

HOUSEHOLD BATTERY COLLECTION AND HOUSEHOLD MERCURY SOURCES

How dangerous are small household batteries in your landfill? Like most environmental risk questions, that depends on a number of factors:

Factor # 1: Which metal?

One factor is which chemical/metal that the battery contains. Since 1996, mercury has been phased out of most small batteries *made in the U.S.* (and Canada as well). Because the metals that are present are not considered to be highly toxic, **Carbon-Zinc and "non-button" Alkaline batteries aren't even officially considered hazardous wastes** anymore. Regular alkaline batteries are the most common household battery and include AA, AAA, C, D, 9 volt, and lantern type batteries. Note though, just because a battery looks like, or is an AA (or other), it doesn't mean that it is definitely alkaline. You have to look at the packaging or label. And if you burn your wastes, even alkalines will still emit heavy metals into the smoke.

In contrast, **Button cell batteries still contain mercury.** Button cell batteries may be alkaline, silver oxide, or zinc air, and all types contain significant amounts of mercury. Mercuric oxide batteries, which contain by far the most mercury, can come in different shapes and sizes, but are now mostly for industrial and medical use.



Then **Nickel-Cadmium (NiCad), Lithium Ion, and Small Sealed Lead batteries (SSL's)** also contain metals that can be very harmful to the health of humans and wildlife. Cadmium, lithium, lead, and mercury are all toxic metals. These metals are in batteries for watches, cameras, calculators, hearing aids, electronic greeting cards, clocks, electronic games, motorized toys, etc. Some rechargeable NiCads and are the same shape, and are meant to be used as regular AA, AAA, C, D, etc. batteries.

Some sealed lead batteries may look like alkaline 6 or 9-volt batteries and NiCad's can look like regular alkalines, but they are very different because their contents are much more toxic. Some cell-phone and other hi-tech electronic batteries still contain mercury. But these batteries, regardless of where they are made, are required to include instructions and contact information about where to recycle or dispose them.



An example of NiCad rechargeable "AA" batteries

How Can You Tell What The Battery Is?

The Battery Act of 1996 requires U.S.-made Ni-Cad and most small sealed lead batteries to be labeled. Remember, **all button batteries have mercury**, so you don't need to strain your eyes! Canadian batteries should be labeled as well, either on the battery or consumer package.



Source: USEPA at www.epa.gov/epaoswer/non-hw/muncpl/battery.htm

Labeling for other foreign batteries varies. Beware that many are more likely to contain mercury or other toxic metals.

Factor #2: Landfill practices

What happens to the trash after it reaches the dump is another factor to consider. If you have an unlined dump (which most Villages do), those chemicals have a potential for migrating outside your dump and into your environment. If your community wastes are burned, the likelihood of those metals reaching beyond the dumpsite (in the smoke) is very high. In a Lower 48 study, it was estimated that **35 percent of all background local-source mercury comes from incinerating batteries with household garbage.**



Factor #3: Quantity

Another factor to consider is the quantity that is being generated—**how much toxic metal can potentially get into the water, air, and food chain?** We don't know the exact contribution of each battery-type to a Village waste stream. But we can tell you the **national average of used household battery generation each year is about 2 lbs per person.** We think most Villages average a bit less, but we haven't heard of any detailed Village counts. Most of those batteries are probably regular alkaline batteries. Or we'd all have serious health problems. Some batteries have potentially toxic metals, but in a very, very small amount. This doesn't mean that you shouldn't recycle them, but it does mean that it is okay to take some time to build up a program where they are all sent out of the Village.



Button cell batteries.
Source: Environment Canada at www.ec.gc.ca/MERCURY/SM/EN/sm-mcp.cfm?SELECT=SM

Factor #4: Comparison of where you will do the most good

When you think about quantity, it is good to consider the particular metal amount compared with other sources of these metals. For example, **getting all vehicle and large emergency power lead-acid batteries out of the dump and waters (i.e. marine batteries discarded in the River) will reduce lead in your environment more than collecting all of the household batteries containing lead.** An annual Village average for vehicle lead-acid batteries is about 10 to 15 lbs per person, and of that weight, most of it is very harmful (either lead or acid). See our "Other lead sources" Section further below.



