

# Household Hazardous Waste



*How to Organize an HHW Diversion Program or  
Event for Local Governments*



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# Overview

*Hazardous waste* is waste with properties that make it dangerous or potentially harmful to human health or the environment. It can be liquids, solids, contained gases, or sludges. *Household hazardous waste* (HHW) is hazardous waste that is generated in a home rather than a business or organization.

Common HHW includes:

- Paints and stains
- Cleaners
- Aerosols
- Laundry products
- Batteries
- Yard and garden products
- Thermostats
- Thermometers
- Compact fluorescent light bulbs
- Electronics
- Pharmaceuticals

Federal requirements regulate management of hazardous waste generated by industries, but HHW is not regulated and therefore may be disposed of in a municipal solid waste landfill. Even if households want to dispose of HHW in a more environmentally responsible manner, many lack an affordable option. Therefore, the 1.6 million tons of HHW Americans generate each year is often poured down the drain, onto the ground, into storm sewers, or put in the trash.

Because some landfills in Idaho are unlined, hazardous leachate can leak from the landfill and contaminate ground water, which supplies 90% of the state's drinking water. Sanitation workers can be injured by exploding aerosol cans, splashing chemicals or poisonous fumes created by the accidental mix of incompatible chemicals. If HHW is poured down the drain, in the toilet, or on the ground, septic tanks and/or wastewater treatment systems can be contaminated. HHW can kill the active bacteria either in a septic tank or at the wastewater treatment facility. Wastewater treatment facilities cannot remove all heavy metals, and these may contaminate sewage sludge, water supplies, and animal habitats.

If HHW is not disposed of, it can be stored in garages or basements for long periods of time, creating an unsafe environment due to corroding containers and curious children. As much as 100 pounds of HHW can accumulate in a home, often remaining there until residents move or do an extensive cleanout. Poison control centers report more accidental poisoning among toddlers than any other age group. Additionally, firefighters can be hurt by household chemicals when responding to fire emergencies.

Furthermore, in Idaho waste from Conditionally Exempt Small Quantity Generators (CESQGs), or businesses generating less than 220 pounds of hazardous waste each month, is allowed to be disposed of in a municipal or non-municipal landfill through a conditional exemption in the hazardous waste regulations, if authorized by the landfill and included in its operating plan. Most landfills in Idaho screen for hazardous waste, but items may be missed. Therefore, hazardous waste from small businesses or other CESQGs can also find its way into Idaho's landfills and pose a threat to human health and the environment.

## Invest in Prevention

Before planning an HHW diversion program or event, consider promoting pollution prevention first or in conjunction with the program or event. Pollution prevention refers to actions that prevent the generation of waste in the first place such as:

- Purchasing
  - alternative non-toxic or less-toxic products
  - products that are recyclable locally or can be shipped back to the manufacturer
  - products that are reusable
  - no more than what can be used
- Using the entire product before purchasing more
- Sharing products that are no longer needed with neighbors
- Using alternative methods that do not require toxic products, such as xeriscaping which requires less or no pesticides

Pollution prevention can also refer to the proper use, storage, and disposal of toxic products. For example:

- Using the product conservatively or according to the directions
- Storing it in the original container and in a safe, dry, and cool environment
- Providing secondary containment in case of a spill so toxic materials do not enter drains, ground water, or surface water
- Not disposing of toxic materials in the trash, on the ground, or down the drain

If residents and CESQGs can make better decisions about the purchase and use of toxic products and materials, less HHW will need to be diverted from the landfill and cities and counties will incur less expense. Additionally, if materials are used, stored, and disposed of properly, the risk of expensive cleanups or impact to drinking water is minimized.

Cities and counties can help encourage these practices by:

- Hosting workshops on alternative products and methods for residents, such as xeriscaping, pesticide free lawns and gardens, less-toxic products for home improvement, etc
- Signing up for and implementing the Storm Drain Marking Toolkit at [www.deq.idaho.gov/pollution-prevention/p2-for-local-govts/storm-drain-marking-toolkit.aspx](http://www.deq.idaho.gov/pollution-prevention/p2-for-local-govts/storm-drain-marking-toolkit.aspx)

The storm drain marking toolkit is a set of materials designed to assist cities and counties in planning and implementing a community event to mark storm drains. The purpose of the program is to provide a visible way to advise citizens not to dump waste down storm drains. It consists of various informational materials such as instructions on how to plan and implement a storm drain marking program, items to publicize a marking event, and safety tips. The materials can be used separately or together, and can be personalized to your community.

- Making literature on alternative products and pollution prevention available at public buildings and on city or county web sites
- Setting an example for the public by using alternative products and pollution prevention methods internally
- Making presentations to students and community or business groups about alternative products and pollution prevention
- Using local radio, television, and newspaper outlets for promotion and education

## Example HHW Diversion Programs

Household hazardous waste programs can vary depending on the resources available to the city, county, civic organization, or business. However, cities and counties are typically the most appropriate entities to coordinate a collection program as they already have an established infrastructure and system for garbage collection, management, and fees. However, as discussed later in this guide, they do not have to be solely responsible for funding, planning, and executing the program or event.

Common diversion programs include:

1. **A reuse program** can be in addition to a collection program or a stand alone program. It requires a permanent facility designed for the storage of reusable HHW, such as leftover paint, stains, or other household products. Reuse programs can include all types of HHW or can target a specific waste such as paint. Reuse programs can be free to residents and CESQGs (as long as the item to be reused is actually a product and not a waste), or communities may choose to charge a small fee to purchase the reusable products.

*Benefits:* Reuse programs are cost-effective and do not require a lot of planning. Theoretically, the cost of running a reuse program should include the cost of building or purchasing a structure to house the products (if one does not already exist) and personnel to oversee the program. The program could be self-sustaining if “shoppers” are charged a minimal fee for the materials.

*Barriers:* Realistically, products dropped off may expire if not used or, if not monitored closely, unusable products could be dropped off requiring proper disposal through a hazardous waste contractor. Additionally, reuse programs are a good first step in addressing HHW, but work best when a collection program is also in place for products that are not reusable.

2. **Special collection day(s)** typically entail an annual or semi-annual collection over one or more days (e.g., one day for households and one day for CESQGs).

