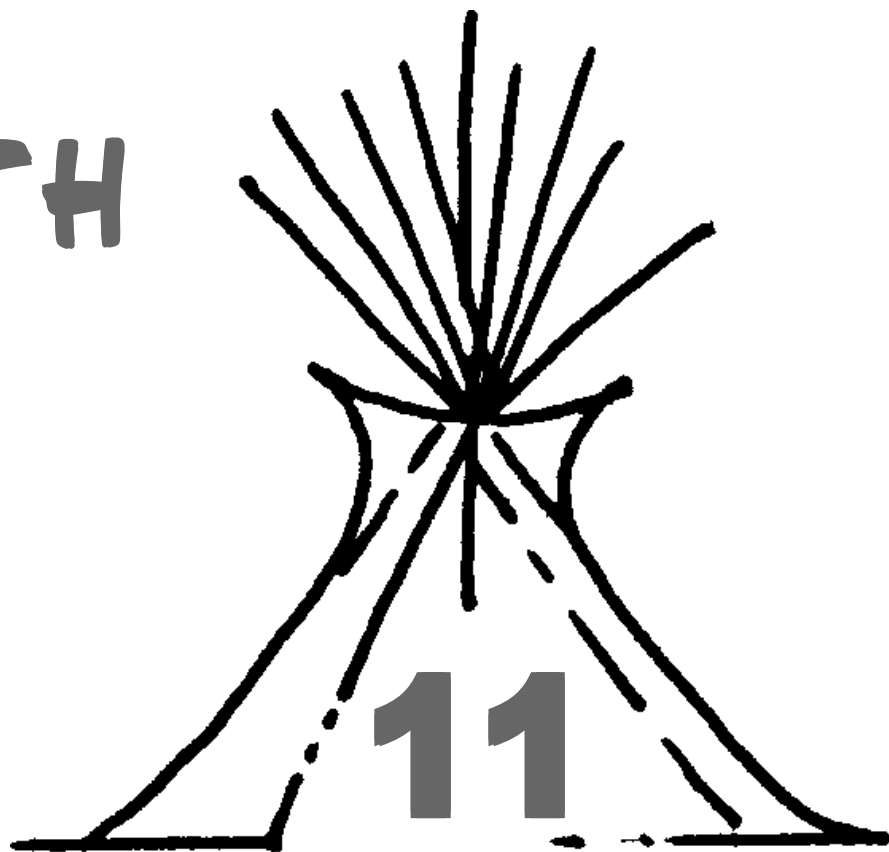


DEALING WITH HOUSEHOLD WASTE:

And How to Reduce, Reuse,
Recycle and Compost



There are lots of ways to reduce the amount of garbage you make and many choices for how to dispose of it. Your choices directly affect the health of your family, your tribal community and the environment.

This fact sheet tells how to deal with waste and protect the quality of your air, soil and water.

- 1. Reducing Waste**—choosing products and services
- 2. Reusing, Recycling and Composting**—ways to deal with waste
- 3. Waste Disposal on Your Property**—alternatives to dumping and burning

Connected to the Earth

We will be known forever by the tracks we leave.

—Dakota

The waste problem

As our population increases, the amount of waste rises. In fact, our waste is increasing faster than our population! Studies estimate that in 1994 each person produced around 4.4 pounds of waste each day, compared to about 2.7 pounds in 1960.

Surveys also found that most people don't realize what solid waste is really made up of. Many think that we throw away more plastics by weight than we really do, and that disposable diapers are a major problem (they aren't). Figure 11.1 shows what is actually in the mountain of solid waste thrown away in the U.S. each year.

The United States produces more waste than any country in the world. While we have less than a tenth of the world's population, we use nearly half of its nonrenewable resources and produce up to a third of its waste. What's more, we often turn the world's natural resources into waste that can't be reused. If we can change from a resource-consuming lifestyle to a resource-conserving one it will help preserve our natural resources and create less waste.