With mercury, there is a slightly different story. Mercury is also a very harmful metal, especially if it changes to its most toxic form, called "methylmercury". It can hurt brain development in children and affect

neurological ability in adults (e.g. being able to move well and remember or understand things). There can be many sources of mercury in the community. See our "Other mercury sources" Section further along.

Two of the easiest mercury sources to do something about in regular Village trash are **fluorescent lights and button cell batteries**. In regular *household* trash, most of the mercury these days is from **button cell batteries**. Button cell batteries don't weigh much, and last a fair amount of time, but **they can contain about 25 mg of mercury each**. So **collecting button cell batteries can significantly reduce the amount of local-sourced household mercury** in your environment.

In comparison, new 4-foot fluorescent lights (like in the school and office buildings) contain about **20 mg of mercury**, and **compact fluorescent bulbs about 4 to 8 mgs** of mercury. **Older** fluorescent 4-foot lights contain closer to **80 mg** of mercury. The large fluorescent lights aren't counted as household trash, so we can't tell you exactly how much mercury these lights contribute to your wastestream compared with button cells. Finding this out would require you to conduct a business/office/school survey.



However, collecting and **recycling most of the fluorescent lights is easier** than collecting and recycling most of the button cells. With fluorescent lights, the main source will be the businesses (and school). In most Villages, there are not very many businesses. And the lights are easier to keep track of. There are Alaska companies who will send you pre-labeled boxes to recycle fluorescent lights for a reasonable fee. **The older lights have PCBs** as well as higher levels of mercury. So going to each business to make sure that they send back their lights is an effort well-spent. See <http://www.ccthita-swan.org/pdf/fluorescent.pdf> for "how-to" steps.



With button cell batteries, a lot of education is needed to get participation. Most households will not like separating out such tiny batteries and bringing them to a collection office, or saving them at home. You might first need to educate them about the very harmful effects of mercury to subsistence and children and elders. It will be a long-term process to convince people to store their used batteries, but worth it for subsistence and community health.

Factor #5: Chemistry and Hydrology

Another factor is the "chemistry" of your lands and waters at the dump and in the surrounding environment. Natural chemistry processes can change the metal into one or more different "forms". Depending on which form, it can be very **dangerous -- or not considered harmful**. For example, in many wetland soils, most heavy metals (including mercury and lead) bind up with the chemical sulfur to form a "harmless" black compound.



That process happens deep in the soil where there is no oxygen. If heavy metals migrate down through these wetland soils (or the dump is located there), they can stay there unless they are disturbed.

One such disturbance can be turbulent (i.e. rough, eroding) flooding or flushing, or any event that brings oxygen (air) to the subsurface, such as digging or permafrost degradation. Another consideration in determining the potential for harm from dumpsite metals is the acidity of your soil and waters. In general, more acid will leach the metals out, and they will have a greater tendency to go through most soils into your waters. That is one of the reasons that wet-cell, or "lead-acid" batteries are so important to keep out of the environment. They come with a ready-made supply of acid to "help" get the lead into your waters. More acidic water in a stream can likewise bring out metals that normally would stay in the sediment. Note that the sulfuric acid in batteries is the same chemical that is formed when you have high-sulfur in your soils, and they are disturbed by digging, flushing, etc.

Factor #6: Exposure



Still another very important factor is the potential for exposure. We mentioned smoke already. Does the smoke blow right into town or onto drying racks? Are there fish camps just downstream of the dump? Are berries collected where the dump drains? Exposure equations require very advanced level math. For example, they involve calculating the phase and form of the metal. **How much of it goes to the air, soil, and water, and how much of that is a toxic form? How long is a person/animal exposed? How does the metal get into the body (breathing, eating, skin absorption), and what is the activity level and breathing rate of the individual or animal or plant, and what is their body size?**



The above was simplifying some of the processes mentioned. Exposure is very complicated in terms of calculating the numbers, but it is common sense too—**the more you're exposed to a harmful contaminant, the more likely that your health can be affected.**

Other Lead Sources Vehicle lead-acid batteries are probably the biggest source of lead in your village. [Go to the SWAN site](#) to find out how to package and backhaul these batteries. **But once you have your lead-acid batteries under control, there are other important lead sources** to do something about, that contribute more lead to your environment than household lead batteries.

