

CHAPTER 8 CURBSIDE AND BEYOND

INTRODUCTION

We are quite good at recycling in the metropolitan area

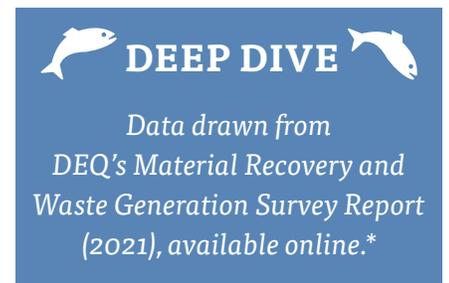
People in our region consider themselves recyclers. No matter the socioeconomic background or race, whether an apartment, fourplex or house dweller, residents resoundingly answer 'yes' when asked if they recycle.

The result of a motivated public combined with a good system is a recovery rate of 37.7. That means 2.4 million tons of material were returned to manufacturers so they can be reused again.*

There is, however, still more work to do. A 2014 Metro study showed that about 14 percent of curbside recyclables were still in the garbage. This means that about 36,000 tons of curbside recyclables, including paper, plastic bottles, aluminum cans and glass containers, are disposed of in garbage carts each year.**

Along with getting more recycled, we learned in previous chapters that recycling needs to be free of garbage in order to be useful for manufacturing. Metro's study found that about nine percent of what people put in their recycling doesn't belong there. That means that processors have to deal with about 9,000 tons of contaminants a year.

Metro, cities and counties work together with local collection and sorting facilities to improve the systems so that we can maximize recycling and minimize contamination. Master Recyclers are an important part of this work because you can help your friends, neighbors and coworkers understand how to best use this system.



DEEP DIVE

*Data drawn from DEQ's Material Recovery and Waste Generation Survey Report (2021), available online.**



DEEP DIVE

*To see the report look for Single-family recycling and waste composition studies 2014-15.***



Curbside education table at Washington Square Mall.

As individuals, we can move our community from being good at recycling to being really great at it. This chapter explains the residential curbside collection system for houses, duplexes, triplexes and fourplexes and how to make the most of it.

The accepted materials for recycling in single-family homes and apartments are the same. But because the collection systems are different, larger unit settings are the subject of the next chapter.

As a Master Recycler you will want to be familiar with both types of housing and their collection systems so that you can answer questions for everyone.

This chapter will also discuss tips and tricks that can be implemented inside any type of household and dive into ways to recover material above and beyond what the curbside collection system can accommodate. These sections will be relevant to people who live in houses or apartments and townhouses.

HOUSE OR SMALLPLEX COLLECTION SERVICE

The five components of your curbside collection system

In addition to understanding the five components of curbside collection systems, it is also important to realize that the entire service bill depends on the size and frequency of pickup. Given this, choosing the right size containers and the right pickup schedule can save substantial money.



1. Garbage – Garbage and recycling companies usually provide roll carts, but some customers still have their own containers. Standardized garbage cart size options vary throughout the region. Call your garbage company to find out what is available. Default pickup is weekly in most parts of the region. Portland is an exception, where default garbage pickup is every-other-week. There are options for most customers in the region to have garbage picked up monthly or even on-call. After a special occasion when you have more waste, you can set out an extra bag or can of garbage on your regular collection day for a small fee.



2. Mixed recycling – Companies provide standard roll carts that are usually about 60 gallons and vary in color throughout the region. Standard pickup varies throughout the region between weekly and every-other-week. Smaller containers are available for tight spaces in some parts of the region. Some rural parts of the region have bins instead of carts.



3. Glass recycling – Companies provide a curbside bin that varies in color throughout the region. Standard pickup varies from weekly-to-every other week and a few cities have monthly standard pickup. In areas where bins are still in use for mixed recycling, residents must use a separate bin or rigid container like a bucket for their glass.



4. Yard debris and food scrap compost – This container varies the most in the region. Some rural areas do not have yard debris pickup; some services provide roll carts; some use customer-provided carts; and some accept paper craft bag containers of extra yard debris. Standard container size is 60 gallons, but some cities allow for smaller containers for tight spaces. Frequency is usually every week in service programs throughout the region, although some cities in Washington County pickup only every other week. In Beaverton, Cornelius, Durham, Forest Grove, Gaston, Hillsboro, King City, Lake Oswego, Milwaukie, North Plains, Portland, Sherwood, Tigard, Wilsonville, and unincorporated urban Washington County you can include food scraps.



5. Motor oil – The customer must place used motor oil in a clear one-gallon or smaller container with a twist lid next to one of the other containers. Clackamas County does not require that the container be clear. Motor oil collected at the curbside is not necessarily recycled. Call Metro's Recycling Information Center to find out where you can take motor oil for recycling.

Who to contact?

Multiple agencies, companies, and organizations share responsibilities for different aspects of the curbside collection system. It is helpful to understand these roles so you can help people find the right information. Below we explain how responsibilities are shared and who to contact for questions or services.

Garbage and Recycling Company

- To set up service. (Portland and Beaverton landlords must set up service in the owner's name.)
- To learn your pickup schedule, options and rates.
- To report a missed pickup and lost or stolen containers.

Find your company on the side of your provided roll carts or bins, go to Metro's *Find your hauler* webpage or call your local jurisdiction.

City or County Solid Waste and Recycling Program

- To find the garbage and recycling company in your area.
- With questions about garbage, recycling and composting.
- With a dispute with your garbage and recycling company.
- In Portland and Beaverton, report a rental unit without garbage, recycling and composting service. (Rental property owners are required to provide service for their tenants.)
- In Portland and Beaverton, for help if your garbage service has stopped due to the landlord's non-payment of the bill or the service is not meeting the minimum standard for tenants.
- In Washington County, to report abandoned or accumulating garbage.
- To sign up for collection schedule email reminders and mobile calendar options where available.