The price of waste disposal

Most of our waste goes to landfills. But people are concerned about where landfills are located, so landfill space is becoming scarcer and more expensive. Environmental laws that protect our health have forced many dumps and incinerators to close or modernize at a cost of millions of dollars. In some areas people pay higher rates for waste to be hauled hundreds of miles and buried or burned. So waste is both an environmental and an economic issue for consumers and tribal communities.

The good news is that these problems have caused us to look for new ways to deal with or reduce our waste. Producing less waste and finding new ways to deal with it saves taxpayer dollars and helps protect the air, soil and water that people and wildlife need for a healthy life.

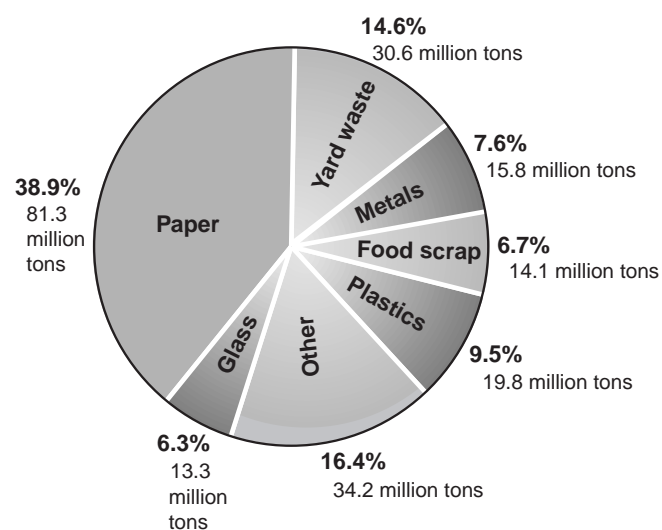


Figure 11.1
What is in our solid waste?

Source: Franklin Associates, Ltd. Source and Characterization of Municipal Solid Waste in the United States: 1995 Update. U.S. Environmental Protection Agency, 1996.

WASTE TERMS

What do you call the stuff you want to get rid of?

Here's how we define terms in this fact sheet:

Trash or waste—items and materials that are no longer wanted.

Reusables—items that are used again, like a hand-me-down jacket, a jar used for a cup, or a refillable glass bottle. They are not reprocessed into raw materials.

Recyclables—materials like glass, metal, paper and even refrigerators that are collected, processed back into raw materials, and made into new products.

Compostables—mainly yard and food wastes that can decompose and return to the earth as nutrients or soil.

Garbage—generally food waste of animal or plant origin.

Municipal solid waste (MSW)—household waste combined with commercial, business and institutional waste.

PART 1 • Reducing Waste



If you don't produce waste, you don't need to get rid of it—it's that simple. But since we all generate at least some waste, we need to think about ways to make less. One way to help preserve natural resources and create less waste is *source reduction*—reducing waste by choosing carefully what we buy and what kinds of products we encourage manufacturers to make. An example of source reduction is using returnable beverage containers.

In this part you will see how you can cut down the amount of waste you produce and prevent some kinds entirely. The table at the end of each part will help you pinpoint which areas to work on.

Waste-conscious shopping

You make buying decisions every day, and anything you buy produces some waste and uses some natural resources. When you buy groceries, toys, furniture or appliances, your decision to buy or not to buy affects how much waste that you will end up discarding. If you buy with reducing your impact on the environment in mind, you will choose things that produce less waste, last longer and use fewer natural resources. This is sometimes called *Precycling* or *enviro-shopping*. **Ask the following questions before buying:**

How much do I need?

Try to buy only what you need. A good price or a big package may tempt you to buy more paint, food or household cleaner than you really need. But what may seem like a good deal may end up wasting money and natural resources if the unused or spoiled product has to be thrown out. Make sure you can use what you buy, or find someone who can use your leftovers.



Is it long-lasting and reusable?

In our “throwaway” society, it can be hard to find good-quality products at an affordable price. Durable products may be more expensive, but they are usually a better buy in the long run. Look for things that can be fixed if broken and handed down if they are no longer needed.

