INTEGRATED SOLID WASTE MANAGEMENT SYSTEMS

Sacramento County Department of Waste Management & Recycling

Proudly Serving the Communities and Neighborhoods in Sacramento County
EXECUTIVE SUMMARY

For 45 years the Sacramento County Department of Waste Management and Recycling (DWMR) has provided integrated waste management services to the residents and businesses of the Sacramento region. DWMR leverages its ownership and operation of collection, transfer, and landfill operations to provide an array of innovative services that have resulted in a remarkable 71% diversion rate including:

- Pay-as-you-throw three-cart residential curbside program
- Appointment-based curbside bulky-waste collection program
- Use of natural gas trucks
- Mandated commercial and C&D recycling programs
- Landfill gas-to-energy program
- Household hazardous waste program
- Steady asset growth
- Low pricing

DWMR continues to be a national leader in the provision of integrated waste management services, especially in reducing reliance on landfilling. Everything DWMR does is aligned with its mission to provide outstanding environmental stewardship, incomparable customer service, and unmatched value.
I. SYSTEM OVERVIEW AND PERFORMANCE

Introduction

From its birth during the Gold Rush through its history as California’s capital, Sacramento County has emerged as the cultural, commercial, and government hub of California’s Central Valley. Since 1967, the County’s DWMR has provided the Sacramento region integrated waste management services. DWMR provides curbside collection, recycling, transfer, and disposal services to 554,554 residents across 800 square miles of the unincorporated area, and disposal services to an additional 538,691 residents of the cities of Sacramento and Folsom. DWMR owns and operates the entire municipal solid waste system from curbside to landfill face, and partners with private companies for recycling and some green waste processing. This vertical integration allows DWMR to provide superior service for below-market prices. The 255 men and women of DWMR invite you to read about our collection, transfer, disposal, and recycling operations.
Collections

History
Since 1967, residential pickup of refuse in the unincorporated areas of Sacramento County has been under the control of DMWR. Back then, DWMR served customers using manual labor to empty the residential cans into larger “carry cans” (with the refuse from two to three homes) that were then emptied into the collection trucks. “Roll cans”, or carts with lids and wheels, were introduced that allowed the use of semi-automated collection trucks. These trucks could empty the carts mechanically, saving labor and injuries by having the driver of the truck roll the cart to the truck. In 1982, DWMR introduced automated collection trucks that further saved labor and injuries as a driver could empty each cart without exiting the cab of the truck utilizing a mechanical arm to empty the cart. DWMR introduced the curbside collection of recycling materials (cans, bottles, paper, etc.) in 1991 and the curbside collection of green waste in 1993.

Today
Today’s residential collections continue the use of the three-cart system; one cart for refuse, one for green waste, and one for recycling materials. Customers enjoy a pay-as-you-throw rate system with rates for their service determined by the size of the refuse cart. Extra recycling and green waste carts are provided for free to encourage the diversion of as much material generated by the household as possible.

We are focused on diverting materials that we collect in the most cost effective way, while providing the broadest list of recyclable options possible. This material is sent to an outside vendor for processing under a contract. In 2011, we collected and sent to recycling centers 38,750 tons of recycle material from our routes. The green waste we collect on routes is combined at our transfer station with the wood and other separated green waste brought in, crushed, and sent via transfer truck to be used by a vendor to generate power. In 2011, we collected 70,000 tons of green waste from our routes and sent 54,450 tons of green waste and wood to the power generation plant. The refuse collected is sent to our landfill.
**Special Collection Services**

We augment our regular weekly collection service with an array of special services. For low-income customers, we offer a rate rebate program which reduces their rates. For those customers who have a disability limiting or preventing them from placing their carts at the curb, we have a disability exempt program whereby those customers can have their carts wheeled by the driver to the curb and back to the customer’s normal accessible place.

