
Chapter Seven

LANDFILL SITING AND INSPECTION

Summary of Findings

1. *The Texas Department of Health (TDH) encourages local governments to take advantage of their authority under the Texas Health and Safety Code, and Brazoria County is now moving to take the lead in local solid waste planning and management.*
2. *While TDH staff are not overburdened by their current permitting workload, they are concerned that various factors will begin to put a strain on their resources.*
3. *Agency managers say that planning and policy development is the key to effective solid waste management in Texas, so these functions must be nurtured and protected.*
4. *Administrative penalties have been very helpful to solid waste enforcement efforts.*
5. *TDH staff report effective inter-agency coordination at the Region level.*
6. *TDH staff are confident that their enforcement efforts for permitted sites are effective, but they are less certain about their coverage of unauthorized disposal sites.*
7. *The anticipated cost impacts of EPA's proposed RCRA Subtitle D rules are expected to force the closure of many small landfills, but TDH staff emphasize the management benefits of increased regionalization.*
8. *TDH staff are not familiar with the Texas Coastal Preserve program, so they are not sure how TDH might play a role or what the implications might be in terms of TDH policy and permitting in those areas.*

Agency staff say that, in general, existing laws governing solid waste management and landfill siting are sufficient and that the necessary rules and policies are in place to allow effective implementation. The more stringent requirements for landfills proposed by the

U.S. Environmental Protection Agency under Subtitle D of the Resource Conservation and Recovery Act would bolster this management authority.

Staff point out that the state of Texas has gone far beyond minimum federal requirements in numerous aspects of its solid waste management program. What is needed most, they say, is a better understanding among legislators of the level of resources needed to implement each new mandate. Some even offer the idea of requiring all such legislation to specify staffing impacts. Staff also see a need for more extensive public education about the role and regulatory capabilities of state government in solid waste management, especially to increase public support for agency programs.

While field staff say they are satisfied with the "considerable" input they have into agency policies, they are concerned that their commitment to more aggressive enforcement may not be shared by headquarters staff. But Austin program managers were enthusiastic about enforcement, pointing to a recent tripling of field staff and emphasizing that correction of violations is the best form of job satisfaction. But occasional gaps in enforcement, as well as the typical delays of the court system, appear to be the greatest source of frustration for agency staff. They sense a fading of public trust in state agencies, and they believe that speedier enforcement action by the state would renew some of this public support.

Action Recommendations

Action: *Christmas Bay's coastal preserve status should be a key consideration in solid waste facility siting and permitting in the Christmas Bay watershed and adjacent areas of Brazoria County.*

Involved Agencies:

- Texas Department of Health
- Brazoria County
- Texas Parks and Wildlife Department

Rationale: The coastal preserve management plan should address the possibility that additional solid waste facilities could be sited in the Christmas Bay watershed. The plan should indicate environmental factors that should be weighed in such siting decisions, as well as conditions that might be included in an issued permit to minimize impacts to the preserve area. The involved agencies should determine whether formal notification and review and comment procedures are needed to insure that the Texas Parks and Wildlife Department has an opportunity to communicate coastal preserve management concerns.

Action: *The involved agencies should maximize coordination of local solid waste management efforts.*

- Involved Agencies:
- Texas Department of Health
 - Brazoria County
 - Houston-Galveston Area Council
 - Texas Parks and Wildlife Department

Rationale: Brazoria County's initiation of a local planning process for solid waste management marks a third "level" of planning in the area. The Texas Department of Health continues to refine statewide management policies, and the Houston-Galveston Area Council is in the early stages of a regional planning effort. These simultaneous projects should be coordinated at every phase to avoid duplication of efforts and insure consistent results. Such coordination will be increasingly important given the apparent trend toward "regionalization" of solid waste management in Texas. The involved agencies also should monitor the progress of the Galveston Bay National Estuary Program to determine whether solid waste facility siting will be among the factors addressed by future Bay-wide management planning. The Texas Parks and Wildlife Department should be involved in terms of notifying all of the solid waste planning and management agencies of coastal preserve priorities and concerns.