Things that can be reused save money and conserve resources. For example, reusable gift bags can reduce your need to buy wrapping paper. Bring your own shopping bag or don’t use one if you don’t need it. In a world with more and more disposable and single-use products, it is a real challenge to avoid waste, but every bit helps.

Is the package recyclable?

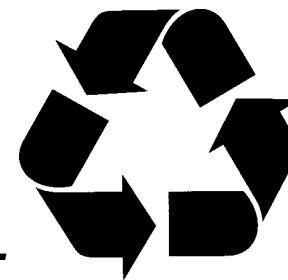
Many containers and packaging materials can be recycled—such as glass bottles, paper, plastic bags, and cardboard boxes. Many manufacturers use a chasing-arrows recycling symbol to promote recycling (figure 11.2). But remember: your local recycling program may not accept some materials. If it can’t be recycled locally, then it’s not truly recyclable—at least not where you live. The list of materials that your recycling program accepts probably changes over time, so keep up-to-date.

If you can’t recycle something locally, a neighboring community might accept it. But don’t waste more resources (gas) driving there than you will save by recycling: combine trips with other tasks.

Is it made from recycled materials?

A variety of products are made from recycled material: everything from carpets to detergent bottles. But recycled materials will only be made into new things if there is a market for them. You can support the market for recycled products by buying them. *Recycling and buying recycled* ensures that materials are cycled again and again.

Figure 11.2 The recycling symbol means the product or packaging is recyclable. But if your local recycling program won’t accept it, it isn’t recyclable—not where you live.



Look on packages for the words “made from recycled materials” or, even better, “made from *post-consumer* recycled materials.” Post-consumer means that all or part of the package is made from materials recycled by consumers like you. For example, each year billions of recycled aluminum cans are melted down and made into new cans. But remember—just because you see the “recyclable” symbol, don’t assume that it can be recycled locally.

Can I buy it with less packaging?

About a third of the paper, plastic, glass, cardboard and metal we throw away is from packaging. Packaging is needed to keep food fresh, keep customers safe, meet legal requirements and provide information, but some of it is unnecessary. Try to steer clear of products that use a lot of packaging that ends up as waste.

Choose products that have the least amount of wrapping (as long as your safety is assured). Buy bulk foods (if they won’t be wasted) and select concentrated products to minimize waste (figure 11.3). If your shopping selection is limited, tell the store manager what you want, or contact the product manufacturer about your preference for minimally packaged products.

Figure 11.3 Buying concentrated products can reduce waste in packaging.

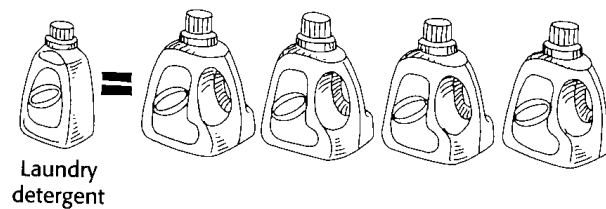


Table 1 - Reducing Waste

	LOW WASTE POTENTIAL	MEDIUM WASTE POTENTIAL	HIGH WASTE POTENTIAL	YOUR WASTE POTENTIAL
Quantities purchased	I only buy what I need and avoid accumulating unused products.	I sometimes buy more product than I can use.	I often buy more product than I can use.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
Product durability and potential for reuse	I select products based on their durability, ease of repair, and potential.	I sometimes consider durability, ease of repair, or potential for reuse.	I never consider durability, ease of repair, or potential for reuse.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
Recyclability of packaging	I regularly purchase containers /packaging that can be recycled locally.	I sometimes consider recyclability when making purchases.	I never consider recyclability.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
Packaging selected	When safe to do so, I select packaging that minimizes waste.	I sometimes consider packaging that minimizes waste.	I never consider packaging that minimizes waste.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

Do Table 1 - Reducing waste

Use the table on the previous page to get an idea of where you can reduce waste. Check the response in the right-hand column that fits your situation best.

Responding to your answers

Try to reduce the amount of waste you produce—*especially waste that ends up in a landfill or incinerator*. Transfer any high and medium waste potentials you marked to the action checklist on the back page of this fact sheet. Then use the ideas in part 1 and other resources to help you make changes.