Find your local jurisdiction on Metro's *Your home recycling collection service* webpage or call Metro 503-234-3000.

Metro

- With garbage and recycling questions.
- About reuse, waste reduction and recycling of non-curbside items, such as many plastics.
- For transfer station locations, rates and hours.
- To find disposal options for items not accepted through curbside collection, such as computers, monitors and TVs, hazardous waste, needles, chemicals and compact fluorescent light bulbs (CFLs).

Online: Metro's *Find a recycler* webpage. 503-234-3000, askmetro@oregonmetro.gov

CURBSIDE COLLECTION MATERIALS YES/NO LISTS

- Every container has an important role to play to help us all recover as much material as possible.
- Even the garbage can is important. It keeps our recycling and compost free of materials that do not have viable markets, that degrade the more valuable materials, or that cause problems in sorting.
- Some materials don't even go in the garbage and must be taken somewhere special by residents.
- All accepted materials and preparation of those materials for garbage and recycling are the same wherever you live in the region. **Items that are bolded may have a non-curbside alternative.** You can call Metro's Recycle Information Center at 503-234-3000 or look the item up on the Metro's *Find a recycler* webpage to learn more.

Curbside Garbage

PUT THESE IN YOUR GARBAGE CONTAINER



- paper plates, coffee cups, frozen food boxes, and takeout containers and wrappers
- pet food bags
- facial tissue
- Styrofoam™
- **plastic bags**
- Used paper towels, napkins, tea bags, coffee filters and pizza delivery boxes (In Beaverton, Cornelius, Durham, Forest Grove, Gaston, Hillsboro, King City, Lake Oswego, Milwaukie, North Plains, Portland, Sherwood, Tigard, Wilsonville, and unincorporated urban Washington County these can go in your compost cart)
- plastic containers labeled compostable
- **rigid plastics including clamshells, Tupperware®, Rubbermaid®, and other reusable dishware**
- painted or stained wood and plywood
- broken toys
- incandescent light bulbs
- **windows**
- Empty motor oil and pesticide containers

PLACED IN SEALED CONTAINER

- **kitchen fats, cooking oil and grease**



MUST BE BAGGED

- pet waste and cat litter
- diapers and feminine hygiene products
- ashes and sawdust
- **packaging peanuts**
- drinking glasses, flower vases, glass candle holders, pyrex, and eye glasses

KEEP THESE ITEMS OUT OF YOUR GARBAGE CONTAINER

- computers, monitors, TVs, printers, keyboards and mice (search online for DEQ's Oregon E-Cycles program to learn where to take these)
- hazardous waste, propane tanks and compact fluorescent light bulbs (CFLs)



Curbside Recycling | All items must be rinsed and free of food. Do not smash items.

PUT THESE ITEMS LOOSE IN YOUR RECYCLING ROLL CART UNLESS OTHERWISE INDICATED

Paper

- newspapers, magazines, catalogs, phone books
- cardboard boxes, flatten and cut to fit inside the cart or bin, do not bundle with twine or tape
- scrap paper and junk mail (mail, envelopes, fax paper, greeting cards, paper egg cartons, paper tubes, wrapping paper, tissue wrapping paper and cereal boxes)
- cartons: milk, juice, soup, and soy milk, aseptic boxes no need to smash
- shredded paper, must be in paper bag



Plastic (there are only 4 shape and size categories of plastic accepted)

- bottles with neck (6 oz. or larger)
- yogurt or margarine-like round containers (6 oz. or larger)
- plant pots (4 in. or larger)
- buckets (5 gal. or smaller)



Metal

- aluminum trays, pie plates, foil (make into a ball)
- tin and steel food cans (do not flatten, labels are ok, put lid inside can)
- empty, dry, metal paint cans (put lid inside)
- empty aerosol cans
- scrap metal smaller than 2 inches can go loose in the recycling cart or inside food cans and crimped closed (metal lids, bottle lids, screws, nails)
- metal must be smaller than 30 inches and weigh less than 30 pounds



GLASS RECYCLING BIN

Glass bottles and jars only

- mix all colors together, labels are ok



KEEP THESE ITEMS OUT OF RECYCLING

- coffee cups, freezer boxes, food soiled paper or takeout containers
- plastic bags, clamshells or lids
- tire chains or propane tanks
- light bulbs, drinking glasses, flower vases, ceramics, dishware, cookware, mirrors, windows or picture frames, or broken glass



Curbside Compost Collection

Some parts of the region do not have yard debris collection service. These lists are for 1-4 unit residential urban settings only. See the commercial and multifamily chapters to learn what to do with organics in those settings.

THESE ITEMS CAN GO IN YOUR COMPOST CONTAINER OR BACKYARD COMPOST

- weeds, leaves, vines, and grass
- small branches (less than 4 in. thick and 36 in. long)
- flowers
- house plants
- plant clippings
- pumpkins, windfall fruit and other vegetables from garden



FOOD SCRAPS CAN BE INCLUDED IN LIMITED AREAS IN THE REGION

In Beaverton, Cornelius, Forest Grove, Gaston, Hillsboro, King City, Lake Oswego, Milwaukie, North Plains, Portland, Sherwood, Tigard, Wilsonville and unincorporated urban Washington County you can also place these items in your curbside compost container, **bolded items can also go in your back yard compost.**

- meat, poultry, fish, shellfish, bones and shells
- eggs, eggshells, cheese, dairy products
- bread, baked goods, pasta, rice, beans, nuts, and seeds
- **coffee grounds**, filters, and tea bags
- **vegetables and fruit**
- paper napkins and paper towels
- pizza delivery boxes
- food preparation scraps, plate scrapings, leftovers, and spoiled food
- kitchen pail liners: newspaper, paper bags, approved compostable plastic bags