Within our rate structure is funding for a neighborhood cleanup program (NCU). Our program utilizes specialized claw loaders, rear load trucks, and boom trucks to pick up, for free or reduced fees, piles of large material and bulky items placed curbside by customers. Our program also cleans up the blight of illegal dumping from our community. We coordinate our efforts with the County’s Sheriff’s and Environmental Health Departments. In 2011, we removed 800 tons of illegally dumped materials.

**Collection Fleet**

We are constantly looking for technologies and processes to make our operations better, and in 2002, we began converting our collection fleet from diesel to liquid natural gas (LNG). Today, 100% of our collection fleet runs on LNG. Considering our trucks drive 1,300,000 miles per year, their extremely low emissions have dramatically reduced our carbon footprint. LNG has also proven to be less expensive than diesel over the years and its price has fluctuated much less than that for diesel.
Transfer Operations

Our transfer station was first constructed in 1973 and was originally designed to handle 750 tons per day of refuse and recycling. Over the years, it has been expanded and modified so that today it can handle 2,400 tons per day of refuse and recycling materials. Today, in addition to transferring out the refuse brought to the facility (182,200 tons in 2011), we separate and send to processing centers 47,050 tons of green waste, 21,950 tons of curbside collected recycling, 4,950 tons of metal including appliances, 10,600 tons of dirt, concrete and other inerts, 900 tons of electronic appliances (including computers, monitors, televisions, small appliances, etc.) and 350 tons of tires. The transfer station is open seven days per week, 363 days per year and is open to the public and commercial haulers.

Critical components of transfer operations are the environmental safeguards and monitoring that we do to ensure that all waste/recycling material we touch is processed in accordance with all required regulations. Wastes that potentially pollute are segregated appropriately and storm and sanitary sewer drains are labeled and monitored regularly. We constantly review best practices to improve and modify our operations to be the best stewards of handling these materials.

Transfer Fleet

Our transfer fleet consists of 17 tractors and 47 trailers. Refuse is transferred daily to our landfill, and we average seven drivers per day making an average of five loads per day.
Household Hazardous Waste (HHW)

DWMR owns and operates two HHW facilities. The first is a full HHW facility located at our transfer station where customers drive through and technicians unload the vehicle. This facility routinely handles oils, paints, fluorescent light tubes, acids, batteries, automobile fluids, syringes, pool chemicals, used propane tanks, gas, kerosene, and solvents. Once identified, hazardous materials are placed in approved containers and eventually transported by contractors to the appropriate disposal site. The second facility is at our landfill and is permitted to receive antifreeze, batteries, oil, and paint. These facilities require highly-trained personnel and specialized equipment, but are critical to keeping hazardous materials away from sewer and river systems and the landfill. In 2011, we processed 600,000 pounds of materials through our HHW facilities. As an added service, we created and maintain reuse lockers. After inspection by our technicians, household items, including paints and cleaners that are still useable, are placed in the lockers where any customer can come in and take the materials for free. This service has proven to be a popular way to recycle those materials with a minimal handling cost to our customers.

Kiefer Landfill

History and Capacity

The Kiefer Landfill (KLF) is a Class III solid waste facility located in eastern Sacramento County. The permitted disposal landfill footprint is 660 acres, and the solid waste facility permit allows for 744 vehicles per day and 10,815 total tons of refuse per day. The landfill opened for business in 1967, and as of today, 30 million cubic yards has been placed at the KLF. The total permitted capacity for the site is 117.4 million cubic yards. Based on projected waste flows we estimate there are at least 65 years of capacity remaining.
**Design and Operation**

The landfill is divided into 12 modules and we are currently filling in Module 3. Half of Module 1 was constructed before RCRA subtitle D requirements and is unlined. The remainder of Module 1 and Modules 2 and 3 are lined. The 38-inch thick liner profile consists of the following components from top to bottom: A soil operations layer, non-woven geotextile separator, a gravel leachate collection and removal system, a non-woven geotextile cushion, a high-density polyethylene (HDPE) primary geomembrane, a Geosynthetic Clay Liner (GCL), a Geocomposite layer, more HDPE primary geomembrane, more GCL, then finally subgrade. Cell construction is designed and directed by DWMR engineering staff. Compaction and grade are controlled using a Trimble GPS system. Over the past five years, inbound tonnage has averaged 630,000 tons per year, or 1,730 tons per day. The landfill is open seven days a week, 363 days per year and is open to all public and commercial customers. The site includes a material recovery area at which we accept and recycle commodities such as wood/green waste, concrete/dirt and rubble, cardboard, tires, electronic waste, and metal. We plan to recycle carpet in the near future.