The Garbage Challenge

This project is for the truly adventurous. Carry a large bag for one to three days and put all of your daily waste inside (if it is safe to carry). Don't change your buying or eating habits. Keep wet wastes in plastic bags so they don't get too messy.

At the end of the experiment, weigh the bag. If you carried your bag for three days, divide the total weight by three to get the average daily amount. Then analyze your waste: How much of the total is paper? How much is recyclable, and how much is potentially hazardous? How much could have been avoided? How many pounds of waste would you produce in a year?

PART 2 • Reusing, Recycling and Composting

Once you make waste, it has to go somewhere. For each piece of waste, ask yourself these three questions:

1. Is it reusable?

Reuse should be your first choice, as it usually has the least environmental impact. Refillable glass beverage bottles are an example of a reusable product. Empty bottles are collected and trucked back to the bottler, where they are washed and refilled. Natural resources are still used in cleaning and hauling the product, but reusing something is still a better choice than trashing it.

You can usually find uses for more materials than you expect. Sharing old clothes and used furniture is a common kind of reuse. If you can't sell them at a yard sale or share with friends or family, donate usable items to charity, to tribal programs or to thrift shops.

Give your packaging foam "peanuts" to a local gift shop, or see if neighbors want your excess paint, lumber or empty plastic pails (if the items can be reused safely). Try listing things you want to get rid of on a postcard and posting it on a public bulletin board, tribal office or at your tribal college. Reusing an item is a great way to save natural resources if recycling is not available and if it does not use more natural resources than other options.

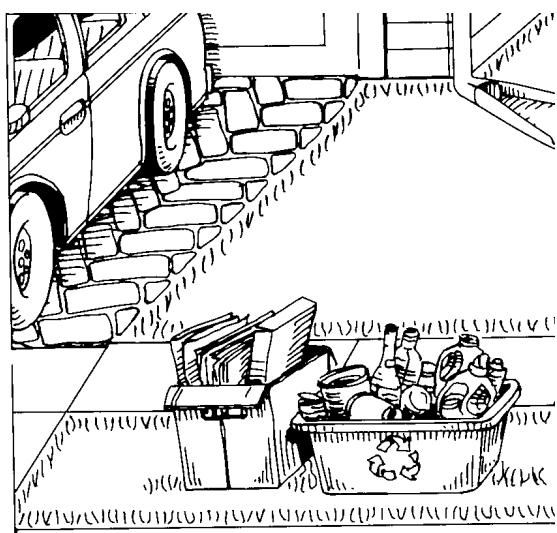


Figure 11.4
Find out what is recyclable in your area and how to prepare items for recycling.

2. Is it recyclable?

Studies have shown that more than half of all household wastes are recyclable. Recycling is a good idea, but it still requires energy and other resources, and produces waste and pollution. For glass bottles to be recycled, for example: They must be collected, sorted, sometimes crushed, trucked to a glass factory, washed, melted and formed. The new bottles are then trucked to a beverage company to be filled. Still, recycling usually saves more resources and creates less pollution than making items from raw natural resources.

Check with your tribal or local recycler to see what is recycled in your area, where items are recycled, and how to prepare items for recycling (figure 11.4). Remember to keep up on what your local program will accept; use the table below to keep track. For example, plastic milk jugs are usually recyclable, but wax-coated paper milk cartons can be recycled only in a few areas.

A growing number of communities require recycling by law. Don't limit recycling to things like aluminum cans, cardboard, glass bottles and plastic milk jugs. Local scrap dealers or industrial salvage yards may want your broken appliances, used vehicles, wood and metal wastes, bricks, concrete, doors, windows, and so on. Many communities and/or states now require residents to recycle large appliances, car batteries, used motor oil and other recoverable materials.

3. Can it be composted?

Yard trimmings and food wastes typically make up 10 to 25 percent of the wastes in landfills. The amount of yard and food wastes you produce depends on your eating habits and kind of yard and garden you have. Many landfills have banned yard waste because of its large volume, high moisture content, and potential to contribute to landfill gas and groundwater problems. Composting is a much more effective way to handle yard waste.