KEEP THESE ITEMS OUT OF YOUR COMPOST CONTAINER

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> • large amounts of grease, cooking oil and liquid • ashes • dirt, rocks, and sod | <ul style="list-style-type: none"> • lumber, treated wood, sawdust, and stumps • pet waste • large branches (more than 4 in. thick or 36 in. long) | <ul style="list-style-type: none"> • corks • even if a plastic product says compostable, please leave it out • food scraps (unless you live in a city participating in food scraps collection) |
|--|---|---|



CURBSIDE BATTERY COLLECTION

Improperly disposed batteries in the garbage or recycling are known to cause fires at our local material recovery facilities, transfer stations, and garbage and recycling trucks. In response to this danger, the cities of Banks, Beaverton, Durham, Gresham, Hillsboro, King City, North Plains, Sherwood, Tigard, all of Clackamas County and cities within, and all unincorporated Washington County have started single-family curbside collection of batteries.



What batteries are accepted?

The proper identification of batteries poses a major challenge to their proper disposal. Some batteries (such as lithium-ion batteries) are more dangerous than others. Make sure to read the battery, as it will often say what type it is.

| Accepted | Not Accepted |
|--|---|
| <ul style="list-style-type: none"> Alkaline batteries (often identified by the words heavy duty, super-heavy duty, alkaline, carbon zinc, 0% mercury, mercury free, or dry cell). The below batteries are accepted but their ends must be taped to reduce fire risk: <ul style="list-style-type: none"> 6-volt -- 9-volt batteries. Button cell batteries (like hearing aid and watch batteries). Lithium batteries. Rechargeable batteries (ex. Li-Ion, NiMH, NiCD). Battery packs (like laptop and cellphone batteries). | <ul style="list-style-type: none"> Battery back-up (UPS) units. Lead-acid batteries (ex. vehicle batteries). Batteries that do not fit in the 1-quart bag. Damaged, defective, or recalled batteries. |

How to include the batteries:

Step 1: Tape the end of batteries that require taping.

Step 2: Place batteries in a 1-quart, zip-sealed, clear plastic bag.

Step 3: Place the plastic bag in your glass recycling bin for collection. If your bin is full of glass, place the bag on top.



Battery safety tips:

- Batteries should be placed in a cool, dry area away from potential heat sources, flammable materials, and metals.
- Damaged batteries should be placed immediately in an absorbent, nonflammable material such as kitty litter or sand and taken to a Household Hazardous Waste Facility. If the material starts to smoke or combust, call 911.
- Never remove embedded or built-in rechargeable batteries. Some rechargeable batteries are not designed or intended to be removed. Take these items to a Household Hazardous Waste Facility.

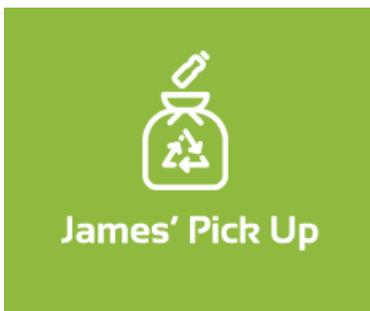
SPECIAL RECYCLING SERVICES

Sometimes the social, economic, and environmental costs of recycling a particular product can outweigh recycling's benefits. These issues are some of many considered before an item is included on the regional "yes" list. We don't just want to recycle, but recycle responsibly. After all, "Reduce, Reuse, Recycle" is in that order for a reason.

However, not every item is avoidable, and the different lives we lead often dictate how much time and effort we can put into avoiding certain packaging. Many recyclers like to go above and beyond by bringing their non-curbside recycling to drop-off locations and special collection events. This has also given rise to a growing interest in the collection of non-curbside recycling directly from homes through subscription services. These services have caused conflict throughout the region as local jurisdictions debate whether subscription collection services fit within our region's rules and regulations for our franchised collection systems.

The services offered by James Recycling and Ridwell collect materials at homes within the territory of these garbage and recycling companies and outside of established standards and fees. For all intents and purposes, this activity violates long-standing administrative City of County ordinances throughout our region.

The reaction by local jurisdictions to this rule violation has varied. The City of Portland amended city code to allow for these services. Other jurisdictions responded by working with their franchised collection companies to offer the service Recycle+.



James' Pick Up

James Recycling is primarily known throughout the region for its collection events, but it also has James' Pick Up, which includes the collection and sending to markets many of the items not included in curbside recycling. This service is currently limited to the Bridlemile neighborhood in Southwest Portland.



Ridwell

Ridwell is a monthly subscription recycling service that will collect at your doorstep items currently only recyclable through a recycling depot for a fee. Currently, Ridwell operates in Beaverton, Hillsboro, Lake Oswego, Milwaukie, Portland (except for the Pearl District), Sauvie Island, Troutdale, Tualatin, and West Linn.

Recycle+

Recycle+ is a similar, on-call service provided by many local collection companies. To learn more, visit your local jurisdiction's or collection company's webpage. This service is currently offered in urban unincorporated Clackamas County, urban unincorporated Washington County, Beaverton, Durham, Gladstone, Gresham, Happy Valley, King City, North Plains, Oregon City, Sherwood, and Tigard.





RENTAL HOUSES OR SMALLPLEX

Unlike elsewhere in the region where renters can set up their own service, in Portland and Beaverton, landlords of houses and smallplexes (2-4 units) are required to directly pay for and provide adequate curbside collection service. In Beaverton, a rental agreement can override this requirement. In Portland an agreement cannot override the requirement.

The minimum required service is 20 gallons of garbage per unit collected every-other-week in Portland and weekly in Beaverton. Landlords may decide to provide service with larger garbage containers, but they may not change the frequency or provide less than one 20 gallon container per unit. Landlords are also required to provide containers for recycling and composting.