**Christmas Bay Management Framework:
LANDFILL SITING AND INSPECTION**

AGENCY	AUTHORITY	POLICY	STRATEGY	ACTORS
TDH	1. Texas Health & Safety Code, Chapter 361 (Texas Solid Waste Disposal Act)	1. Texas Health & Safety Code: - statement of public policy 2. State Board of Health: - statement of agency policy in Texas Administrative Code - Board of Health rules - Texas Municipal Solid Waste Regulations 3. Texas Commissioner of Health	1. Rules for permitting and regulation of municipal solid waste disposal facilities: - Texas Municipal Solid Waste Regulations 2. Texas Solid Waste Management Plan 3. Guidance and funding of regional and local management planning 4. Technical assistance 5. Public education 6. Routine compliance inspections at permitted disposal sites and closure of illegal disposal sites 7. Environmental monitoring and surveillance of sites	1. TDH Bureau of Solid Waste Management: - Permits and Registrations Division - Surveillance and Enforcement Division - Plans and Programs Division 2. Region 4 Office (Houston)

**Christmas Bay Management Framework:
LANDFILL SITING AND INSPECTION**

AGENCY	AUTHORITY	POLICY	STRATEGY	ACTORS
TDH (continued from page 144)			<p>8. Coordination of activities through the Interagency Coordination Council (TDH/TWC/TACB/RRC) and with local public health agencies</p> <p>9. Enforcement actions:</p> <ul style="list-style-type: none"> - advisory and enforcement letters - enforcement conferences - compliance schedules - administrative penalties - civil suits through the Texas Attorney General's Office <p>10. Emergency closure orders and suspension of operations by the State Board of Health</p> <p>11. Participation in the Texas Groundwater Protection Committee</p> <p>12. Review and recommendations of state policy by the Municipal Solid Waste Management and Resource Recovery Advisory Council</p>	

**Management Concern:
LANDFILL SITING AND INSPECTION**

Background

The Texas Legislature effectively outlined the nature of the solid waste management problem in Texas with its statement of findings in the Comprehensive Municipal Solid Waste Management, Resource Recovery, and Conservation Act (Texas Health and Safety Code, Chapter 363). Among the points noted by the Legislature were:

- the growth of the state's economy and population has resulted in an increase in discarded materials
- the improper management of solid waste creates hazards to the public health, can cause air and water pollution, creates public nuisances, and causes a blight on the landscape
- there is increasing public opposition to the location of solid waste land disposal facilities
- because some communities lack sufficient financial resources, municipal solid waste land disposal sites in the state are being improperly operated and maintained, causing potential health problems to nearby residents, attracting vectors, and creating conditions that destroy the beauty and quality of our environment
- often, operational deficiencies occur at rural solid waste land disposal sites operated by local governments that do not have the funds, personnel, equipment, and technical expertise to properly operate a disposal system
- many smaller communities and rural residents have no organized solid waste collection and disposal system, resulting in dumping of garbage and trash along the roadside, in roadside parks, and at illegal dump sites
- the control of solid waste collection and disposal should continue to be the responsibility of local governments and public agencies, but the problems of solid waste management have become a matter of state concern and require state financial assistance to plan and implement solid waste management practices that encourage the safe disposal of solid waste and the recovery of material and energy resources from solid waste

One reference describes solid waste as "the non-hazardous materials discarded by society." The sheer volume of this waste in an affluent society is testing the effectiveness of public and private solid waste managers. One Texas solid waste official emphasized the difficulty of providing solid waste management services over dispersed population areas, as is common across the state.

Landfilling remains the number one method of solid waste disposal in Texas, accounting for approximately 90% of all waste handled. By some estimates, roughly half of the landfills in Texas will close during the 1990s, putting a premium on remaining space and strengthening the trend toward regionalization of solid waste management that is already spurred on by government policy. The challenge for the involved agencies is that the concerns relating to landfills range from financial and legal to environmental and aesthetic.