**Landfill Gas Collection, Energy Plants**

As required by regulation, the KLF has an extensive landfill gas collection system consisting of 261 vertical and 23 horizontal gas extraction wells. In 2009, DWMR constructed a leachate recirculation system that has expanded to eight recirculation trenches. Re-introducing leachate into the waste mass increases gas production, accelerates decomposition and settlement, and avoids the expense of leachate disposal. All landfill gas is piped to two landfill gas-to-energy plants and flares. The energy plants contain five Caterpillar G3616 internal combustion engines which produce a combined 15Mw of electricity. The electricity is delivered directly to the grid through a power purchase agreement with the Sacramento Municipal Utilities District (the local electric company). The Kiefer energy plant was selected as the 1999 Project of the Year by the US EPA Landfill Methane Outreach Program. Excess landfill gas not used by the energy plant is destroyed in a pair of enclosed flares.
Environmental Protection

Like any landfill, the Kiefer site is highly regulated. DWMR operates the facility in conformance with multiple permits issued by the State air, water, and solid waste boards. Routine monitoring includes recovering data from 63 monitoring wells, three stormwater discharges, and air quality measurements at the energy plant, flares, and across the site. Because the first half of landfill Module 1 is unlined, contaminates from the landfill have migrated offsite and contaminated the groundwater south of the facility. In response, DWMR constructed and operates a groundwater treatment plant and 14 groundwater extraction wells. This facility pumps and treats one million gallons of water per day to a safe standard and discharges into a local creek.

Bufferlands

In 1994, DWMR began a strategy of acquiring neighboring properties to KLF in order to buffer the facility from incompatible land uses, namely suburban development. By 2007, our land holdings consisted of over 2,000 acres ringing the landfill. The majority of the property is managed in partnership with local ranchers who lease pasture. About 150 acres along the southern edge of “The Bufferlands” is row crop farmland, and tenants include an agricultural research station and a locally-iconic vegetable farm and produce market famous for its corn maze, pumpkin patch, and Christmas trees. The Bufferlands also include one mile of scenic riparian corridor and the Kiefer Wetland Preserve, one of the largest, most intact vernal pool complexes remaining in the Sacramento valley.
In 2007, DWMR commissioned a Land Use Feasibility Analysis to investigate possible enhancements of the Bufferlands. Stakeholder meetings were held with neighbors and technical specialists were consulted. What emerged was a “Special Planning Area” (SPA) zoning ordinance for the landfill and bufferlands. The SPA would create, in addition to the landfill, 1,100 acres of habitat preserve, 200 acres of parks, and a 569-acre industrial park specifically for waste-related businesses and renewable energy development. The SPA establishes underlying land use entitlements for subsequent projects that will build on local diversion programs and enhance DWMR’s regional market position for decades to come.

**Recycling**

By applying a comprehensive toolkit of programs, Sacramento County DWMR has attained an impressive 71% diversion rate, joining an elite company of successful programs nationwide. As the cornerstone of our diversion programs, DWMR provides every customer with multiple recycling carts at no extra cost, ensuring almost complete program participation. Supplementing traditional glass and plastic containers and paper, recent additions to the program are plastic toys, wide-mouth plastic containers, beverage cartons, and film plastics (bags). Residential customers can also place used motor oil, filters, and kitchen oil out for curbside recycling on their collection day. Rounding out the regularly-scheduled residential recycling program is DWMR’s containerized greenwaste collection and appointment-based NCU program, through which wood, metal and white goods, tires, and e-waste are redirected at DWMR facilities for recycling. Near universal participation in recycling programs and a three-cart strategy to provide for the customers’ every need have made DWMR’s residential program one of the most successful in the country.