Landlords in Beaverton can apply for an exemption and haul materials from the rental themselves. Portland landlords cannot opt out of providing service for tenants.

Tenants moving into a home or smallplex in either of these cities should talk with the landlord or property manager to set up garbage service. If service is shut off because the landlord did not pay the bill, tenants can contact the City of Portland, 503-823-7202, wasteinfo@portlandoregon.gov or City of Beaverton, 503-526-2665.



PET WASTE

The eggs of certain roundworms and other parasites found in pet waste can linger in your soil, putting your children and pets at risk of exposure while gardening, playing sports or walking barefoot. Pet waste on the ground also contributes to runoff that pollutes waterways.

Always pick pet waste up and dispose of it in a bag in the garbage. Bagging waste protects garbage collectors and sanitation workers from harmful bacteria. Never put feces or litter in your home compost bin. Avoid utilizing the sewer system, as that system was designed to break down bacteria specific to human beings.

GETTING THE MOST OUT OF YOUR CURBSIDE SYSTEM

Understanding options for container size and collection frequency can help you save money and recover the most materials possible.

Right size your containers and frequency

You have all kinds of options!

Many people think that the standard service is the only service. The curbside collection system throughout the region was designed to balance overall system costs to the rate payer and incentives to recycle and compost.

Explore a few of these ideas to fit your household needs, help the environment and save money.

- **Learn all of the collection options in your area:** Contact your garbage and recycling company.
- **Size options:** Most parts of the region have about 4 size options for garbage and some cities even have a couple of size options for recycling and yard debris. People who live in tight quarters prefer smaller containers. Smaller containers for garbage also reduce the bill. Recycling and compost container sizes do not affect the bill.
- **Frequency of pickup:** Most programs also offer variations on how often garbage containers are picked up including monthly or on-call options. Recycling and yard debris pickup frequency changes are not an option except on-call in some cases.
- **Right size your container and frequency:** Watch over several months to see if any of the containers are regularly over- or under-full and make changes accordingly. You cannot change your service more than once in a year.
- **For the occasional extra garbage:** Many areas require the haulers to provide extra pickup service. There is a fee for this extra service, but during a party or the holidays this one-time fee makes it so you don't have to set up your regular service to meet the capacity of the largest events of the year.
- **Set compost containers out every pickup time:** This helps avoid odors and vermin.
- **Set recycling out when the cart is mostly full:** This reduces the number of stops for the collection driver.

RIGHT SIZE YOUR GARBAGE CONTAINER





CHANGES INSIDE YOUR HOME

Much of the activity related to recycling and composting doesn't happen out on the curb. It happens in our kitchens, bedrooms, family rooms, home offices and bathrooms. Strategies that create easy ways to separate waste right where it is generated in the house will increase the chance that things get to the right cart out on the curb and ultimately get recovered.

Walk through the house and ask yourself, "Is it as easy to recycle in this room as it is to throw things away? Are there certain recyclables that are getting tossed in some rooms but not others?"

Buddy system

One principle for good recycling is to provide a recycling container everywhere there is a garbage can. Even in the most motivated households, if you only have a garbage can in place, recyclables may get tossed in the garbage. If you only have a recycling container in place, garbage might end up in your recycling. Signs can help. You can ask your local jurisdiction for stickers or signs for your containers. Fix them or post them where they are visible.

It is also important to check the two containers to ensure that materials are in the right containers. People often make decisions about which container to use by looking into the container and seeing what is already there rather than reading signs or asking questions. One person's mistake can quickly become a household norm.

How clean is clean?

Rinse containers clean of food before you put them in recycling. That way containers do not leak onto paper recycling, and food does not attract rodents at the recycling facilities and shipping containers. They do not have to be sanitary enough to eat from, though. You do not have to use hot water to rinse them. Flower pots should be free of dirt. Paper products, cardboard and aluminum foil should not have any food or grease on them.

Making decisions about what goes in

Folks in our region are such motivated recyclers that some of the bigger recycling problems come from the wishful recyclers rather than missed recycling opportunities. When people do not understand where materials are going they will err on the side of recycling mystery items.

But the lists that are distributed in the community are well thought out, and based on discussions with recyclers and processors. It is important that only the materials that recyclers can use and processors can sort get in the recycling and compost containers. Just think about the huge volume

of materials they are processing. Workers and machines will not be able to take the time to look at each and every item.

What should you do if you don't know whether something should go in or not?

YES:

Check RecycleOrNot.org to look for the item. Don't see your item on the lists? Ask Metro 503-234-3000 or askmetro@oregonmetro.gov or send a photo of your item to @recycleornot.

NO:

Do NOT read the label of the container to determine if it is recyclable or compostable. Packaging labels can be misleading. They simply cannot ensure consistency with the varying rules of the multiple jurisdictions throughout the country.

WHEN IN DOUBT, THROW IT OUT.

RecycleOrNot.org



Household education

Once you know that your system is well set up, have a conversation with the whole household about how to use the system. If some in the house are less motivated to sort materials, aim for the easiest materials and the important *no list*. Let guests know how to use the system, as well. You can request Yes/No information and materials from your local jurisdiction to post next to containers inside the house.

Don't miss your garbage or recycling day again

Residents in Portland and Washington County can sign up for notifications to keep track of garbage and recycling pickup schedules. With the free tools, you can:

- Receive collection-day reminders by phone, email or text.
- Look up your garbage and recycling schedule.
- Print your collection calendar at home.
- Sync your collection schedule with your digital calendar.
- Get notified about schedule changes due to weather and holidays.
- Look up how to recycle or dispose of items.
- Get information on your mobile devices through the Garbage and Recycling Day app (Washington County) or Portland Garbage Day Reminder app. Both are available on Apple and Android.