*Benefits:* Communities commonly start with a special collection day rather than a permanent ongoing program because it does not require a permanent facility or full-time personnel. Collection days also help gauge public interest in diverting HHW before any resources are invested in a permanent facility or program. If available, the events can also largely be executed with volunteers.

*Barriers:* Because the awareness of properly disposing of HHW is growing, collection events can be very successful and therefore expensive. Special collection days only provide one day a year for residents to dispose or recycle HHW.

3. **Small-scale collections** entail a smaller-sized collection event for a specific material(s), such as oil-based paint, waste oil, batteries, or another type of waste that is considered an unacceptable risk or a likely source of environmental contamination rather than a comprehensive, full-scale event.

*Benefits:* Small-scale collections can be conducted inexpensively and in some cases even show a profit if the wastes collected are recyclable. Small-scale collections are a good start for communities interested in diverting HHW.

*Barriers:* Small-scale collections do not collect all HHW, leaving residents without options for other wastes.

4. **Permanent drop-off sites** typically entail a permanent facility designed for the collection and temporary storage of HHW located at a landfill or other convenient location that has regular hours throughout the year or specific months (e.g., the first Saturday of every month April through October).

*Benefits:* Permanent collections provide an option for residents and CESQGs to dispose of hazardous waste throughout the year, which prevents improper storage. Their convenience and availability also tend to increase participation rates. The costs of a permanent collection program are spread in more manageable amounts throughout the year rather than a large bill once a year.

*Barriers:* Permanent collections require more investment upfront to fund a permanent facility, and require devoted staff to run the program year-round or through the designated months.

5. **Local business-sponsored collection sites** typically involve a partnership between the community and a local business to collect a particular type of waste, such as fluorescent light bulbs, electronics, or pharmaceuticals. The business may have an interest in sponsoring a collection because it sells an alternative product that is less-toxic or non-toxic or sells a product such as compact fluorescent light bulbs and wants to provide the community with an option for proper disposal.

*Benefits:* Local business-sponsored collections are free for the community and very convenient.

*Barriers:* Local business-sponsored collections may be hard to initiate depending on the size of the community and, if they are established, only take specific HHW.

6. **Exchange programs** can be in addition to any of the other diversion programs or they can be a stand-alone program. They require identifying an item that has a safer less-toxic or non-toxic alternative and inviting the community to swap the two, such as exchanging a mercury thermometer for a digital one.

*Benefits:* Residents are not only provided an outlet for properly disposing of a dangerous object, but immediately receive a free alternative. Exchange programs are very appealing to the general public because they are relatively simple and do not require a lot of time to participate.

*Barriers:* Exchanges only take specific HHW and can be expensive depending on the item to be exchanged unless the community can find a partner to offset the costs.

Regardless of the type of diversion program your community chooses, any program can provide a significant benefit to residents and the environment.

## Organizing a HHW Diversion Program or Event

### Steps for Organizing a Diversion Program

- Step One: Planning the Program or Event
- Step Two: Obtain Funding
- Step Three: Hire a Licensed Hazardous Waste Management Firm
- Step Four: Select Dates and Location(s)
- Step Five: Become Familiar with Applicable Regulations, Minimize Liability, and Train Volunteers
- Step Six: Conduct Public Education and Marketing
- Step Seven: Evaluate the Program

### Step One: Planning the Program or Event

To develop or hold a successful household hazardous waste diversion event or program, planning and organizing are necessary. Allow at least six months' lead time to carry out the following important organizing activities:

1. Identify, contact, and involve all potentially interested groups. Although one person can be the catalyst for beginning a community program, the success of the program depends on the involvement of a variety of individuals and organizations. Some good sources are city and county officials, environmental groups, local river authorities, lake organizations, fire departments, civic organizations, newspapers, local radio and television stations, health groups, local chemical manufacturers, and local businesses.

2. Hold an initial planning meeting with all interested groups. Set an agenda to make decisions on the following:
  - Sponsoring agency to take the lead in:
    - i. Managing and funding the program
    - ii. Developing Requests for Proposals (RFPs) and contracts with a licensed hazardous waste contractor
    - iii. Recruiting, managing, and delegating responsibilities to supporting agencies and staff
    - iv. Involving community leaders and residents in planning and implementing the program
  - Type of diversion program or event: reuse program, special collection day, small scale collection, permanent drop-off site, local business-sponsored collection, or an exchange program
  - Approval and financing methods
  - Materials collected (types of HHW, other wastes, recyclables, etc.)
  - Public education and prevention programs and survey forms for event or program
  - Locations and dates for event or program
  - Hiring a licensed hazardous waste firm and contacting recyclers of waste oil, batteries, and useable paint
  - Sources for recruiting volunteers
  - Sponsors for food and refreshments for volunteers
  - Regulations (such as putting together operational plans and notification), training requirements, etc).
  - Publicity and recognition for volunteers
  - Non-hazardous waste disposal options such as dumpsters

Encourage the group to be creative in organizing, publicizing, and financing the project. Work out goals to be met and a timeline to complete these tasks. Get each member of the group to commit to completing a task before the next meeting.

## Step Two: Obtain Funding

Money can be the limiting fact in implementing a diversion program or event. The majority of the cost for an event or program is sorting, packaging, transporting, and disposing of the waste. Other costs include advertising materials and equipment.

No proven formulas are available for estimating costs for a diversion event or program, but the U.S. Environmental Protection Agency (EPA) has put together a rough cost estimate formula to give communities a general idea.

$$\frac{.01 H}{8} \text{ (low participation)} \times \$350 + \$5,500 = \$ \underline{\hspace{2cm}} \text{ (low estimate)}$$

$$\frac{.03 H}{4} \text{ (high participation)} \times \$350 + \$5,500 = \$ \underline{\hspace{2cm}} \text{ (high estimate)}$$

- H is the number of households in the target area.
- The formula produces a range, reflecting a participation rate from one to three percent of the targeted households.
- If oil and paint are to be consolidated, divide the number of expected participants by eight, as show in the equation, to calculate the number of 55-gallon drums. (It generally takes seven or eight households to fill a 55-gallon drum of waste.) If no wastes are consolidated, divide by four, as shown in the equation.
- \$350 is the average cost of treatment/disposal per 55-gallon drum.
- Add \$5,500 for set-up and personnel costs.
- Local staff time, publicity, and education are additional, but are usually not a significant cost item for diversion programs.