![County of Sacramento Annual Diversion Rate](image-url)
DWMR staff plays another, unique role. They serve as staff to the Board of Directors for a joint-powers authority (JPA), the Sacramento Regional Solid Waste Authority (SWA). The SWA partner is the City of Sacramento. Together, the SWA jurisdictions dominate the local waste marketplace. The SWA was formed in 1992 to govern private commercial waste collection and promote commercial sector diversion. An open franchise system was established in 1998. The SWA delivered California’s first commercial recycling mandate, the 2007 Business Recycling Ordinance, requiring all generators of over four cubic yards of waste service to have a recycling program. The California Integrated Waste Management Board (later renamed CalRecycle) modeled their statewide commercial recycling law on the SWA’s. In 2010, the SWA Business Ordinance was expanded to multifamily developments. The consistency achieved across the two largest jurisdictions in the region benefits the commercial haulers and wider business communities because smaller jurisdictions have tended to follow the SWA’s lead.

DWMR worked closely with the local building industry in 2008 to develop a Sacramento County Construction and Demolition (C&D) Debris Recycling Ordinance. The program rolled out in 2009, requiring recycling on area jobsites. The program has experienced broad support with 600 projects having implemented jobsite recycling programs. DWMR staff developed a SWA ordinance that created a certification program for C&D recycling facilities. The program is voluntary, but involves regular inspections and audits. Most importantly, only facilities maintaining a current SWA certification can offer diversion credits for mixed C&D debris. The program has been investigated as a model by other jurisdictions across the country, and the US Green Building Council’s LEED™ projects in the Sacramento area depend on the SWA’s certification program for their diversion calculations. In 2011, 79,000 tons of mixed C&D debris was subjected to sorting at four SWA-certified facilities, and 76% of that previously landfill-bound tonnage was diverted to recycling.

DWMR manages a comprehensive, integrated system to power a highly-effective set of diversion programs. DWMR collections and facilities play a critical role. Contracts with outside vendors round out the integrated system. Finally, innovative policy exemplified by the SWA business and multifamily recycling ordinances and the C&D certification program, have extended diversion programs into every waste stream in the County, pushing Sacramento County above the 70% diversion milestone in 2010.
II. FINANCIAL AND BUSINESS MANAGEMENT

DWMR operates as a refuse enterprise fund (Fund). As such, it behaves like a commercial business leveraging its vertical operations. DWMR operates with the mission to protect consumers and businesses with respect to cost of service and fair business practice, to protect the public safety, to protect the environment, and provide good stewardship of the public’s natural resources.

Financial Goals

The Fund operates from revenue generated from the operation of a collection service for the unincorporated county, the County landfill, and transfer station. Additional revenues are provided from the sale of recyclables, electricity resale from the landfill gas-to-energy operation, and franchise hauler fees. The Fund receives no general tax subsidy from the County.

DWMR operates competitively, in line with its mission to protect consumers and businesses with respect to cost of service, by striving to keep collection cost and gate fees as low as possible and still provide for a sound business operation. The rates charged to the public using the County’s refuse services are some of the lowest in the local market area.

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\begin{array}{|c|c|}
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\text{Service charges} & \$42,739,432 \\
\text{Tipping fees} & 14,473,473 \\
\text{Electricity resales} & 2,551,400 \\
\text{Sale of recyclables} & 2,242,533 \\
\text{Contract hauler billings} & 1,637,213 \\
\hline
\text{TOTAL REVENUE} & \$63,644,051 \\
\hline
\end{array}
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![Bar chart showing monthly collection rates for different local areas.](image)
The Fund manages its business by controlling expense and growing revenue through competitive customer pricing and increasing market share at its facilities. Using these sound and fair business practices, DWMR has grown its net asset balance. The largest portion of the Fund's net assets is the investment in capital equipment, structures and improvements, and land. The capital assets are used to provide services to customers. Portions of the net assets are restricted on how the Fund may use the assets in providing the service. The remaining balances are unrestricted assets that are available to meet ongoing obligations to customers and creditors.