Say NO to junk mail and phone books

Tired of filling your recycling container with mail you never even opened?

Metro's *Stop Junk Mail* webpage provides post cards and contacts to notify marketing firms that you want to stop their mailings. You can also get the kit from the Metro Recycling Information Center 503-234-3000. Here are some more tips to reduce junk mail:

- Contact catalogs and companies that send unwanted mail directly. Give the name and address exactly as it reads on the envelope.
- When unwanted mail comes with a postage-paid envelope, use it to return the mailing label along with a written request to remove your name from the organization's mailing list.
- Ask organizations you've donated to and anyone who sends you a bill not to sell or exchange your address.
- If you move, directly contact everyone yourself instead of submitting the post office change of address form.
- Don't submit product registration cards.
- Don't use a store's buyer's club card when making purchases.
- Avoid participating in sweepstakes or contests unless you are able to prevent your information from being shared.
- List only your telephone number in your local directory, or choose to be unlisted.

You can also visit Metro's *Opt out of phone books* webpage to find contacts to opt out of delivery.

MAKING THE MOST OF FOOD SCRAPS

Separating food scraps for composting takes a little getting used to but folks in our region are up for the challenge. This next section was designed for the Beaverton, Cornelius, Durham, Forest Grove, Gaston, Hillsboro, King City, Lake Oswego, Milwaukie, North Plains, Portland, Sherwood, Tigard, Wilsonville, and unincorporated urban Washington County curbside collection of food scraps, but much of it is relevant for backyard composting which you can do anywhere you live in the region. So, even if you don't live in these cities you will find these hints about managing food scraps in your house useful.

Three simple steps for food scrap collection

1. Place your kitchen compost container in a convenient location in your kitchen. You can line your container with approved liners that are listed online. Lake Oswego does not accept compostable plastic bags.



2. Include the food! Collect food scraps while preparing meals, scraping plates and cleaning the fridge of leftovers - every little bit counts.



3. Empty your kitchen container, including the liner, into your compost roll cart as frequently as you like. Place your green roll cart out for weekly pickup.





DEALING WITH THE 'ICK FACTOR'

- Use an optional liner in your kitchen container. You can contain food in an approved compostable bag, newspaper or a paper bag to keep your food scraps from touching the inside of your compost roll cart.
- Line the bottom of your compost cart with newspaper, a paper bag or a pizza delivery box to help absorb moisture.
- Layer yard debris in between your food scraps to reduce odors and to contain messier foods.
- Sprinkle baking soda in your garbage and compost carts to reduce odors and deter insects.
- Store your cart in the shade in warm weather.
- Consider freezing some scraps and emptying them in the cart right before pickup day.
- Use soap and water to clean the compost roll cart. Pour dirty water onto grass or gravel, not down the storm drain.

Want some guidance?

Look online for Portland Composts to learn composting basics, explore kitchen container liner options and get tips on caring for your kitchen compost container and compost roll cart.



Kitchen compost containers

Did you know you can collect food scraps in a variety of containers? To collect food scraps in your kitchen, you can try one of these items you may already have in your household:

- Empty yogurt container and lid
- Tupperware type container
- Lidded pail or bucket
- Anything with a snug fitting lid that will fit under your sink or on your kitchen counter.



Tips for messy, stinky or wet food scraps

- Drain as much liquid as possible from food before putting in your container.
- Wrap the food in newspaper and then place in your container.
- Place food scraps in a container in the freezer and add them to the green roll cart the night before your pickup.
- Empty and rinse out your container frequently, and sprinkle baking soda in it or rub vinegar on the inside of the lid to avoid odors and fruit flies.
- Do not set your kitchen container out at the curb.

Optional kitchen container liners

- Newspaper
- Paper bags
- Approved compostable bags, including:
 - BioBag – *Certified Compostable*
 - EcNow Tech – *Compost Me*
 - EcoSafe – *6400 Line*
 - Glad – *Compostable Kitchen*
 - Natur-Tec – *Natur-Bag Compostable*

Note: These approved compostable bags are designed to break down quickly and safely at composting facilities. Other compostable bags and regular plastic bags are NOT allowed.



TERM

Recycling depots: facilities that accept an array of materials that may not be accepted at the curb, including many plastics.

BEYOND THE CURB

Just because something isn't accepted curbside doesn't necessarily mean you have to throw it away!

With a little extra planning, patience and space to store materials, you can take recovery in your household to the next level.

So far, this chapter has discussed the curbside collection recycling and compost, designed to maximize materials that have stable markets and facilities that can prepare those materials so they can be sent to those markets.

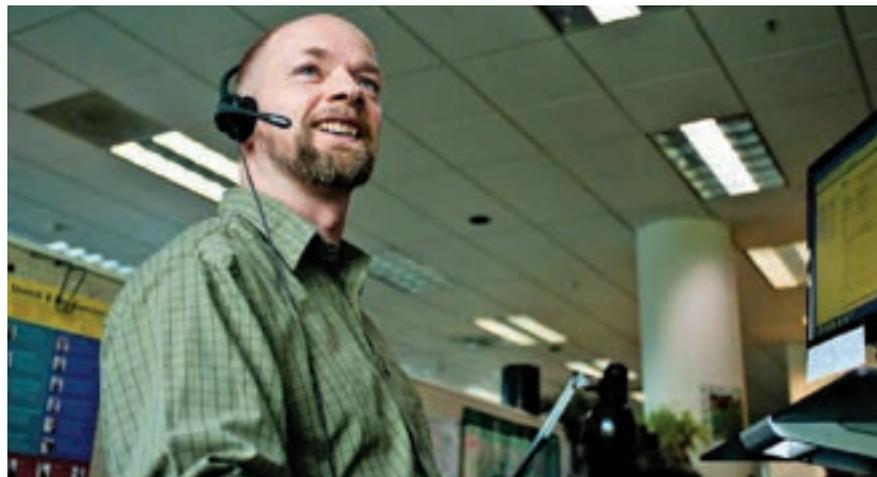
Residents can hand sort materials that machines cannot. If you have the space, you can also hold onto materials that sometimes have markets and sometimes do not. Some materials also have more value if you separate and haul them directly to recyclers who will buy them from you.