Note: Dollar figures above are 19% estimates.

Sources for funding may include:

- local or regional chemical manufacturers
- solid or hazardous waste disposal companies
- corporations with branches in your area
- civic groups
- grants through private foundations or public interest groups
- tipping fees
- user fees: charging participants a fee at the site
- additional fees on utility bills
- Adopt-A-Barrel (businesses pay for the disposal cost of a barrel of waste)

How to Minimize Costs:

- Maximize reuse and recycling to minimize hazardous waste disposal costs and conserve natural and financial resources. For example, communities can use paint collected for graffiti abatement or building improvement projects or used oil in heaters. The sale of some recyclable items, such as silver-oxide button and lead-acid batteries, can help defray a program's costs.
- Coordinate with another community by sharing the fixed costs associated with hiring a contractor and hosting an event, such as transportation, staff, equipment, etc.
- Consolidate instead of lab-packing HHW to reduce costs by allowing for much more waste per drum. (A lab-pack consists of a large container that holds several smaller containers.) Paint, used oil, and antifreeze are frequently consolidated.
- Use volunteers (only for low-hazard items) or city or county personnel to receive, consolidate, and package the waste rather than contractor staff.
- Educate the public about how to reduce HHW generation and how to manage existing HHW without bringing it to a collection center. For example, return car batteries to the point of purchase.

## **Step Three: Hire a Licensed Hazardous Waste Management Firm**

Selection of a hazardous waste management firm is paramount to the success of any collection event. Evaluate collection firms using several criteria, including:

- Price
- Service
- Safety record
- Experience with similar projects
- Qualifications of personnel
- Past or pending litigation against the company
- Available disposal facilities and current disposal and transportation licenses

The roles of a contractor should be spelled out in the contract, and may include:

- Providing necessary materials and equipment
- Properly training its collection staff
- Obtaining necessary insurance
- Consulting with program planners about waste management methods to be used
- Providing necessary services on collection day, such as unloading wastes from vehicles; screening, packaging, testing, and labeling wastes; supervising volunteer personnel; and hauling and disposing of the waste
- Complying with all applicable federal, state, and local requirements
- Submitting post-collection reports
- Identifying appropriate hazardous waste treatment, storage, and disposal facilities

If the contractor cannot accept certain types of materials or unidentified waste, this must be spelled out in the contract. A contractor should clearly state how the material will be packaged (lab-packed, bulked, consolidated), how the price will be determined (flat rate or per drum), and how it will be disposed of.

Though there are restrictions on waste disposal, some classes may be disposed of by several methods. EPA has established a preference ranking of methods of handling household hazardous waste:

1. Reuse
2. Recycle
3. Treatment in a hazardous-waste incinerator
4. Disposal in a hazardous waste landfill

## **Step Four: Select Dates and Location(s)**

Select a date that does not conflict with other community events. Volunteers are difficult to find when other community-wide events are scheduled for the same day.

Carefully consider location when planning your collection. The following issues are important when selecting a site:

- Central location

- Accessibility
- Traffic flow
- Size and configuration

Using city- or county-owned property may involve fewer restrictions than using private property. The site should be well removed from residences, parks where children play, and environmentally sensitive areas, such as open bodies of water, wells, faults, and wetlands. Use sites with an impermeable surface (e.g., pavement or concrete) to minimize environmental risks. Onsite utilities should include running water, fire hydrants, and electric hookups (or generators) in case lights are needed to pack and label the HHW after dark.

### **Step Five: Become Familiar with Applicable Regulations, Minimize Liability, and Train Volunteers**

When hosting an HHW diversion event or program, it is always a good idea to notify the local DEQ office and fire department. If your program includes a permanent HHW collection facility, it is subject to the Idaho Solid Waste Management Rules (IDAPA 58.01.06). Temporary drop off locations or other facilities where individuals or businesses are authorized to store waste for ultimate collection and disposal or recycling are excluded from the Idaho Solid Waste Management Rules.

When collecting HHW, communities should be cautious about the source of the hazardous waste and make every effort to assure it is truly household hazardous waste and not waste from a business. Some communities arrange a special collection day for small businesses, allowing them to make an appointment to dispose of hazardous waste at a reduced cost. If a community wants to invite businesses or schools to the event, it is advisable to only invite CESQGs (facilities that generate less than 220 lbs. of hazardous waste per month, and arrange a separate day for collection). Businesses that generate more than 220 lbs. per month are subject to stricter regulations; including them would significantly complicate the event. If CESQGs are invited, the business or entity must determine that the waste is hazardous and prove that it is a CESQG. The community and the community's hazardous waste contractor must ensure that the waste is properly disposed of through a treatment, storage, and disposal facility (TSDF) or legitimately recycled and provide the business with the necessary documentation. Contact DEQ with questions.

Proper training of in-house staff and volunteers is essential for minimizing potential problems on collection day. The hazardous waste contractor and other qualified staff can help guide volunteers and staff, but volunteers and staff should have an understanding of general safety measures, what they can and cannot do, and when to employ the help of the contractor or other qualified staff.

Ensure that the program has adequate insurance to cover general, employee, transportation, and environmental liability. Verify that the contractor has a safety, accident prevention, and contingency plan for the event. If non exist one should be

developed to outline steps for preventing spills, a contingency plan in the event of a spill or accident, and a list of the health and safety equipment available onsite.

## **Step Six: Public Education and Publicity**

Before citizens will participate in an event or program, they must understand that purchasing, using, and disposing of household products containing hazardous substances causes environmental problems. Therefore, a public education program should include these key points:

1. Identify what household products containing hazardous materials can be disposed of or exchanged through the event or program. If only paints, waste, oil, and/or batteries are being accepted, make this known from the start. If certain wastes will not be accepted through the event or program, provide residents with alternative options for disposal even if a cost is involved. An option with a cost is better than no option at all.
2. Identify the environmental and health hazards of improper use and disposal of hazardous products.
3. Provide information on the use and benefits of alternative products that are non- or less toxic.