Computers must be kept out of our unlined dumps. Besides lead, they have lots of other health-risk associated heavy metals and chemicals. Computer manufacturing plants have contaminated local water sources all over the world. See http://www.ccthita-swan.org/Tutorials/computer_recycle_intro.cfm about recycling computers and what they contain. Work with your school to make sure they ship their



computers back to a responsible computer recycler, or at least a Class I lined landfill away from an area that people live from the land.

Lead shot and sinkers need to be replaced as a long-term goal: Working towards **reducing lead shot and lead sinkers, and replacing them** with lead-free substitutes will be a gift to your children and descendants and lands. You can accomplish this through community education, trade-in/subsidy programs, and actions on getting the cheapest lead- alternatives into your community.

Lead shot and sinker effects: If waterfowl ingest lead from shot or sinkers, they can die within 3 - 6 weeks, and many more will contract one or another common bird illness, brought on by a lead-caused weakening of their immune systems. Worse still, some of those sick birds could start epidemics that kill many of their non-poisoned companions. In fact, the available reports indicate that as many as **five waterfowl may die from lead-related causes for every one** that has an actual lethal poisoning.

Health-wise, it is better for a community to continue subsistence no matter what kind of shot or sinker is used.

Steel Shot: But for those who can **afford it and find it, steel shot is much better**, and should be a **community goal**. If you come across lead shot or sinkers while hunting, pick them up (with gloves), and bring them back in. Consider ways to encourage folks to switch.

First, make sure steel shot is available locally in your stores. Does your store have access to internet? **Offer to find the cheapest steel shot prices for your store.** Look up "steel shot" in Google or Yahoo Search engines. You might be able to bring the price down for your store(s) to just a little over one dollar difference for a case. In Alaska, lead shot is usually imported from Mexico, and steel shot from Canada, or the Northwest. **Other ideas:** Provide steel shot as raffle prizes, and consider using Bingo profits, or plan a lead shot pollution prevention demonstration/education program that can subsidize the cost difference.



Lead sinkers and jigs:

See http://www.cws-scf.ec.gc.ca/fishing/alter_e.cfm for a list of lead-free sinkers and jigs. That link will also take you to general information about lead sinkers and their effects.

And <http://www.cws-scf.ec.gc.ca/publications/AbstractTemplate.cfm?lang=e&id=1031> is a good technical (i.e. long) summary of effects.

Other Household Mercury Sources

There are some sources of household mercury that are much, much higher in mercury than household batteries. Luckily, mercury use in these products is becoming less common, and alternatives are increasingly available. These are the main types of household mercury products you will find with lots of mercury:



Photo source: www.mercvt.org

Mercury flame sensors: Also called automatic gas shut-off valves, are used as safety devices in gas ranges and other appliances. A flame sensor stops the flow of gas if the open flame does not produce heat, such as when the pilot light is out. These contain about 1 gram (1,000 mg) of mercury. So **one flame sensor is equal to about 40 button cell batteries**. They were used in older gas-fired appliances (e.g. dryers, stoves, and furnaces) to open or shut off gas. These will be hard to remove, but another reason for separating out and backhauling your appliances. Many newer model appliances now use an electronic igniter or electronic flame sensor. You might find in the trash another type of flame sensor used in **fire detection systems**. **These are** used to activate sprinkler systems or alarms.