As a Master Recycler, you can familiarize yourself with the **recycling depots**, recycling drop off and reuse centers in your area and share them with people in the community.

Because depots accept material that often has a less stable market, it is important to explain to people that accepted materials will change at depots frequently. They should call ahead, read signs carefully and plan to take materials back home with them if they are not currently accepted.

RESOURCE

If there is only one resource you remember as a Master Recycler, it's the Metro Recycling Information Center! They also have bilingual staff ready to answer questions in Spanish. Call 503-234-3000 or consult Metro's Find a Recycler webpage.



Metro's Recycling Information Center (RIC) is an excellent resource to find out where recycling depots are located and what materials are accepted. The RIC live operators can be reached six days a week at 503-234-3000. Metro also maintains a **Find a Recycler** webpage, which lets you search for places that recycle many materials.

Caution for recycling drop off and reuse centers

When using drop-off centers and reuse organizations, it is important to ask questions about what happens to items after you leave them. In the Electronics chapter you will learn that improper practices in the recycling industry have led to human and environmental exposure to toxics in Asia and Africa where they are processed, as well as the potential for your personal data to get into the wrong hands. The reused clothing industry also has a surprisingly negative impact on the environment and on markets around the world.



According to National Public Radio (NPR), the average American discards more than 10 pounds of clothes each year. The EPA states that 13.1 million tons of textiles are landfilled each year. The recovery rate is about 15.3 percent. Several sources state that about half of that is recovered by going to reuse charities. Charities receive so many donations that they can only keep clothes in retail outlets for a very short time. Goodwill reports that they receive one billion pieces of clothing every year. In order to not get backed up, their inventory never stays in their hands more than three weeks. The vast majority is then exported. According to NPR, the United States exports 1,000 tons of used clothes every day. The clothes are sold in bulk for 6 to 12 cents per pound to companies that export the clothes to developing countries. According to Oxfam, about 50 percent of used clothes are shipped overseas to Africa and Latin America. Charities like Goodwill make about \$2 billion in exports every year according to Oxfam.

The assumption is that the clothes help the countries receiving them, but Oxfam and the United Nations want us to think again. In 2002, the UN estimated that tens of thousands of textile workers in Africa had lost their jobs due to the used clothes industry. Alarmed by this trend, the UN encouraged developing nations to ban the sale of used clothes. Thirty countries adopted such bans.

The fundamental cause is that garments are being made so cheaply that they have essentially become a disposable product. They aren't meant to last. So as long as we are hungry for cheap textiles, materials will continue to be pumped through at this alarming rate.

This trend is drastically affecting the livelihood and culture of communities all over the world.

What can we do?

We can take care of our clothes. Wash them on gentle cycles with cold water and low dryer level. Dry them on a clothes line whenever possible to avoid the extreme heat of the dryer that can be hard on clothes. We can also fix our clothes. You can sew buttons on clothes and take tougher jobs down the street to the local dry cleaner.

There will be many more ideas about reuse and waste prevention in the sustainable consumption chapter.

BACKYARD COMPOSTING

Composting is an easy way to manage household organic material (yard debris and some food scraps). Even where there is curbside food scrap collection, the backyard is still the preferred place to do most of your composting because it helps improve local soils and gardens, and can be used as a mulch to control weeds and save water right where you live. Where available, residents can use curbside program for materials you want to keep out of your backyard compost pile, like meat, bones, dairy, eggshells and weeds.



Although some people think it's difficult and requires a great deal of scientific knowledge to do it right, backyard composting is actually quite easy. As a Master Recycler, you can share how easy it is to backyard compost.

This section introduces the four basic ingredients needed for a successful backyard compost pile, do's and don'ts on what to put in your backyard compost, ideas for compost containment, how to use compost, and vermin control methods. The section also discusses how to use a worm bin to compost food scraps.

Four ingredients for a successful compost pile

Whether in a municipal-sized facility or your own backyard, composting takes advantage of nature's decomposition system, in which organisms feed on and break down organic materials. As materials decompose, they generate heat. Then, other organisms begin to participate.

Bacteria start the process. Fungi and protozoa follow. Finally, centipedes, millipedes, beetles and worms finish the job.

These beneficial organisms thrive on a four-ingredient recipe:

1. **Greens (one part)** – fresh grass clippings, green leaves, plant stalks, hedge trimmings, vegetable and fruit scraps, coffee filters and grinds and tea bags.
2. **Browns (two parts)** – old potting soil, dried grass, leaves and twigs, shredded newspaper, straw, and wood chips.
3. **Water** – to keep the pile as damp as a wrung-out sponge.
4. **Air** – provided through regularly turning the pile to allow all of the parts to remain well aerated.

All things rot. You can successfully compost without spending much time thinking about the combination of these ingredients. But the speed at which a pile breaks down depends on the health of the organisms. The more contact the greens and browns have with the water and air, the hotter the pile will get and the faster it will decompose. Attention to this combination will also help avoid some of the problems associated with backyard composting like odor and vermin.

The approaches to backyard composting vary. Some people simply place the materials in a pile or container, regularly watering and turning the contents. This method will produce a harvest about once or twice a year. Others use the hot compost method, where green and brown materials are layered and carefully balanced, and the pile frequently turned. Some home composters successfully harvest from these hot compost piles in as little as six weeks.

Whichever approach you choose, making sure greens and browns are chopped into small parts so that they have more surface area to have contact with the water and air will speed decomposition.