Begin education and publicity activities as soon as possible. Publicize early and widely to gain support for and participation in the event or program. The first phase of publicity should be education so audiences understand the importance of the event or program. A few weeks prior to the event or the start of the program, publicize again emphasizing:

- when the event will occur
- where it will take place
- what to bring and what not to bring
- how to transport materials safely to the event and
- who may participate (for example, only citizens of your community) – this needs to be made clear

Opportunities for publicizing the event or program include:

- Including inserts in utility bills
- Marketing PSAs to local radio and television stations and ads to local newspapers. Some may run them for free as a community service; ask for the promotions department.
- Making presentations to schools, churches, and local community groups. Students often teach parents, so bring materials to hand out
- Enlisting the help of a local advertising firm, if possible
- Sending letters to the editors of local newspapers and news releases to all local media outlets (radio, television, newspapers, newsletters, etc.)
- Submitting an op-ed article to the local newspaper

The event is also an opportunity to survey participants to determine if they would participate in future programs, what types of waste they generate, if they would be willing to pay to dispose of HHW, etc.

## **Step Seven: Evaluate the Program**

Evaluation is important to the continued success of any HHW collection program, whether it is a one-time event or an on-going, regularly scheduled program. The sponsor should compile data from the program, including number of participants, percentage of the target population served, quantities of wastes collected, quantities and percentages of recycled waste, itemized total costs, cost per participant, and waste management cost per pound. This information can help determine whether program goals have been met. The sponsor's contract with the hazardous waste company should specify data the sponsor needs from the contractor for post-collection evaluation.

All partnering agencies should debrief after the event or within a few months of the program's start to determine what's working well, what isn't, and what changes can be made. If surveys are collected at the event, those can also be reviewed to tailor the program to better meet public needs.

## **Idaho Case Studies**

Following are a few case studies from Idaho communities that have planned and executed a household hazardous waste program or event.

# Ada County

## Household Hazardous Waste Program

### County Overview

Ada County is located in southwestern Idaho and has a population of approximately 300,904 people. The county seat is Boise. Ada County's Solid Waste Department operates the Hidden Hollow Landfill and the new North Ravine Cell Landfill.

### Program History

Recognizing a threat to the environment and to human health, Ada County established the Hazardous Waste Division to manage potentially hazardous materials brought to the landfill. From this division an annual one-day event to collect household hazardous material was initiated in 1989.

The event was open to households and was sponsored by Ada County, Boise City, the Central District Health Department and the Ada County Highway District. Held at the county's Public Safety Building the event was staffed by outside contractors and county employees and funded through tipping fees at the landfill. All forms of HHW were accepted at the events and the waste was disposed of by a contractor. Due to the success of the program, it eventually grew to a two-day annual collection event.

The last two-day event was held in 1996, and according to the 1996 Year End Report:

“The eighth annual Household Hazardous Waste Collection event was conducted in May 1996. This year, over 4,700 households took advantage of the collection event. 6,216 gallons of latex paint, 7,300 gallons of used motor oil, 727 lead acid batteries, 160 fifty-five gallon drums of pesticides, 68 fifty-five gallon drums of oil-based paint and solvents, 3 fifty-five gallon drums of household batteries, 1,118 gallons of anti-freeze, 310 pounds of lab-pack materials, and 34 fifty-five gallon drums of miscellaneous materials were collected and diverted from Hidden Hollow Landfill. These materials could have legally been disposed of in the landfill. However, because of their hazardous nature, it is better for landfill operations and for the environment that these items are diverted for other disposal. The 1996 Household Hazardous Waste Collection event cost \$117,717.15. This was an average of \$24.80 per household using the event.”

As evidenced by the participation rates, the program needed further expansion. Therefore, Ada County began looking for an affordable long-term solution for hazardous waste disposal. The county and its consultants looked at a variety of alternatives and programs. In visiting several hazardous waste collection facilities in western Washington, the county saw a wide variety of solutions to the same problems and issues present in their own program. Although there was no “one perfect solution,” there was a common theme. The logical next step in the program was a move away from annual events to a more accessible and convenient option – construction of a permanent facility with expandable capacity and availability. Therefore, Ada County directed its consulting architect to design an appropriate building for the program. The building would be located at the

landfill, where it would be convenient to the county's residents. In 1998, the County's 5,000 square foot household hazardous material collection facility opened.

### **Existing Program Overview**

Residents and qualifying businesses can drop off waste at the landfill household hazardous material collection facility every Friday and Saturday from 8 a.m. to 6 p.m. In addition, the Board of County Commissioners directed that any household hazardous material collected by local jurisdictions in Ada County could be brought to the facility and the county would pay the disposal costs. As part of its support of the hazardous material collection program, the city of Boise purchased a van for use as a mobile collection site. Boise's very successful program has been copied, to a lesser extent, by the cities of Meridian, Eagle, and Kuna. Collection sites rotate depending on the day of the week and the week of the month to maximize the opportunity for all residents to have access to the service. Other county partners include Allied Waster Services, J & M Sanitation and Sanitary Services Company.

Ada County also organizes a material reuse program at the household hazardous material collection facility. The county makes products received at the facility available to the public free of charge. By making these products available, the county encourages reuse of materials and saves on disposal costs. Products are accepted for reuse if they are in their original container, are at least one-half full, and have not been altered (or banned).

After the construction of the permanent facility, Ada County opened the household hazardous waste collection program to conditionally exempt small quantity generators (CESQGs). CESQGs are typically small businesses that generate less than 220 pounds of hazardous waste each month and, through a conditional exemption in the federal hazardous waste regulations, can legally dispose of hazardous waste at a municipal or non-municipal landfill (if authorized by the landfill). However, even if a landfill prohibits disposal of hazardous waste by CESQGs, this waste can still make its way into the landfill. Therefore, Ada County wanted to create a convenient and low-cost option for qualifying businesses to properly dispose of hazardous waste.

To qualify for the program, CESQGs must be registered with the county, generate less than 220 pounds of hazardous waste each month, generates less than 2.2 pounds of acutely hazardous waste each month, and store no more than 2,200 pounds of hazardous waste on site. Qualifying businesses are also required to fill out an application, certification, and waste inventory form to be approved for the program, and then may set up an appointment with the facility. Qualifying businesses do have to pay for this service, which saves on the cost of disposing of the waste independently through a hazardous waste contractor, which is often a discouraging factor for many small businesses.