The U.S. Environmental Protection Agency has been engaged in an ongoing process of regulatory refinement following the 1984 Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act (RCRA). EPA has proposed comprehensive measures for improved solid waste management, including a nationwide emphasis on reducing the actual volume to be managed through effective waste reduction, recycling and reuse. The regulations have numerous implications for landfill siting and inspection, especially with regard to protection of nearby ground and surface water resources. Important elements of the proposed regulations include:

- landfill siting standards
- administrative and record-keeping requirements
- the extent and frequency of groundwater monitoring at solid waste sites, and
- a much longer period of post-closure management and monitoring than currently practiced in many states

These post-closure requirements, and the expected financial impact of the regulations on landfill operation and closures, remain key points of contention that are delaying final adoption of the EPA rules.

Texas has followed EPA's lead in solid waste regulation and also has gone well beyond federal requirements through the Texas Solid Waste Disposal Act and other applicable laws and regulations.

Nature of the Problem at Christmas Bay

The concerns about landfilling noted above take on added urgency in the Christmas Bay watershed due to the presence of existing solid waste disposal sites in this environmentally sensitive area of Brazoria County. Of the three documented sites in the watershed, only one is permitted by TDH and it has a history of compliance problems.

This site is located in the southern portion of the watershed east of Richwood. The other two sites, one to the north near Danbury and the other in the center of the watershed near Bastrop Bayou, were not authorized by the state. Given this situation, the effectiveness of state and local monitoring and management in the watershed is of utmost importance. In addition, there is always the potential for new sites as Brazoria's communities continue to develop and as the entire Houston metropolitan area adds more population and industry. Brazoria's supply of undeveloped land, its proximity to a major urban center, and its excellent road network will continue to make it an attractive option for the siting of waste disposal activities.

Key Management Agencies

Texas Department of Health (TDH)

The Texas Department of Health is responsible for comprehensive regulation of municipal solid waste management activities in the state. Specifically, TDH has jurisdiction over non-hazardous municipal solid waste, while the Texas Water Commission (TWC) has similar responsibility for industrial solid waste and all categories of hazardous waste. The Texas Solid Waste Disposal Act is the major enabling statute for TDH in this area of regulation, and it is found in Chapter 36 of the Texas Health and Safety Code. In this chapter the Texas Legislature declared:

It is this state's policy and the purpose of this subchapter to safeguard the health, welfare, and physical property of the people and to protect the environment by controlling the management of solid waste, including accounting for hazardous waste that is generated.

TDH's Bureau of Solid Waste Management guides the agency's regulatory program. The Bureau recommends necessary measures for adoption by the State Board of Health, which is the policy-making body for the department. The 18-member Board is charged with protecting and promoting the health of the people of Texas. It establishes agency rules in line with the Administrative Procedures and Texas Register Act. The Board revises these rules and considers new ones in response to newly-adopted legislation and changes in solid waste technology and practices. The Board's Municipal Solid Waste Management Regulations address numerous aspects of the issue, including collection, handling, storage, processing and disposal of solid waste in Texas. These rules also contain state standards for landfill siting, design, construction, operation and maintenance. Much of this reflects the guidance of the U.S. Environmental Protection Agency, which continues to translate into workable programs the mandates of RCRA and its amendments. The Bureau of Solid Waste Management is supervised by TDH's Associate Commissioner for Environmental and Consumer Health Protection. The Associate Commissioner is one of five who report to the Commissioner of Health, TDH's top official. The Christmas Bay watershed is located within TDH Public Health Region 4, which is based in Houston.

Aside from the Solid Waste Disposal Act, TDH received additional authority and regulatory responsibility in 1989 with the passage of Senate Bill 1519. New sections added to the Health and Safety Code by this bill mandate the preparation of solid waste management plans by the state, regional agencies and local governments. TDH is in the process of updating the statewide management plan, but in the meantime it is still using the previous plan which agency staff admit is out of date. In addition to establishing various geographic planning frameworks for landfill siting and reduction of waste volumes, the legislation created a new funding mechanism to support solid waste management efforts in Texas. A fifty-cent per ton surcharge on solid waste received by landfill operators has enabled TDH to expand significantly its monitoring and enforcement capabilities. TDH also has increased its funding of:

- internal planning and policy development
- waste minimization and recycling efforts
- public education
- technical assistance, and
- matching grants for regional and local management planning

The Board of Health has adopted rules specifically for the implementation of the new regional planning requirements. Under the rules, TDH must review and approve all regional plans that are developed. Approved management plans will be used in TDH's landfill permitting process to confirm that proposed facilities are consistent with local, regional and statewide planning guidelines. The Houston-Galveston Area Council (H-GAC) is in the early stages of a regional planning process for solid waste management in the 13-county Council of Governments region that includes Brazoria County and Christmas Bay (the Gulf Coast Planning Region). H-GAC expects to complete its regional plan sometime during 1992, at which time it will be submitted to TDH for approval and incorporation into state planning and management programs.