Planning Tools

Each year, DWMR staff prepares operating and capital improvement project (CIP) budgets. The County Board of Supervisors reviews and approves both budgets each year. The operating budget totals about $90 million per year and serves as the financial control for DWMR’s operations. The CIP budget includes 296 items of equipment spread between DWMR operations. Collection and transfer trucks and landfill construction equipment are replaced following a responsible schedule that adheres to prudent financial oversight of the equipment. Aged equipment is replaced when deemed financially necessary to ensure safe operating conditions to the Fund’s staff and to the public while optimizing return on investment. The CIP equipment purchases average $4 to 5 million per year. Engineered construction projects are planned and executed to ensure the continued cost-effective and compliant operation of the landfill and transfer operations. CIP construction projects average $4 to 6 million per year.

Success Measures

The main business tools DWMR uses to guide its operations are the Board of Supervisors approved annual budget and an audited Comprehensive Annual Financial Report (CAFR). The CAFR has been rewarded each year for eleven years in a row by the Government Finance Officers Association Certificate of Achievement for Excellence in Financial Reporting.
An additional measure of the financial soundness of the department is the A2 bond rating from Moody's that has been maintained yearly since the issuance of the three certificates of participation (COPS) DWMR issued to finance improvements to its landfill and refuse operations.

<table>
<thead>
<tr>
<th>Capital Project</th>
<th>Bond Issue</th>
<th>Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>KLF Bufferland Purchases</td>
<td>1997 COPS</td>
<td>$9,715,316</td>
</tr>
<tr>
<td>NARS Facility Improvements</td>
<td>1997 COPS</td>
<td>$5,674,107</td>
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<tr>
<td>KLF Equipment Shop Building</td>
<td>1997 COPS</td>
<td>$3,293,028</td>
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<tr>
<td>KLF M2 Landfill Liner</td>
<td>1997 COPS</td>
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<tr>
<td>LFG to Energy Project Facility</td>
<td>1998 COPS</td>
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<tr>
<td>Elk Grove Landfill Improvements</td>
<td>2002 COPS</td>
<td>$558,808</td>
</tr>
<tr>
<td>KLF Bufferlands Purchases</td>
<td>2002 COPS</td>
<td>$4,074,910</td>
</tr>
</tbody>
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The budget developed for the Fund’s operation has been successful in limiting, or avoiding all together, any drawing down from Fund reserves. The Fund's reserves have maintained a healthy balance for several years. The yearly budgets are drawn as balanced budgets, supporting DWMR’s mission to provide good stewardship and low cost of service.

**Cost Effectiveness**

In addition to providing some of the lowest rates for refuse collection services and landfill and transfer station gate fees, the Fund’s operation has provided financial relief to the public through a reduced rate program to low-income customers, and a disability exempt service to disabled customers. The rebate program provides a $5 per month credit to a low-income customer. There are currently 6,265 accounts in this program. For the disabled customer that has difficulty moving the refuse carts to the street on collection day, the Fund’s collection operation maintains a list of the customers requesting assistance. This information is given to the drivers who will move the refuse carts to the street and return the carts to the customer once emptied. There are currently 1,151 disabled exempt accounts.
As previously described, collection service includes one trash cart and up to two carts each of mixed recycling and greenwaste included in the rate. Other refuse collection operations in the immediate area may provide the same commodity service as DWMR, but other service providers either charge extra for carts beyond the initial number of one commodity cart each, or do not provide a collection for greenwaste.

DWMR’s landfill and transfer operation provide gate rates that are lower than similar operations in the local area, and close to half of the tonnage delivered to the Fund’s refuse facilities are by contract hauler charged a discounted rate.