### **Staffing and Training**

One county employee, a hazardous material coordinator, oversees the operation of the hazardous materials collection facility. The county uses an outside contractor to staff and operate the facility. The hazardous waste contract is renewable up to seven times and put out to bid after seven years or when necessary. Participating cities handle the collections within their jurisdictions by contracting with a hazardous waste contractor and setting

locations and a schedule for collection. Every employee involved with hazardous waste collection is required to complete a one-time 40 hour hazmat training and an annual 8 hour refresher course.

## Material Collection and Management

The hazardous waste contractor collects the material and sorts it by waste compatibility and end disposal requirements. The county recycles or reuses in some manner automotive batteries, oil-based paint, flammable liquids, latex paint, motor oil, antifreeze, most rechargeable batteries, and fluorescent lighting.

The following materials are currently being diverted (items that cannot be recycled or reused and are safely disposed of through a hazardous waste contractor):

- Used motor oil
- Antifreeze
- Old gasoline
- Batteries
- Latex and oil-based paints
- Solvents
- Paint thinners
- Wood stains
- Pesticides/herbicides
- Garden chemicals
- Pool/spa chemicals
- Aerosols
- Household cleaners
- Laundry products
- Fluorescent light tubes
- Compact fluorescent light bulbs
- Mercury thermostats
- Mercury thermometers
- All electronics
- Expired prescriptions and over-the-counter drugs
- Unidentifiable wastes

## Funding

The hazardous materials collection facility and operation of the program are funded through tipping fees. Tipping fees were not initially raised to fund the facility or program, but they are a part of the county's annual budget review, and the cost is accounted for when setting tipping fees each year.

The cost for the program varies based on the amount of waste received. The base rate is \$216,000 for the hazardous materials collection facility. The mobile collection programs contract directly with the county, which pays for the cost of collection separate from the facility contractor. In total, the household hazardous waste program costs an average of \$750,000 to \$1,000,000 per year.

## Outreach and Marketing

The program is marketed through the use of handouts, educational tours at the landfill, guest speaker opportunities, and special collection promotions announced through press releases.

## Results

The key to the success of Ada County's program is the cooperation of all the various participants and the exemplary way the program is run. While the county knows it cannot please everyone, the overall response has been overwhelmingly positive. The number of households using the service and the total amount of waste collected has increased each year the program has been active. In fiscal year 2008-2009, the county diverted over 842,000 pounds of hazardous material, and in the 11 years since the hazardous materials collection facility opened, the program has diverted over 9.7 million pounds of hazardous waste from the landfill.

## Tips from Ada County

To have a successful household hazardous waste program Ada County feels it is important to first talk with and visit other hazardous waste collection facilities. Doing so gives you a broad range of ideas to select from when designing your own program. Ada County suggests that rather than simply copy other programs, you should mold and design a plan and facility to meet your community's particular needs.

# Bannock County

## Household Hazardous Waste Program

### County Overview

Bannock County is located in southeastern Idaho and has a population of approximately 75,656 people. The county seat is Pocatello. Bannock County's Solid Waste Department operates the Bannock County Landfill and McCammon Transfer Station. Bannock County has owned and operated the landfill since 1979, when it took over operation from several different companies including Parks & Sons, Snake River Sanitation, and the City of Pocatello. In 1993, the original landfill, which opened in 1943, closed, and the new current subtitle D landfill was constructed.

### Program History

Bannock County began diverting household hazardous waste (HHW) from the landfill in 1992, after ground water contamination was detected in the aquifer near the old landfill. The program started out as a cooperative effort between Bannock County and the Cities of Pocatello and Chubbuck. It ran from 1992 to 1994 as a one-day event held each year in a parking lot at the City of Pocatello's Sanitation Department. The hazardous waste collected was transported to Utah and disposed of by Clean Harbors, a hazardous waste contractor.

Initially, the county and both cities supplied employees that were being paid overtime to staff the event. The total cost of the event was divided equally between the three partners (\$43,900 in 1992; \$37,917 in 1993; and \$40,748 in 1994). The challenges that the partnership faced included finding a good place to hold the event and finding chemists to volunteer to help to sort the wastes received. Luckily, the county found several trained volunteers from the Idaho National Laboratory and the local fire department. During the first event, over 500 people from the community brought in waste.

### Existing Program Overview

In 1995, the partnership between the county and the cities ended because Bannock County was able to manage HHW at the new larger landfill. However, before the county could manage the program independently, several things needed to be accomplished, including training additional solid waste personnel and building a reuse area for HHW that could be reused by departments within Bannock County.

Therefore, the county landfill personnel attended a 40-hour hazardous material training. The county also built a containment building to store the 55 gallon drums of HHW until they were picked up by the contractor.

Today the program collects HHW during the months of April through October on the first Saturday of each month from 9 a.m. to 3 p.m. During these times, County residents can bring their waste to the landfill's household hazardous waste building for drop-off (or they will be directed by employees who remove the waste from the vehicles).

## Staffing and Training

The county uses local inmates to help remove materials from residents' vehicles. This program began because of a need for additional manpower. The inmates are only allowed to take the hazardous waste out of customer vehicles; trained county employees are responsible for sorting. County employees are required to complete 40 hours of hazardous materials training prior to handling the waste and attend an 8-hour refresher course yearly.

## Material Collection and Management

Once the waste is removed from vehicles, it is separated into 50 gallon drums or stacked in the containment building if it is reusable. The antifreeze, oil, and vehicle batteries are sold to a local company to be recycled or reused, and remaining materials are either properly disposed of as hazardous waste or recycled. The county contracts with a hazardous waste company to dispose of the unusable materials.



The following materials are currently being diverted (items that cannot be recycled or reused and are safely disposed of through a hazardous waste contractor):

- Used motor oil
- Antifreeze
- Old gasoline
- Batteries
- Oil-based and latex paints
- Solvents
- Paint thinners
- Wood stains
- Pesticides/herbicides
- Garden chemicals
- Pool/spa chemicals
- Aerosols
- Household cleaners
- Laundry products
- Fluorescent light tubes
- Compact fluorescent light bulbs
- Mercury thermostats
- Mercury thermometers

## Funding

The county awards two-year contracts based on price and past service for hazardous waste disposal. The county funds the HHW program through solid waste fees at a cost of approximately \$17,000 per year. Instead of raising tipping fees to fund the program, the county funds the program out of its operating budget.