TDH, along with solid waste agencies in other states, is awaiting word on the fate of EPA's proposed landfill regulations under Subtitle D of RCRA. The regulations remain under the extended scrutiny of the federal Office of Management and Budget (OMB), which apparently has raised concerns about the public sector cost implications of EPA's ambitious rules for landfill siting and maintenance. Despite these concerns, TDH officials have said that there is little in Subtitle D, as proposed, that Texas was not already considering and aiming to do on its own. In addition to more rigid requirements for landfill approvals, the federal regulations would demand even further investment in state monitoring and enforcement programs, especially in the area of groundwater monitoring. If EPA's rules are approved, TDH plans to re-evaluate existing monitoring arrangements at all landfill sites and determine the need for more thorough testing programs.

TDH begins its processing of a municipal solid waste facility permit application by assigning a review agent to coordinate the work. The Permits and Registrations Division of the Bureau of Solid Waste Management processes permit applications. Public health and environmental protection are the overriding concerns in evaluating a proposed facility. Factors which the Permits Division considers include:

- adjacent land uses and potential development around the site
- geology and other physical conditions
- types of waste to be accepted
- engineering (liner system, cover)
- provisions for buffering, runoff prevention and groundwater monitoring
- odor and air emissions
- daily operation plans
- closure plans

The Surveillance and Enforcement Division contributes to the review by researching any past performance information on the applicant. Region staff visit the site, often accompanied by headquarters personnel, and confirm information that was provided on the application. Field staff also can provide valuable insights based on their knowledge of the vicinity and any past experience with the applicant's operations. They also gather public comments on the application and forward them to the review staff in Austin. The information burden is on the applicant during the process, and it is up to the review agent to determine whether adequate information has been provided and if more is needed.

The Solid Waste Disposal Act requires coordination of all solid waste permitting. The lead agency -- either TDH or TWC -- must furnish the application to the other involved agencies for their review and comment. TDH staff say that this system has worked very well, with TWC providing input on water quality concerns and the Texas Air Control Board (TACB) focusing on air emission impacts. TACB has its own rule, Regulation XI, in the Texas Administrative Code which addresses air quality concerns related to municipal solid waste facilities. The rule requires TACB to perform air quality impact evaluations to identify any potential problems that a facility might have in meeting TACB air quality criteria. Under the rule, TACB must be a party to any contested hearing on an application which it reviewed, and it may appeal a lead agency decision that it does not support. TACB also is authorized, along with the lead agency, to enforce the air quality conditions of the permit.

The Surveillance and Enforcement Division conducts quarterly inspections at the largest solid waste facilities, while smaller sites usually are visited once or twice a year. Formal compliance inspections are announced to insure that the appropriate personnel and records will be available, but all other site visits are made without notice. Field

inspectors submit reports to headquarters staff for review and appropriate action as needed. The extent and frequency of ground and surface water monitoring at each site depends on the nature of the facility. Such monitoring may be done quarterly in an area of special interest or concern, especially when an older or inactive landfill is involved. Groundwater monitoring wells are installed at active and closed sites for this purpose. While many older sites may not have been required to do any self-monitoring, most newer permits include this condition because of concerns about groundwater contamination.

According to program managers, recent boosts in funding have resulted in a tripling of TDH's field staff for enforcement and monitoring. In addition, each Region office now has an Engineering Geologist and an Environmental Scientist to assist with surveillance. Interagency coordination benefits monitoring as well as permitting. EPA refers complaints against facilities to TDH for follow-up investigation. TWC steps in if industrial solid waste or hazardous waste is found at a facility holding only a municipal solid waste permit from TDH. TWC also assists with groundwater and off-site surface water monitoring, as well as checking for subsidence at sites. Local health departments submit the results of their periodic inspection to TDH.