**Employee Relations**

Because 93% of DWMR’s business is conducted by County employees, employee relations are critical to the department’s success. As County employees, the men and women of DWMR enjoy an array of typical public employee benefits including paid vacation and sick leave; medical, dental, and life insurance; a defined benefit pension plan with the opportunity to contribute to a tax-deferred retirement plan; tuition reimbursement; and an employee assistance program.

All DWMR employees are encouraged to create a development plan identifying professional goals and the skills, training, and education necessary to achieve them. At least once each year every employee meets with his or her supervisor to discuss performance and progress in the development plan. DWMR sponsors its employees’ attendance at solid waste seminars and conferences, with a renewed emphasis in SWANA certifying its supervisory and managerial staff.

Because of the hazards inherent in its operations, DWMR provides continuous safety training to all its employees. In the operations area, this includes two documented safety meetings each month, with additional training any time a new procedure is introduced or an incident has occurred. Every employee has a training portfolio that includes documentation of all safety and professional training completed.
Senior managers meet with their respective staffs at least once per month, and the department director meets with every employee at least three times per year. Employee relations are measured by feedback at meetings, reviewing employee training portfolios, and tracking completion of employee-supervisor meetings and progress of development plans. Perhaps the best measure of employee satisfaction is low turnover. Across the entire department, seniority averages 14 years. Among equipment operators it averages 15.3 years.

**Change Management**

As a department in County government, DWMR is responsible for implementing regulations mandated by the State of California, a state with the most progressive environmental agenda in the nation. New regulations require change management. At the same time, DWMR operates an enterprise in a very competitive market at a time when local government budgets are in crisis, bringing pressure to manage change towards improved cost-effectiveness.

On the regulatory front, DWMR engages with the County’s legislative advocate and participates in the SWANA Gold Rush Chapter’s legislative task force. Collectively, those efforts proactively influence and shape State regulation. For example, DWMR helped to ensure recently-adopted legislation requiring business and multi-family recycling was modeled after existing local ordinances, allowing an easy path to compliance. Through its participation in SWANA, DWMR helped shape California’s adopted goal of 75% diversion by 2020 into a form that has the highest likelihood of success.

In enterprise management, DWMR takes advantage of its vertical integration and its control of revenues and expenditures. DWMR has a culture of measuring and monitoring key performance metrics to confirm that changes yield positive trends. We measure:

- Collection route time and tonnage
- Missed can rate
- Missed time due to injury
- Equipment cost per mile or hour
- Hazardous material tonnage processed
- Transfer loads and tonnage hauled
- Curbside cart loss
- Accident rates
- Number of stops per route
- Landfill cell density
- Diversion percentage
- Daily, monthly, annual MSW tonnage flows
- Cell cover ratios
- Fuel consumption
- Bulky waste tonnage
- Monthly and annual profit and loss

As examples of results, we have achieved the following over the past three fiscal years:
- 10% increase in landfill diversion
- 13% reduction in labor through normal attrition, no layoffs necessary
- 33% reduction in missed-time accident rate
- 10% increase in collection route size
- 99.94% of residential collections completed on scheduled service day
- 7% increase in net asset value
- 10% increase in landfill tonnage received
- 47% increase in enterprise financial reserves
III. Community Relations

Outreach and Feedback

The community outreach and feedback efforts undertaken by DWMR are both extensive and inclusive. The organizational culture fosters the construction of relationships and relationships are the basis of community. Quality outreach consists, in part, of delivering well-tailored messages; for example DWMR’s numerous presentations on the finer points of recycling and its importance to the world, to schools, summer camps and community events. Trade-fair environments such as the Northern California Home and Landscape Expo and area Earth Day celebrations offer similar opportunities to convey details of the curbside and other programs.