## Outreach and Marketing

Today the county markets the program and conducts community outreach by advertising in the newspaper, on billboards, reader boards, flyers, magnets, and radio and public service announcements. They also educate approximately 2,500 students each year during Water Week, which is held at the City of Pocatello Water Department. The program has been successful and has continued to grow every year.

## Results

The county typically collects 6,500 to 7,000 gallons of HHW per year. In fiscal year 2009, the county recycled 2,350 gallons of used oil, 725 gallons of antifreeze, and 248 batteries.

Approximately 240 people attend each of the seven events yearly, for a total of about 1,680 people.

## Tips from Bannock County

Start out slow and see what kind of response you get. Train your own employees by having them attend a 40-hour HAZWOPER class and re-certify them every year with an 8-hour course. If possible, use inmates to help with lifting products out of customer vehicles.



**Free Household Hazardous Waste Collection**

**Bannock County Residents Only**

**WHEN:** Saturday, April 2nd, 2006  
9:00 am - 3:00 pm

**WHERE:** Bannock County Landfill  
1500 N. Post Hall Blvd Rd.,  
Pocatello, ID

We will accept up to 5 gallons each of household hazardous wastes, such as:

- AUTO & HOUSEHOLD BATTERIES
- PAINTS
- WASTE AUTO FLUIDS
- CLEANERS • GAS OIL
- PESTICIDES/HERBICIDES

Sponsored By:

We will NOT accept:

- COMMERCIAL WASTE
- LEAKING CONTAINERS
- MIXED WASTE • A/C CHEMICALS
- EXPLOSIVES • UNLABELED WASTE

Successful collection efforts have helped to protect our groundwater from hazardous waste contamination.

For more information, call  
**236-0607**

**Remember ...**  
What you throw away today,  
You may be drinking tomorrow!

# Bonneville County

## Household Hazardous Waste Program

### **County Overview**

Bonneville County is located in southeast Idaho and has a population of approximately 102,000 people. The county seat is Idaho Falls. Bonneville County Solid Waste Department operates the Bonneville County Landfill (Peterson Hill), Bonneville County Transfer Station, and the Bonneville County C&D Facility (Hatch Pit).

### **Program History**

In 2007, a one-day event to collect household hazardous waste (HHW) was held in Bonneville County. The event was a joint effort by Bonneville County, the City of Idaho Falls, the City of Ammon, and the Idaho Department of Environmental Quality (DEQ) to provide a centralized drop-off location for hazardous waste and offer safe treatment and disposal.

The event was held on May 11 and 12, 2007, but the planning started long before then. Event sponsors formed a planning committee that used guidance from the U.S. Environmental Protection Agency to determine the goals of the event, who would be eligible to drop off waste, which wastes would be accepted, and other important details like costs and logistics.

Day one of the event was open to small businesses categorized as conditionally exempt small quantity generators. Each business had to make an appointment and pay a small fee to drop off their hazardous wastes. Day two of the event was open to the general public and began early because cars were lining up before the event even opened. However, as cars were waiting their turn, volunteers handed out educational material about HHW, how to reduce the use of products that create it, how to safely label and store HHW, and where to recycle it.

When waiting cars reached their turn in line, drivers would pull up and turn off their engine, and volunteers would unload the car and sort the waste. Wastes were sorted by type, including paints, oils and antifreeze, aerosols, flammable liquids, mixed hydrocarbons, batteries, electronics, and others. Volunteers were able to unload two cars per minute, and drivers had to wait between 15 and 50 minutes for their turn.

In 2008, through a grant from the Idaho Department of Environmental Quality, Bonneville County and several surrounding counties held another one-day event, which received an even greater response from the community.

### **Existing Program Overview**

In 2009, due to the success of the one day events the previous two years, Bonneville County decided to begin holding multiple events throughout the summer.

Multiple events require fewer staff to operate and offer residents more than one opportunity to drop off waste and shorter wait time. Landfill employees staff the multiple events, thus offering employees more opportunity for training.

Currently, the program collects HHW during the months of May through September on the second Saturday of each month from 9 am to 3 pm. County residents can bring their waste to the transfer station, where they will be directed by employees who remove the waste from their vehicles.

### **Staffing and Training**

During the 2007 and 2008 events, Bonneville County worked with DEQ, the Idaho National Laboratory (INL), and fire departments to secure volunteers. Currently, the county uses inmates from the county jail and county solid waste employees to staff the HHW collection events. Inmates are only allowed to remove hazardous waste from the customer vehicles while trained county employees are responsible for sorting the waste. County employees received 40 hours of hazardous materials training before the first event and attend an 8-hour refresher course yearly.

### **Material Collection and Management**

Once the waste is removed from vehicles, it is sorted into 55-gallon drums or palletized cardboard boxes. The county recycles waste oil, antifreeze, and vehicle batteries, and the remaining materials are either properly disposed of as hazardous waste or recycled through a contract with a hazardous waste company.



The following materials are currently being diverted from the landfill:

- Used motor oil
- Antifreeze
- Old gasoline
- Batteries
- Oil-based paint
- Solvents
- Paint thinners
- Wood stains
- Pesticides/herbicides
- Garden chemicals
- Pool/spa chemicals
- Aerosols
- Household cleaners
- Laundry products
- Fluorescent light tubes
- Compact fluorescent light bulbs
- Mercury thermostats
- Mercury thermometers

## Funding

The county bids out its hazardous waste disposal every other year and awards the bid based on price and past performance. The county funds its HHW program through solid waste fees, but did not have to raise fees to fund the program.

- In 2007, the total cost of the event was \$68,000 (city of Idaho Falls -\$15,000; city of Ammon - \$3,240; and Bonneville County - \$49,760) with over 1,000 people participating.
- In 2008, the total cost of the event was \$98,000 (city of Idaho Falls - \$15,000; city of Ammon - \$3,240; DEQ - \$2,000; and Bonneville County - \$77,760) with over 1,600 people participating.
- In 2009, the total cost of the program was approximately \$65,000.

## Results

During the two-day event in 2007, the original attendance goal of 400 cars was more than reached as over 900 cars, trucks, and trailers or approximately 1,000 people brought in hazardous wastes. Overall, 1,200 gallons of waste oil, 500 gallons of antifreeze, 86 cubic feet of paint, 3 cubic feet of pesticides, and 150 55-gallon drums of other chemicals were collected. Additionally, a large number of electronics and batteries were collected for recycling. In 2008, over 1,600 people participated.