Materials to avoid

Some materials invite vermin, propagate weeds or disease, or produce an odor. These are best in your curbside garbage (G) or yard debris (YD) containers:

- Diseased plants (YD)
- Weeds and seed heads (YD)
- Invasive plants like ivy or morning glory (YD)
- Bread and grains (YD) in Beaverton, Cornelius, Durham, Forest Grove, Gaston, Hillsboro, King City, Lake Oswego, Milwaukie, North Plains, Portland, Sherwood, Tigard, Wilsonville, and unincorporated urban Washington County, (G) in the rest of the region
- Meat, bones, sea and egg shells and dairy (YD) in Beaverton, Cornelius, Durham, Forest Grove, Gaston, Hillsboro, King City, Lake Oswego, Milwaukie, North Plains, Portland, Sherwood, Tigard, Wilsonville, and unincorporated urban Washington County, (G) in the rest of the region
- Pet waste (G)
- Grease (G)



Backyard compost containers

While some choose to use elaborate backyard composting containers or bins, others use simple and inexpensive options.

Turning units allow waste to be conveniently mixed and aerated regularly. They usually have three partitions: one side for greens, one for browns and a middle bin, where the two are layered.

Despite the many, and sometimes expensive, options for containing compost piles, many simply use chicken wire. Others use no container at all, opting instead to (literally!) pile their compostable materials.



Problems that arise in backyard composting are often the result of imbalance in the four essential ingredients. The chart below summarizes the most common difficulties and offers solutions to them.

Troubleshooting compost piles

| Symptoms | Problems | Solutions |
|--|--|---|
| The heap is wet and smells like rotten eggs. Is attracting rodents. | Not enough air; pile too wet, too much greens. | Turn it; add coarse, dry browns such as straw or corn stalks. |
| The center is dry and contains tough, woody wastes; never breaks down. | Not enough water in pile. Too much brown, not enough greens. Pieces are too big. | Turn and moisten; add fresh green wastes; chop or shred. |
| The heap is damp and warm right in the middle, but nowhere else. | Pile is too small; browns and greens are separated; not enough water. | Collect more material and mix; chop pieces and moisten. |
| The heap is damp and sweet-smelling, but will not heat up. | Lack of greens in pile. Compost is ready to harvest. | Mix in fresh grass clippings or nitrogen fertilizer. Harvest. |

Worm composting

No space for a compost pile? Worm composting is an easy and fun alternative to backyard composting. Worms can be used when your yard does not produce enough yard debris for backyard composting. It is also useful when there are space constraints on the property or if you live in an apartment or townhouse. Kids love worms and will often actively participate in this household chore.

Most importantly, worms make the most of our food scraps by eating them and making a nutrient-rich fertilizer for household plants or top dressing for lawns, flower beds and gardens.

To set up a worm bin, you'll need:

- red worms
- a wide and shallow container
- bedding
- fruit and vegetable scraps from your kitchen

Fill the container three-quarters full with moistened bedding. Add the worms. Pull aside some of the bedding and put in some food scraps about once a week, and cover them up with bedding each time. In two to three months, the worms and microorganisms eat the original food waste and bedding and produce rich compost.

The worms

Red worms are recommended because they efficiently process food waste into compost. Regular earthworms and other garden varieties like to burrow deep into the ground and will not survive on the rich organic matter in a worm bin. Red worms are specialized surface dwellers who thrive in very rich organic matter like food scraps.

The amount of worms you need depends on how much food scraps you want them to process. A reasonable guideline to follow is 1/4-1/2 total worm weight in scraps per day. So if you have a pound of worms, they should be able to process roughly 1/4-1/2 lb of food scraps per day.

Keep in mind that red wigglers multiply quickly. You will need to remove worms from time to time or they will overpopulate. It is a great way to finish a presentation on worm bins to raffle off a bin and some worms from your growing population.

You can purchase red worms from local or mail order suppliers or get some from a friend's worm bin. Email: askmetro@oregonmetro.gov or call 503-234-3000 to ask Metro for a list of retail suppliers.

The container

The container should be between 8 and 16 inches deep, with holes drilled in the bottom and sides for aeration and drainage. You can build a wooden worm bin, or use a plastic tub with a lid.

Worm bins can handle about one pound (or one quart) of food scraps per week per square foot of bin surface area. This means a bin with a 1 by 2 foot floor will take about 2 quarts of food per week.

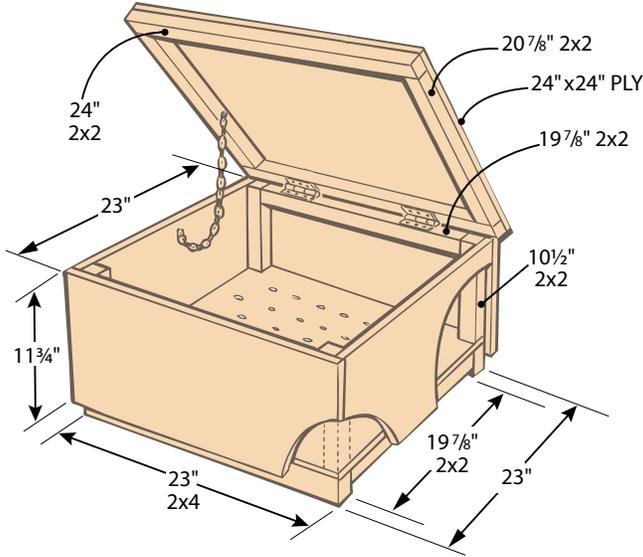
Worm bins need to keep worms moist, dark and not too hot or cold. When temperatures drop below freezing, bins should be moved indoors or be well-insulated. They may be located outdoors, or in the basement, shed, garage, balcony or under the kitchen counter.