Composting is a natural process that turns kitchen and garden wastes (with the help of microbes, earthworms, and fungi) into a high-quality soil conditioner. Many things can be composted in



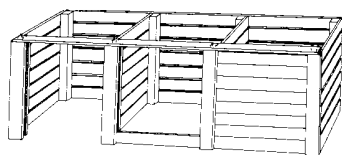
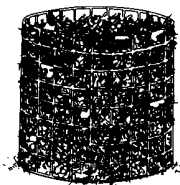
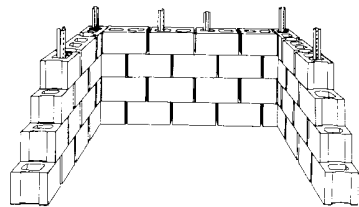
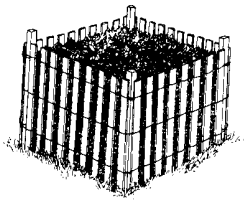


Figure 11.5
Examples of
compost bins
made with
snow fence,
concrete
blocks, wire
mesh, and
pressure-
treated wood.

your own backyard: leaves, grass clippings, plant trimmings, straw, some kitchen scraps (but not animal wastes like fat, bones, or pet manure) and even small amounts of paper. The final product is a dark brown, crumbly compost that has a clean, earthy scent.

You can spread compost on lawns or mix it with garden soil as an excellent natural soil conditioner. Many communities have established yard waste compost programs with convenient drop-off sites or curbside pickup. To compost at home, you can use one of the many composting bins on the market, or build your own (see figure 11.5 for examples). For kitchen scraps, you might even try a type of indoor composting that uses worms to break down wastes. Your Cooperative Extension office, local tribal office or tribal college can provide you with more detailed information.

Do Table 2 - Reusing, Recycling and Composting

Use the table below to the best ways to keep waste out of the landfill. Mark the box in the right-hand column that fits best with your situation.

Responding to your answers

Try to reduce waste or find the best ways to deal with it. Transfer any high and medium waste potentials from table 2 to the action checklist at the back of this fact sheet. Then plan what you will do to make improvements.

WHAT WILL YOUR RECYCLER TAKE?

Item	Recycled where?	How should it be prepared?
Paper		
Cardboard		
Glass		
Plastic		
Aluminum		
Steel		
Other metals		
Auto batteries		
Oil		
Tires		
Appliances		
Wood/lumber		
Bricks/concrete		
Other:		

Table 2 - Reusing, recycling and composting

	LOW WASTE POTENTIAL	MEDIUM WASTE POTENTIAL	HIGH WASTE POTENTIAL	YOUR WASTE POTENTIAL
Reusing	I reuse as many household wastes as possible.	I reuse items when it is convenient to do so.	I never reuse items.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
Recycling	I recycle as many household wastes as possible.	I recycle when it is convenient to do so.	I never recycle.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
Composting	I compost all yard wastes and kitchen vegetable scraps at home or in a city program.	I compost some yard or kitchen wastes.	I never compost.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

PART 3 • Waste Disposal on Your Property



Burning it or dumping household waste on private property can pose threats to your health and the environment. Although these methods have been used in rural areas for a long time, tribal and state laws are becoming more strict. Most states ban illegal dumping or burning of waste to protect soil, water and air quality. Complete the table at the end of this part to see if the things you do with waste may be harmful, and consider alternatives to burning or dumping on your property.

Burning can be hazardous

Some people use burn barrels to get rid of wastes. When you burn paper, plastics, printing inks, batteries and other common materials, it can release a noxious mix of chemicals into the air (see side-bar at right). Some of these—like lead, mercury and even by-products given off by burning leaves—can be hazardous to breathe.

Rain and snow eventually remove most burning by-products from the air and deposit them on land or in water. Due to concerns about where these air pollutants end up, most communities have laws to restrict what you can burn or if you can burn at all. In most areas, especially in and around cities, open burning has been banned.