In fiscal year 2009, the county recycled 3,000 gallons of used motor oil, 600 gallons of antifreeze, and nearly 1,000 vehicle batteries. Approximately 200 people attended each of the five events in 2009, for a total attendance of about 1,000 people.

### **Tips from Bonneville County**

Start with an annual event and see what kind of response you get. Utilize and train your own employees. Use inmates and as many volunteers as possible to help keep expenses down.

# City of Lewiston and Nez Perce County Idaho Household Hazardous Waste Program

## City Overview

Lewiston is the county seat of and largest city in Nez Perce County, located in northern Idaho. Lewiston has a population of approximately 30,904 and Nez Perce County has a population of approximately 38,932, including Lewiston.

Lewiston contracts its solid waste operations for business and residential waste pickup and transports the waste to the City of Lewiston/Nez Perce County Solid Waste Transfer Station. The waste is then hauled to the Asotin County Regional Landfill in Clarkston, Washington.

The city of Lewiston and Asotin County Regional Landfill have a contract for solid waste management, and Nez Perce County has an intergovernmental agreement with the City of Lewiston for ownership and management of a transfer station.

## Program History

In July 1991, a household hazardous waste (HHW) program was initiated in response to a rule from the U.S. Environmental Protection Agency developed to encourage the diversion and recycling of universal waste, such as thermometers, light bulbs, used motor oil, and pesticides. Universal wastes are commonly generated hazardous wastes that are present in significant volumes in the municipal solid waste stream, and therefore can largely be found in residential waste streams. Because waste manifests are not required to ship universal wastes and the use of a registered waste hauler is not required to transport universal wastes in Idaho, diverting universal waste from households is an economical option to reduce HHW. Additionally, because the city has a contract with Asotin County Regional Landfill for the disposal of all solid waste including HHW, the city elected to begin diverting HHW.

## Program Overview

The city has two drop off areas for residents depending on the type of waste they need to dispose of and whether they are on the County Solid Waste Collection System. The drop-off areas include Lewiston's Solid Waste Transfer Station (open year round) or the Household Hazardous Waste Facility at the Asotin County Regional Landfill (every Wednesday from 8 a.m. to 4 p.m. and on the first and third Saturdays each month from 8 a.m. to 4 p.m.). Both areas are free to city and county residents. There is a limit of 3 gallons of HHW per car per day.

Those businesses classified as Conditionally Exempt Small Quantity Generators may dispose of used oil, antifreeze, batteries, and oil based paints and related solvents at the Asotin County facility. Pre-registration is required and there is a fee.

## Staffing and Training

City staff is used to manage the HHW collection sites at the transfer station. Each staff member receives a 40-hour training and an annual 8-hour refresher course in the federal Hazardous Waste Operations and Emergency Response (HAZWOPER) standard.

## Material Collection and Management

Once customers arrive at the transfer station or landfill, they are directed to place materials in designated areas. Oil, antifreeze, and batteries are sorted for recycling. At the transfer station, materials are sorted as shown in the picture below. Used motor oil is put into a labeled 2,000 gallon tank, used antifreeze is put in labeled 55 gallon drums, and used automotive batteries are placed on plastic pallets. Latex paint is not recycled; it is dried and placed in the regular waste stream. The city of Lewiston's contractor picks up used oil monthly and automotive batteries weekly; used antifreeze is picked up as needed, but usually once a month or every other month.



The transfer station accepts latex paint, used motor oil, used antifreeze, and automotive batteries. All of the materials collected at the transfer station are transported to the Asotin County Regional Landfill for sale or treatment except for the automotive batteries. The transfer station sells the used batteries to licensed vendors.

The following materials are accepted at the Household Hazardous Waste Facility at the Asotin County Regional Landfill (items that cannot be recycled or reused and are safely disposed of through a hazardous waste contractor):

- Used motor oil
- Antifreeze
- Batteries
- Oil-based and latex paints
- Computers
- Refrigerators
- Pesticides
- Cleaners
- Gasoline
- Solvents

## **Funding**

Lewiston and Nez Perce County fund the program through a tipping fee for the waste they transport to the Asotin County landfill. The tipping fee includes HHW, so indirectly residential rates were increased to help finance the HHW program. On average, the program costs \$45,000 - \$50,000 per year to run.

## **Outreach and Marketing**

The city of Lewiston developed flyers to hand out at the transfer station, and they occasionally include information from the flyer on quarterly utility bills. Additionally, the city Web site has up-to-date information.

## **Results**

Although the city does not have a participation rate, the program is used daily by residents, and about 21 tons of batteries and 7,000 gallons of used motor oil are diverted and recycled annually. Residents really appreciate having the option to recycle rather than throw hazardous materials, and the city is pleased to divert every pound of waste they can from the transfer station floor.

## **Tips from City of Lewiston and Nez Perce County**

The program is relatively easy to develop and implement and adds value to the services provided at the transfer station. Consider additional opportunities that may be available, such as paint stewardship programs. Keep in mind that used motor oil can generate some revenue and used automotive batteries almost always generate revenue. Most importantly, HHW programs are the right thing to do.

# Southern Idaho Regional Solid Waste District Household Hazardous Waste Program

## District Overview

Southern Idaho Regional Solid Waste District (SISW) is a publicly owned and operated entity for handling the solid waste generated in southern Idaho, and a few contracted communities in northern Nevada and northern Utah. SISW, which consists of seven member counties with an approximate total population of 175,238, operates 13 transfer stations and the Milner Butte landfill located in Cassia County.

In the late 1980s, the pending implementation of federal hazardous waste regulations known as Subtitle D significantly increased the levels of concern and awareness among the elected officials of south central Idaho regarding solid waste management alternatives. In July 1989, eight counties in south central Idaho pooled enough resources to initiate an examination of the existing methods of waste management in each county and find alternative methods to reduce the financial impact of Subtitle D regulations.

In 1990, the Idaho legislature provided two key components to assist Idaho counties in meeting the Subtitle D requirements. First the legislature provided solid waste planning funds. These planning funds, administered by Idaho's seven public health districts, kick started the planning process across the state and allowed each area to secure professional consultants. Secondly, the legislature passed the Regional Solid Waste Disposal District Act. This legislation allowed counties to create regional solid waste authorities, thus making waste disposal cost-effective while meeting the state's solid waste disposal needs and regulations.