During these presentations, DWMR staff highlight the incredible variety of information about DWMR programs available on its primary website, www.sacgreenteam.com. The website contains downloadable service calendars, including an E-map-it™ feature that allows customers to enter their address and get their service schedule right away. Sacramento is one of the most culturally diverse regions in America. Specifically targeted messages, such as an extremely important page describing how to avoid contaminating greenwaste and recyclables in DWMR’s three-cart system, are available in the four most widely spoken languages in the region aside from English. These are Spanish, Chinese, Hmong, and Ukrainian.

Bill inserts are often used to target communiqués regarding the addition of recyclable materials accepted or service day changes. SWA franchisees also participate when communication needs to be delivered to local businesses.

Outreach, however, is not a one-way street. The prosperous relationships DWMR has forged with its customers, contractors, neighbors, stakeholders, and even regulated parties and competitors, is in large part due to DWMR staffs’ ability to listen actively. Customers can provide feedback about their service, or request additional service, by the abovementioned website or by our Customer Service Hotline. Illegal dumping can also be reported via the web.
Many of the innovative policies developed by DWMR, such as the Business and C&D Recycling Ordinances, would not have been possible without the broad community support that only comes from tireless efforts to listen to stakeholder concerns and seek consensus. Meetings with franchised haulers occur on a regular basis and DWMR takes an active role in the development review process, opening lines of communication with neighbors and developers of nearby property; as owner of a transfer station and an active landfill, good neighbor relations are imperative.

**Education**

The success of diversion programs in Sacramento County is largely due to the success of individuals in the County understanding and participating correctly. It is public education that makes that happen. DWMR’s public education efforts, while specifically targeted on a case-by-case basis, come in two broad categories: (1) Educate a community to use DWMR solid waste programs correctly, and (2) Educate a community about the valuable contribution DWMR makes to the Sacramento region.

DWMR’s public education efforts about our services and the value we bring to the community are sustained and adaptive. Since the department began providing curbside recycling pickup, garbage and recycling trucks have been used to educate customers about various services. Truck signs are used to promote our appointment-based neighborhood cleanup service, acceptable recyclables, illegal dumping, and how to properly recycle and dispose of electronic and universal wastes.
To augment this effort, the department provides educational information to our customers through direct mail pieces and messages in utility bills. The department’s website www.sacgreenteam.com provides customers current information on many programs including residential services and their service calendar, Kiefer Landfill and the North Area Recovery Station, household hazardous waste, school programs, and backyard composting. The website also includes a “How Do I Recycle …” menu that directs users to location and contact information for recyclers in the Sacramento region based on the recyclable material selected.

Annually, the department participates in a regional effort to educate residents on local opportunities to recycle used motor oil and filters. In 2011, DWMR took the lead on a spin-off education program targeting motorcyclists for recycling oil and filters. This audience is rich in ‘do-it-yourselfers’ and thus particularly attractive for success.

DWMR coordinates outreach efforts to builders, apartment managers, and business owners about the respective ordinances requiring recycling for those sectors (C&D, multifamily and business recycling ordinances). The department also offers tours of recycling facilities and KLF to school groups or other interested parties.

**Host Community Considerations**

In 2008, DWMR made Sacramento County the only jurisdiction in California to have a FEMA - approved Disaster Debris Management Plan. The plan includes using GIS modeling to estimate debris generation based on the scale of flooding, an operations plan to secure ongoing delivery of regularly-scheduled services, and a list of prequalified disaster debris management contractors, if necessary, based on an RFQ process implemented in 2009. DWMR conducts annual drills and workshops on the Debris Management Plan.

The ability of DWMR to provide curbside to landfill waste management service to over 1,000,000 citizens at some of the most affordable rates in Northern California eases burdens on the regional economy. Additionally, effective long-range planning and impressive diversion programs reaching 71% has left the Sacramento County community with at least 65 years of disposal capacity. Sacramento County DWMR’s influence is felt throughout the region and, accordingly, it exercises a leadership role among local jurisdictions when it comes to policy development and regional program coordination efforts. DWMR programs are mimicked throughout the region and efficient operations keep dependence on expensive, distant disposal at bay.