Ash residue from burning also contains hazards including heavy metals and other toxic substances. If you dump ash on your property, it can contaminate soil and water. To find out about burning restrictions in your area, check with your local law enforcement agency or the tribal fire or health department. You may need to take ash to a licensed landfill.

Hazards of dumping on your land

Dumping waste on your land is not only ugly—it may contain harmful chemicals that can leach into groundwater (figure 11.6) or be spread by wind and rain. Paint, for example, may contain lead or mercury; pesticide containers may contain toxic residue; and used oil filters usually contain petroleum products and harmful metals. These pollutants can soak into the soil, pollute your well water and end up in lakes, streams or wetlands. If your waste contains even small amounts of hazardous substances it can cause problems. Another problem is caused by dumped tires, which provide a home for mosquitoes.

Real estate disclosure laws in some areas require owners to tell potential buyers about all environmental hazards such as dumpsites or other hazards on the property. If you have a dump or burn site, like an oil or pesticide dump, it could make it hard to sell your land.

For more information about disposing of waste on your

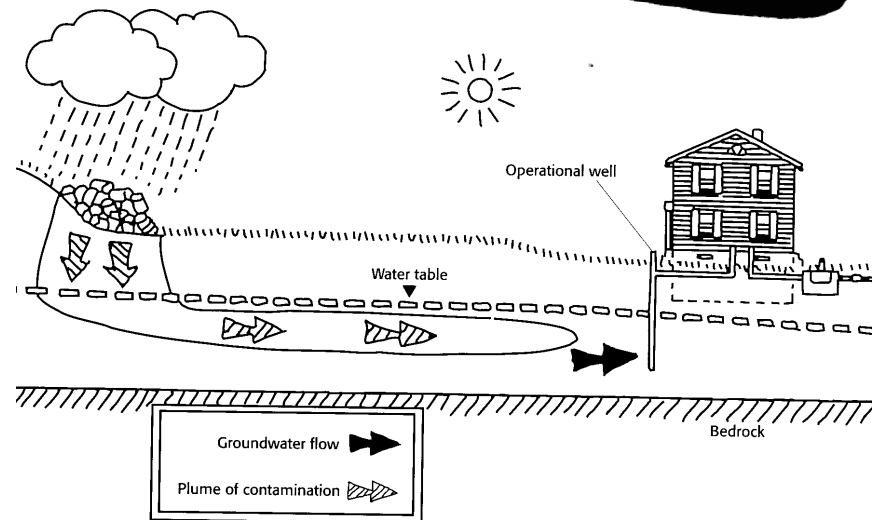


Figure 11.6 Waste dumped on or near your property may contain harmful chemicals that can leach out and contaminate groundwater.

By-products of open burning

Smoke, particles, or ash from burning waste may contain some of the following pollutants:

- **Arsenic** from some wood preservatives or pesticides
- **Benzene** and other solvents from some paint or varnish strippers
- **Cadmium** from nickel-cadmium batteries and plastics such as PVC
- **Carbon monoxide** from incomplete combustion
- **Chromium** from colors in some colored paper and paints
- **Dioxin** from by-products formed when chlorine-containing products such as some plastics are burned
- **Formaldehyde** from some particle board and fabric treatments
- **Hydrochloric acid** from some mixed waste paper
- **Lead** from some paint on old boards, batteries, and PVC plastics (lead is used as a stabilizer in PVC)
- **Mercury** from some batteries, paints, plastics, and fluorescent lights
- **Nitrogen oxide** from some colors and inks
- **Sulfuric acid** from some chemicals, dyes and pigments, meats, rayon, and film

NOTE: Some of these chemicals have burning points higher than a burn barrel will reach. However, they might end up in ash on the ground or as floating particles.



property, contact your tribal or state health department, state department of natural resources or environmental quality, or a licensed landfill operator.

Storm sewers and drains

Especially for homes served by street drains and storm sewers, any solid or liquid wastes left out in the weather (including pet wastes, motor oil spills, solvent spills, solvent-based paints, and other product spills) can wash *directly* into lakes and streams. **Remember**, storm sewers are rarely connected to wastewater treatment facilities.