In February 1992, SISW was officially formed with Blaine, Cassia, Jerome, Lincoln, Minidoka, and Twin Falls Counties. (Gooding County opted to join the district later. Twin Falls County later left the district, but rejoined in 1999.) SISW constructed the Milner Butte Landfill in 1993 and started accepting municipal solid waste in April 1994. Twin Falls County left the district and rejoined in 1999.

## Program History

Milner Butte Landfill was constructed under Subtitle D regulations, making it exempt from accepting household hazardous waste (HHW). In 1999, the District received calls on a regular basis inquiring about proper disposal of HHW. Although HHW is exempt from federal regulation and can be disposed of in the landfill, it was clear there was a need to divert the waste if possible. SISW understood the potential long-term liability to the environment and area ground water and decided to implement an HHW program in 2000. There was a great response from customers once they knew it was free.

The initial program was completely funded with a portion of a U.S. Department of Agriculture (USDA) Solid Waste Management Grant for public education. Public information and educational materials were developed and distributed through media outlets, public schools, and SISW facilities. Staff training focused on hazardous waste

management and wood waste composting. When the program first began, used oil, antifreeze, flammable and combustible liquids, and rechargeable batteries were collected.

## Existing Program

SISW's HHW program expanded to collect additional wastes such as corrosive waste, pesticides, herbicides, fertilizers, small amounts of mercury, captured freon, and electronics.

The program provides the opportunity to prevent HHW from directly entering the landfill, primarily through its 15 transfer stations, which are scattered throughout the district. By running this program in accordance with policies that outline the types and quantities of waste that can be accepted, the potential of health hazards by processing the waste before final disposal in the landfill is drastically reduced.

SISW accepts HHW throughout the year during operating hours, which vary at each transfer station. Trained staff are on hand to separate HHW into specified bins for subsequent collection. The district limits customers to 5 gallons of HHW per customer per day, not to exceed 25 gallons per month.

## Material Collection and Management

Items included in the HHW program are placed in appropriate storage containers. Each site has a used oil tank that is encased in a spill-proof aluminum barrier. Antifreeze is stored in a 55-gallon drum. Once the used oil and antifreeze containers are full, they are recycled. Flammable combustibles, corrosives, and any other HHW are placed in designated bins. Containers of HHW are placed in a manner that allows for safe and secure transportation. Containers that are leaking or otherwise compromised are not recycled, instead SISW staff locate the relevant material safety data sheets (MSDS) and dispose of them properly, because the containers that are not intact have the potential to react with other waste stored in the HHW bins. Automotive batteries are placed as directed by the recycler. Rechargeable batteries are collected on-site and packaged separately from all other HHW.

The following materials are currently being diverted (items that cannot be recycled or reused and are safely disposed of through a hazardous waste contractor):

- Used motor oil
- Antifreeze
- Old gasoline
- Auto batteries
- Rechargeable batteries
- Latex and oil based paints
- Solvents
- Paint thinners
- Wood stains
- Pesticides/herbicides
- Garden chemical
- Pool/spa chemicals
- Aerosols
- Household cleaners
- Laundry products
- Thermostats
- Thermometers
- Elemental mercury (small containers)
- computers
- printers
- Fax machines
- Cell phones
- Refrigerators

## Staffing and Training

Before starting the program, SISW employees attended HazMat training; refreshers are held each year. SISW employees also attend Solid Waste Association of North America (SWANA) training courses annually to stay current with landfill regulations. Employees earn continuing education credits from SWANA upon completion.

## Funding

The initial program was completely funded through a USDA grant, which made it possible for SISW to cover the start-up costs and document the program's positive results and community feedback. Now the program is part of the landfill budget and is therefore funded through municipal solid waste tipping fees of \$19,000 (2010 figure).

SISW assesses each member county a solid waste service fee for the landfill, waste transfer, resource recovery programs, and debt service. Two counties, Blaine and Twin Falls, use tipping fees collected at the point of disposal. The remaining five counties use a solid waste service assessment, which is included with the property tax bill. Those sources of revenue are then paid to SISW on a predetermined schedule.

## Outreach and Marketing

Public education about the program is a successful way of spreading awareness to the members of the community. SISW employees visit schools in the district to educate students about the importance of reducing, reusing, and recycling. They advertise in the local newspapers, on local radio stations, and through public service announcements. Employees also attend county fairs to distribute flyers and inform people about HHW.

## Results

SISW frequently finds that residents are concerned about environmental impact and generally want to do their part in properly disposing of waste they generate. Due to the public's response, SISW has diverted a significant amount of hazardous waste in the past two years, as shown in the following table.

	Tickets Received*	Refrigerators Serviced	Recycled Auto Batteries	Gallons of Used Oil Recycled	Gallons of Antifreeze Recycled	Gallons of Flammable Liquids	Gallons of Other HHW	Gallons of Used Paint	Rechargeable Batteries Recycled	Tons of Computers Recycled
2008	1005	2462	1252	6610	110	986	516	4766	480 lbs.	n/a
2009	1200	2040	881	7475	110	1030	482	3474	1440 lbs.	35.6
2008-2009	19.4%	-17.14%	-29.63%	13.09%	0%	4.46%	6.59%	-27.11%	200%	n/a

\* HHW tickets are filled out by each customer disposing of HHW. These tickets track different categories of waste, which allows SISW to quantify totals annually as well as collect contact information from customers.

*Sample Ticket*

Used Oil In: Gallons	Used Antifreeze: Gallons	Flammable Liquids: Gallons	Other HHW: Gallons	Used Paint: Gallons	Auto Batteries (Each)*	Rechargeable Batt.
Employee Name:			Site:		Date:	
NOTES:				Vehicle Plate Info: 5B 4C 2G 2J 4L 2M 2T		
Name:				Address		
Signature & Date:				City & Phone #:		

### Tips from Southern Idaho Regional Solid Waste District

Josh Bartlome, Environmental Specialist at SISW, has these suggestions:

“Over the years we have found that communication is the key to success. Employees that understand why it’s necessary to follow policy can deal with any situation at hand. Understanding MSDS information can help any situation. The internet makes researching MSDS simple. I always visit with my employees and ask what’s going on, see if they received anything peculiar, and always ask if they have any questions. Keeping an open conversation with employees is always helpful.”