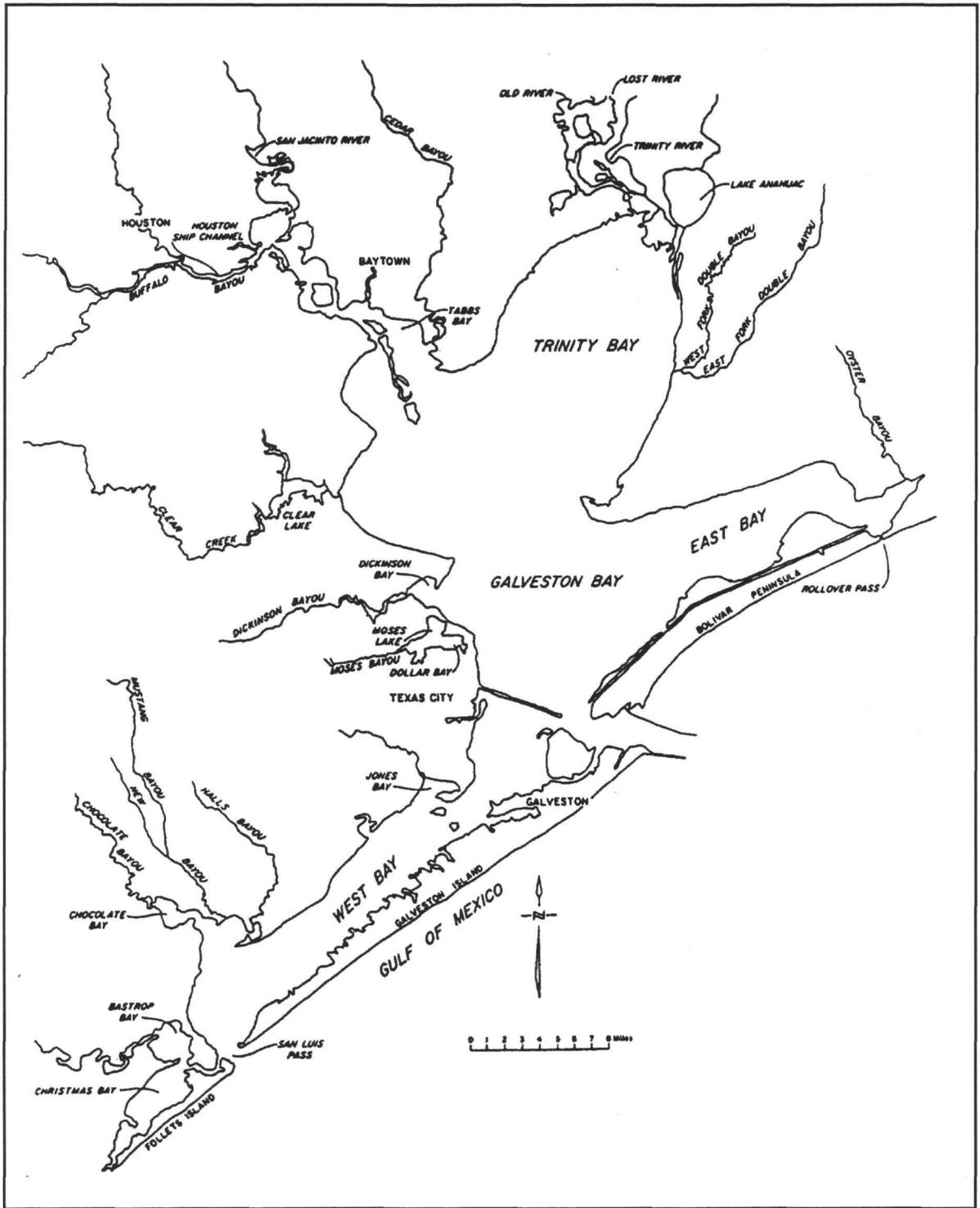


Figure 1-1 Map of Galveston Bay.



Figure 1-2 Map of Galveston Bay Region.