Minor compliance problems noted during a site visit are pointed out directly to the operator. More significant violations result in a TDH advisory or enforcement letter. Repeat or flagrant violations require that an enforcement conference be held with TDH staff to establish a compliance schedule, sometimes with administrative penalties also assessed. TDH calculates administrative penalties according to a sliding scale, much the way that TWC determines its penalties for discharge violations by taking various factors into account. TDH's penalties vary from \$100 to \$25,000, although most are assessed in the \$1000 to \$10,000 range. If the violator does not meet his compliance schedule, then TDH may initiate legal proceedings to impose civil penalties or obtain an injunction. Civil suits are handled by the Texas Attorney General's Office. In emergency situations, the Board of Health has the authority to issue closure orders and suspend landfill operations until required changes have been implemented.

The Interagency Coordination Council enables TDH to share information and coordinate its activities with TWC, TACB and the Railroad Commission of Texas. TDH also participates in the Texas Groundwater Protection Committee. Finally, the Board of Health makes appointments to the 15-member Municipal Solid Waste Management and Resource Recovery Advisory Council. The Council reviews and recommends state solid waste policies.

Management Evaluation Findings

1. *The Texas Department of Health (TDH) encourages local governments to take advantage of their authority under the Texas Health and Safety Code, and Brazoria County is now moving to take the lead in local solid waste planning and management.*

TDH officials say that too many local residents and governments are leaving it to the state to choose sites for solid waste facilities. There is little patience for local complaints about siting decision in the absence of local planning and involvement. The suggestion from Austin is that Texas communities stop relying on TDH and take control of their solid waste futures. TDH officials say that the most important contribution of localized planning is that local interests can target sites that are suitable not only on technical grounds but also on political ones. Aside from promoting consensus, local working groups also are needed to develop acceptable siting criteria and see to it that local plans are effectively implemented.

Brazoria County recently took the first step toward a lead role for county government by establishing a five-member Solid Waste Management Task Force Committee. The county could enhance protection of the Christmas Bay watershed from solid waste mismanagement since much of the area is unincorporated and outside the regulatory jurisdiction of small cities. Each Brazoria County Commissioner appointed one member to the Task Force, and the appointees in turn each will select two subcommittee members, subject to the approval of the appropriate Commissioner. The Task Force is charged with determining the scope of the municipal solid waste problem in the county, studying long-term and short-term management issues, evaluating action alternatives that will be feasible and economical, and making final recommendations to Commissioners Court. A Task Force budget will finance the hiring of consultants, map purchases, travel, and other necessary expenses. The Committee is expected to provide an avenue of coordination between individual cities and the county.

The Task Force will pick up where a previous volunteer study committee left off in 1990. The earlier group presented to County Commissioners the findings of a year-long study of solid waste issues. Two key recommendations emerged from this effort:

- A public education program is needed to inform county residents of the benefits of effective management planning and the opportunities for improved coordination, especially to avoid duplication of efforts and spending. Management options to be highlighted in such a program would include: litter reduction, minimization of illegal dumping, waste reduction, recycling and composting. Increased citizen participation in the principal theme of this suggestion.
- A non-taxing Solid Waste Disposal Authority should be created to assume responsibility for ongoing planning and implementation. The Authority would include representatives of county government and those cities that choose to participate. The Authority would be expected to develop an effective and efficient compre-

hensive management approach. It also would explore such disposal options as incineration and waste-to-energy.

A number of cities already have expressed interest in and support for the proposed countywide Authority and the other management recommendations. The report called for appropriate legislation to enable the formation of the Authority. The volunteer task force also suggested that initial management efforts be directed toward countywide recycling and composting. The group proposed the following long-term goals for the Authority:

- a 25% reduction of the county waste stream through recycling and composting by 1992
- a 40% reduction through the same methods by 1996, and
- landfilling of only 10-20% of the total waste stream by 2010

TDH officials encourage all local planning initiatives to devote some time to the issue of waste importation and exportation. They say that importation of waste into Texas is the primary concern statewide. But the final destination of exported waste is the more critical issue locally, especially with many cities and counties refusing to accept outside waste. Transportation and disposal of waste can even pit neighborhoods against one another in the same city. This is another type of local political controversy from which state agencies such as TDH are relatively detached, which is one of the reasons they are requesting local planning assistance.