Some materials, like foam “peanuts” and other plastic debris, can be carried by storm runoff to open water where they may be eaten by fish or birds.

Dumping potentially hazardous substances down a drain that leads to a septic system or sewer system can also cause serious problems. See fact sheet 4 of this packet, “Household Wastewater,” and fact sheet 5, “Hazardous Household Products,” for more information.

Do Table 3 - Waste disposal on your property

The table below can help you see risks in how you dispose of waste on your land. Check the box in the right-hand column that fits your situation best.

Responding to your answers

Try to reduce your risks. Transfer any high and medium risks you found in Table 3 to the action checklist on the next page. Then take action!

TAKE ACTION

Go back over the assessment tables to ensure that all medium and high waste potentials and risks you identified are listed in the action checklist on the following page. For each item listed, write down the improvements you plan to make. Use recommendations from this fact sheet and other resources to decide on actions you are likely to complete. A target date will keep you on schedule. You don’t have to do everything at once, but try to eliminate the most serious problems as soon as you can. Often it helps to tackle the inexpensive actions first.

For More Information

Recycling, composting, and waste disposal

Contact your tribal health or sanitation department, recycling center, fire department, city office, or Cooperative Extension office. Get the latest list of what is recyclable and how to prepare items for recycling. Ask for information on composting and other disposal alternatives and a schedule of hazardous waste collection days. Find out where to take used motor oil, batteries, and appliances.

Local regulations on burning and dumping

If you are unsure of dumping and burning laws in your area, contact your state or tribal health or environmental agency. In most states, it is illegal or requires permits.

Table 3 - Waste Disposal on Your Property

	LOW RISK	MEDIUM RISK	HIGH RISK	YOUR RISK
Burning waste	No household waste is burned on-site. Only non-toxic materials are burned.	If burning is legal, burning guidelines are strictly followed.	Mixtures of waste (including paper, solvents, batteries, and plastics) are burned, releasing metals, acids, and chloride compounds.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
On-site dumping	No household waste is dumped on my property or on public property.	Only non-toxic wastes are dumped on-site—in an approved, properly designed site.	Household wastes and liquids, appliances, tires, and other junk are dumped on-site.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
Dumping down storm sewers or drains	No hazardous materials are discarded in a sewer system, septic system, or storm drain.	Some runoff from a driveway carries spills and yard chemicals away; runoff occasionally flowing into storm sewers.	Hazardous and other wastes are improperly discarded in a sewer system, septic system, or storm drain.	<input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High

WHICH WASTES ARE HAZARDOUS?

By reading product labels, you can generally tell which ones have hazardous ingredients. Look for words like DANGER, FLAMMABLE, POISON, VAPOR HARMFUL, or FATAL IF SWALLOWED. These are clues that a substance in the product can be hazardous to your health.

Carefully dispose of such products-especially if unused portions of the product are in liquid form. Although dry chemicals can be hazardous, liquids can more easily injure waste

haulers, react with other discarded chemicals to start fires or create deadly gases, or seep through soils and into water sources. The best approach for dealing with these products is to use them up (if it is safe and legal) so nothing is left to discard.

Always read the label for disposal recommendations, or contact the manufacturer. For more information on dealing with hazardous wastes, see fact sheet 5, "Hazardous Household Products"

Acknowledgments

This fact sheet has been revised from the original written by Shirley Niemeyer, University of Nebraska - Lincoln; Michael P. Vogel, Montana State University Extension Service; Kathleen Parrott, Virginia Polytechnic Institute and State University.

ACTION CHECKLIST: Dealing with Household Waste

Write all high and medium waste-making potentials and risks below.	What can you do to cut waste or reduce the risk?	Set a target date for action.
Sample: Products are purchased without considering whether the packaging is recyclable.	Find out about town recycling program and try to buy products with packaging that can be recycled locally.	One week from today: March 8



4450-K — September 2001

To obtain additional fact sheets in the *Connected to the Earth* series, contact your local Extension office or call Montana State University's Extension housing program at (406) 994-3451.