You can even make your own worm bin.

Worm bin construction

Wood worm bin

Used mostly for fruit and vegetable trimmings. The bin may require occasional watering. The bin also doubles as a seat. Basic carpentry skills are needed for construction.



side for 2 x 2 uprights. Assemble box by nailing the 1 1/4" overhang of the side walls to the 2 x 2s on the base as drawn. Nail the front and back walls to the 2 x 2 uprights and to the 2 x 4s on the base as drawn. Be sure the hinge support is at the top of the bin.

Lid: Nail lid together as drawn. Attach to box with hinges, making sure to pre-drill screw holes into the 2 x 2s and position hinges as drawn. Attach chain with 1/2" wood screws so lid can rest in opened position.



Plastic worm bin

Used mostly for fruit and vegetable trimmings. It is very easy to build and tidy for indoor use. The plastic bins keep compost moist and will require regular additions of dry bedding.

Materials

| | |
|-------|--|
| 1 | 4 x 4 ft. 1/2" exterior grade non-treated plywood. |
| 3 | 6 ft., 2 x 2 wood |
| 1 | 4 ft. 2 x 4 wood |
| 1 lb. | 4-penny galvanized nails |
| 2 | 1/2" wood screws |
| 2 | 2 inch hinges with Cd screws |
| 1 | solvent-free, low VOC, waterproof wood glue |

Tools

| |
|--------------------------------|
| saw, power or hand |
| hammer |
| measuring tape |
| pencil |
| square |
| drill with 1/4" and 3/32" bits |
| sandpaper |

Use proper eye, ear and body protection.

Assembly: Glue all wood pieces before nailing.

Base: Nail two 23 inch – 2 x 4s and two 19 7/8 inch – 2 x 2s to bottom of 23 x 23 inch plywood as shown. Drill at least 24, 1/4" holes for drainage.

Sides: Nail the four 2 x 2 uprights to the two side walls along the 11 3/4" edge, with one end of each 2 x 2 flush with the top edge of the walls. Nail a 19 7/8 inch – 2 x 2 hinge support to the top edge of the back wall piece, leaving a 1 1/2" on each

Materials

| | |
|---|--|
| 1 | plastic storage container with a tight fitting lid, measuring 12 to 18 inches tall; 12 x 24" base. |
|---|--|

Tools

| |
|--------------------------------------|
| power drill with 1/4" and 3/32" bits |
|--------------------------------------|

Use proper eye, ear and body protection.

Assembly for outdoor use: Drill at least six holes per side for ventilation about one-half to three-quarters of the way up the sides of the bin. Drill at least 12 holes in the bottom of the bin for drainage.

Assembly for indoor use: Drill at least six holes per side for ventilation about one-half to three-quarters of the way up the sides of the bin. To avoid a future mess from moisture dripping out the bottom of the worm bin, you can either forgo drainage holes, or drill drainage holes and use a second plastic storage bin as a catchment tray. If you forgo the drainage holes, be sure to monitor moisture levels and prevent puddling. When moisture content is high, add dry bedding under and on top of the food and worms to absorb excess moisture.

The bedding

Suitable bedding materials include:

- shredded newspaper or cardboard (not magazine pages)
- brown leaves
- straw
- coir (coconut fiber)
- untreated soft-wood sawdust or wood shavings

Setting up and maintaining a worm bin

Fill the bin three-quarters full with bedding that has been moistened so it is as wet as a wrung-out sponge. Add a handful of dirt, crushed eggshells or sand to provide necessary grit for the worms' digestion.

During the course of several months, the worms will eat the bedding. Add more moistened bedding as necessary to maintain the bin at three-quarters full. There should always be about 4 inches of bedding over the worms and compost.

Feeding your worms

When adding food waste to the bin, pull aside some of the bedding and bury the food. Bury successive loads in different locations in the bin.

| YES – do feed your worms: | NO – do not feed your worms: |
|---|--|
| <ul style="list-style-type: none"> • fruit and vegetable scraps (including citrus peels) • coffee grounds and filters • tea bags | <ul style="list-style-type: none"> • meat, fish or dairy products • greasy or oily foods • breads, grains or dry beans • pet waste (unless it is from a rabbit or chicken) |

Harvest your worm compost

Harvest worm compost (also known as worm castings, vermicompost) from the bottom of the bin after several months or when it looks like soil. For small amounts, look for areas in the bin with soil-like compost and few worms and just grab handfuls.

For larger quantities, you can push the contents of your bin to one side and fill the empty half with new bedding, food and some of the active worm compost. Add all new food scraps to this new side for a few months. The worms should migrate over there, leaving pure compost on the side with the older material.



Uses for compost

As a soil amendment: Mix two to five inches of compost into vegetable and flower gardens each year before planting.

As a potting mixture: Add one part compost to two parts commercial potting soil, or make your own mixture by using equal parts of compost and sand or perlite.

As a mulch: Spread an inch or two of compost around annual flowers and vegetables and up to six inches around trees and shrubs.

Top-dressing for lawns: Top-dressing turf areas with compost is recommended to provide a slow release of nitrogen. Mix finely-sifted compost with sand and sprinkle evenly over lawn. Using compost also will improve the condition of your soil and allow for better water retention, which will allow you to use less water.



"I wanted to make sure that I put only what belongs in each cart so that valuable materials get to someone who can turn them into new products."

– Jocelyn

CONCLUSION

Practice at home then share what you learned

Jocelyn is one Master Recycler who learned during the course to get the most out of each container in her collection system. Jocelyn must be doing something right because now she only has to put her garbage out five times a year and when you look in her recycling and compost containers all you see are clean resource-rich materials!

One of the best ways you can be an effective Master Recycler is to try it yourself. Identify new goals for your household that aim to recover more materials and reduce contamination and then share your experiences in the community.