2. *While TDH staff are not overburdened by their current permitting workload, they are concerned that various factors will begin to put a strain on their resources.*

TDH managers are generally satisfied with the operation of their permitting process, but they hope to improve it further and prepare to balance other emerging priorities. For example, they want to achieve more substantive reviews, primarily by increasing the involvement of staff engineers. They also see a need for greater public awareness of the objectives and mechanics of solid waste facility evaluations. At the Region level, field staff would prefer to gather more land use information to verify the applicant's land use study, and they also call for more intensive research of local groundwater wells and supplies. In general, they are concerned about any potential reduction in resources at the Region level that would reduce their review capabilities. Austin managers are supportive of this view since they want more on-site observation of testing and a better staff "feel" for potential disposal sites. Within their own offices, they want more study of other states' programs and facility design options.

Unfortunately, new agency rules and permitting requirements in specialized areas of waste management will require staff time and resources. TDH already knows that it

does not have enough staff to do adequate inspections of tire and sludge disposal sites and transporters. There is concern that the various types of local information-gathering performed by field staff will be diminished if resources have to be diverted to other tasks.

On the positive side, headquarters staff note that recent modernization efforts within TDH, including the acquisition of computers (as called for by an internal five-year agency plan), have helped to streamline agency tasks and free staff time for more frequent and thorough site inspections. Region staff hope to share in this modernization at some point because they view routine compliance inspections as their most important function at the field level. Headquarters staff also host two meetings each year where all TDH field staff gather in Austin to voice their concerns and help to decide agency priorities. These meetings supplement routine reporting from the Region offices, and day-to-day communications in Austin have been enhanced through networking of agency computers. TDH also has attempted to simplify the permitting process. For example, instead of requiring permits for small transfer stations (those serving less than 5000) at closed disposal sites, the agency only registers these operations. The agency also is making better use of data submitted by applicants and permittees, and more of this data burden is being shifted from TDH to the facility operator.

Another element that influences the effectiveness of the permitting process is politics. Region staff point out that, in addition to their technical responsibilities, they increasingly have to deal with the local political ramifications of solid waste facility siting and permitting. Austin staff also express concern about the effects of local political controversy. They say that they have watched the growth of the environmental law profession, and they are concerned that legal specialists are "nit-picking" at the rules and ignoring the spirit of the law. The result has been a doubling of the time required for the typical permit review, even though there has been little change in the substance of the review: the same rules are involved, the same review agents, and the same permit conditions. Agency managers say that ultimately it is up to the Legislature to judge the effectiveness of TDH's technical review of solid waste facility applications. In addition to the technical issues, legislators must deal with the political feedback from the process. In the meantime, staff emphasize that every application is unique and requires time and careful evaluation.

3. *Agency managers say that planning and policy development is the key to effective solid waste management in Texas, so these functions must be nurtured and protected.*

TDH staff see a need for more substantive guidelines on land use and more definitive criteria for facility siting. Appropriate landscaping and buffering requirements are other concerns. Staff also emphasize the need for continued research into effective implementation techniques for waste minimization and recycling -- crucial programs that reduce the need for landfilling and extend the life

of existing disposal sites. But TDH officials say that agency resources are tightest in the planning and policy areas. The planning division also tends to suffer the most in times of budget cutbacks. The permitting function enjoys much more steady funding by comparison. One manager estimates that at least eight more positions are needed to handle the planning workload. In addition to insufficient funding, there is not enough physical space to accommodate that many more staff members. In general, TDH staff warn that inadequate funding, especially for mandated activities, only slows down the agency and limits its ability to take effective action. And they note that policy and planning are areas that already require time and patience before they produce useful results.