Many rivers and other major tributaries discharge into this bay system. Among them are the Trinity River, San Jacinto River, Bastrop Bayou, Chocolate Bayou, Halls Bayou, Dickinson Bayou, Clear Creek, Buffalo Bayou, Cedar Bayou, and Double Bayou. Scores of smaller creeks and streams feed into these major tributaries of the bay system.

The shaded area in Figure 1-2 represents land drained by these creeks and streams. This land area is one example of a watershed: runoff from anywhere within it will end up in the Galveston Bay system. We call this watershed and the five counties that encompass most of it—Brazoria, Harris, Liberty, Chambers, and Galveston—the Galveston Bay region. If your business is in this region, you can help protect Galveston Bay by following the steps in this manual.

Why Is Galveston Bay Valuable?

Many Texans immediately recognize the economic value that Galveston Bay provides by supporting commercial fishing, recreation, and tourism. One-third of the state's commercial fishing income—some \$200 million a year—is tied to Galveston Bay. Over half of the money spent on recreational fishing in Texas—\$500 million a year—is related to Galveston Bay.

Other Texans would point to the value the bay system provides in terms of shipping and the industrial use of its water. For example, the port of Houston is the second largest in the United States and the eight largest in the world in terms of tonnage. With its \$5.5 billion in annual revenues, the port of Houston is just one of three seaports that call the bay home. Texas City and Galveston also have bustling ports. Countless industries rely on these ports for commerce and on the bay for water used in industrial processes.

Galveston Bay is valuable to the region in still another way—it can absorb the wastewater discharges of many local cities, towns, other localities, and industries. The combined watershed (see “Other Watersheds That Affect Galveston Bay” on page 9) that discharges into Galveston Bay receives about 60 percent of this state's wastewater discharges. The value of absorbing these discharges is difficult to estimate, but it is even more difficult to imagine how we would live without it.

Galveston Bay is also valuable as a major estuary. An estuary is a coastal area where fresh water from rivers and streams mixes with salt water from the ocean. Sabine Lake and Corpus Christi Bay are two of the many other estuaries along the Texas coast. An estuary includes portions of the rivers and streams connected to its main body.

Estuaries are significant to both marine life and people. Because estuaries provide safe spawning grounds and nurseries, they are critical for the survival of fish, birds, and other wildlife. Marshes

and other vegetation in the estuaries protect marine life and water quality by filtering sediment and pollution. They also provide barriers against damaging storm waves and floods.

Other Watersheds That Affect Galveston Bay

If you look carefully at Figure 1-2, you may notice that two major reservoirs—Lake Livingston on the Trinity River; Lake Houston on the San Jacinto River—form part of the northern boundary of the Galveston Bay region. Each of these reservoirs has its own watershed. For example, Dallas, Fort Worth, and many other communities are in an area that drains into Lake Livingston through the upper Trinity River.

Like other reservoirs, Lake Livingston can remove some, but not all, nonpoint source pollution from the water that drains into it. So, if your business is in or near Dallas–Fort Worth, you can help protect the Trinity River, Lake Livingston, and, to some extent, Galveston Bay by reducing your contribution to nonpoint source pollution.

Find your community on a map of Texas. If it is in the watershed of any stream that drains into the Trinity River, the San Jacinto River, or any other tributary of Galveston Bay, you are in a watershed that drains into Galveston Bay. Over half of the people in Texas live in the many smaller watersheds that together form the combined Galveston Bay watershed. If you are one of those Texans, you can make a difference for Galveston Bay, too.

For All of Texas

Each of us lives and works in a watershed. Each of us can protect a valuable resource by preventing pollution. This manual presents many steps—“best management practices,” or BMPs—that small businesses can take to reduce nonpoint source pollution. Many of these practices are so simple that almost anyone can use them. For example, every driver can reduce nonpoint source pollution by making sure that his or her car doesn’t leak motor oil, antifreeze, or other automotive fluids. Any citizen who improperly disposes of used motor oil can make an even bigger contribution by recycling that used oil instead.

Look through this manual for best management practices that are related to the activities of your business. Make these practices standard operating procedures for your employees.