4. *Administrative penalties have been very helpful to solid waste enforcement efforts.*

TDH officials speak of the flexibility of administrative penalties and their ability to match the size of a penalty to the magnitude of the violation. They say that the penalties also are useful in backing up a compliance schedule since penalties can be assessed based on the violator's performance. TDH's authority to assess administrative penalties has reduced the need for costly and time-consuming court action. Litigation now is a last resort, reserved for only the most flagrant or continuing violations. When legal action is necessary (through the Texas Attorney General's Office), it tends to be very effective. One of the chief benefits of the penalties, according to agency officials, is that they provide a deterrent by drawing the attention of violators and the rest of the regulated community.

5. *TDH staff report effective inter-agency coordination at the Region level.*

Field staff from TDH, TWC and other agencies, including local health departments and pollution control agencies, have developed good working relationships in the solid waste area. TWC assists TDH on water quality matters, and local health investigators provide a second layer of oversight and reporting on day-to-day operations at permitted disposal sites. TDH encourages local governments to make maximum use of their inspection powers under state statutes, especially when it comes to detecting and responding to illegal dumping. TDH managers say that they would like to work even more closely with local agencies, including conducting joint facility inspections whenever possible. They say that there always is a need for better coordination of agency tasks.

6. *TDH staff are confident that their enforcement efforts for permitted sites are effective, but they are less certain about their coverage of unauthorized disposal sites.*

Staff emphasize that permit holders have made an investment in a disposal facility and want to use their permit. TDH is able to monitor compliance at these sites routinely and has effective enforcement tools when problems arise. But unauthorized sites are much more of a challenge for TDH. One enforcement official said that, ideally, he would like to have the resources to do aerial surveillance over

the Texas countryside. In the absence of such sophisticated methods, TDH staff must rely on local governments to monitor illegal activities in or near their jurisdictions. They emphasize the authority of cities and counties to enforce TDH rules and shut down unauthorized sites. Local officials are encouraged to make maximum use of these powers and keep TDH informed of the need for enforcement action by the state. Once the responsible party is located and a compliance schedule is established, TDH again looks to local governments to assist in monitoring progress toward compliance. The chief benefit of local involvement is much more prompt response to violations compared to state agency capabilities.

7. *The anticipated cost impacts of EPA's proposed RCRA Subtitle D rules are expected to force the closure of many small landfills, but TDH staff emphasize the management benefits of increased regionalization.*

In addition to the operational advantages of regional facilities, agency staff emphasize the opportunity for better management control and oversight with fewer total sites to regulate. This is the same argument heard in support of regionalized wastewater treatment, in which proponents refer to the focusing of investment in state-of-the-art regional facilities. TDH surveillance and enforcement staff see regionalization as a plus since one of their greatest concerns is the operation of small community sites. Regionalization also is expected to produce more uniform regulation of landfills to replace specialized rules based on facility classifications. One manager welcomes this change, emphasizing that "garbage is garbage and a landfill is a landfill." In his view, the only reasonable distinction in solid waste management should be between municipal waste and construction debris.

Regionalization is high on the list of management issues now being studied by TDH planners and regional solid waste planning initiatives around the state. Amid the enthusiasm for Subtitle D, however, one TDH official questions whether the state's citizens can afford such a high level of regulatory protection. This official urges more attention to the dollars-and-cents issues involved, noting that currently there is no requirement for a cost/benefit analysis at the state level.

8. *TDH staff are not familiar with the Texas Coastal Preserve program, so they are not sure how TDH might play a role or what the implications might be in terms of TDH policy and permitting in those areas.*

Although they are unfamiliar with the Coastal Preserve program, TDH staff emphasize that their agency's regulations already have been written with environmental considerations in mind. However, they agree that there is a need for more effective implementation of existing programs, which will require more staff and improved guidance on implementation strategy. Staff say that groundwater protection probably should be the primary focus as far as solid waste issues are concerned. They urge communities and private operators to look at alternatives to ground facilities where the water table is high. TDH staff also call for stronger rules regarding drainage and sediment control at disposal facilities, as well as height

limitations for aerial fills. At the same time, they stress that the regulatory framework also must protect the individual's right to conduct his waste disposal business.

Staff conclude that existing regulations are adequate to address active facilities and future sites, but they caution that closed sites always should be a concern. They also advise legislators and policy-makers to avoid "one-shot" laws and regulations for a specific community or regional issue as this only reduces the effectiveness of overall program management and statewide policy development.