Switches are devices that regulate the flow of electricity; when open they allow current to flow and when closed they prevent current from flowing. Some temperature or pressure sensitive and mechanical switches may contain mercury. Typical examples include:

- ❖ The hood and trunk light switches in some pre-YR 2000 cars,
- ❖ Silent wall switches,
- ❖ Garage door openers,
- ❖ Clothes dryer lids,
- ❖ Microwave ovens,
- ❖ Proximity or position sensors found in irons and space heaters,
- ❖ Sump pumps and bilge pumps.



Mercury switch

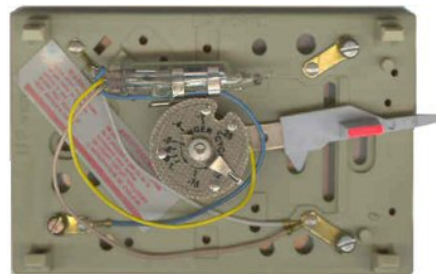
The average mercury-containing switch has about **3 grams of mercury**, the same as **120 button cell batteries**. Taking out just **one such switch removes more mercury than two to four years** of a pretty good household battery program. The reason? Beside the much lower amount of mercury in household batteries, button cell batteries usually last several years. So for every 400 button batteries in your community being used, there will be only about 100 needing replacement each year (and going to the trash). But you will be doing well if you can collect even 10% to 50% of what is going to the trash. Note, large switches can contain up to **70 grams** of mercury (about **660 button cell batteries**).

Temperature switches: These are used in food warming trays, hot water boilers, ovens, sterilizers, molding machines, heat exchangers, labeling machines, water baths, heat sealers, refrigerating equipment, ventilation equipment, alarm systems, bearings, popcorn machines, hot stamping, watering fountains, vending machines, and deep fat cookers. Due to their mercury content, these switches are becoming less popular with the food and beverage industry. They contain anywhere between **1 to 10 grams of mercury** (**40 to 400 button cell batteries**).

Fever Thermometers: Those containing mercury are identified by the color of the bulb. **If the bulb is silver, the thermometer most likely contains mercury**, anywhere between **500 to 3,000 mg** (20 to 120 button cells). Digital fever thermometers are mostly used now (which don't contain mercury), but watch out for people throwing out their old mercury bulb thermometers.



Thermostats: Mercury-containing thermostats may be used in heating and cooling systems in residential, medical, commercial and industrial settings. **Most non-digital thermostats contain mercury, anywhere between 3 grams to 18 grams** (equal to 120 to 720 button cell batteries). Thermostats that contain mercury can usually be identified by *carefully removing the front plate of the device and looking*. If there are glass "ampoules" inside that contain a silver liquid, it is most probably mercury. Watch out for people replacing their old thermostats with digital models that they can use for programming the temperatures. Such models are definitely better for the environment, but make sure people don't discard their old thermostats in the landfill.



Thermostat with cover off. Source: Environment Canada

Note: The primary source for the above "Other Mercury Sources" discussion is the Environment Canada, at <http://www.ec.gc.ca/MERCURY/SM/EN/sm-mcp.cfm?SELECT=SM>

How to remove the mercury components from big appliances ("white goods")

There is a great step-by-step manual with pictures to take the mercury out *before* the freezers, ovens, washing machines, etc. are discarded or stored at your unlined dump. You might print this out and have your operator read it, or keep a copy for households to read when they are ready to discard their white goods. If don't have an appliance backhaul (most of us don't), then the mercury will eventually get into the environment. So removing the mercury switches and sensors will be a significant help in protecting subsistence and community health. Go to:




Photo source: www.mercvt.org

<http://www.mercvt.org/PDF/appman.pdf> for the **Household Appliance**

Mercury Switch Removal Manual developed by the **Mercury Education and Reduction Campaign**, Vermont Agency of Natural Resources. Their site at www.MERCvt.org lists a number of other mercury -reducing practical steps your community can take.

Other useful mercury information

Web Links:

Topic	Website address
Overview of mercury and why it's a concern	http://www.epa.gov/earlink1/mercury/index.htm
What you should do if you have a mercury spill 	http://www.epa.gov/epaoswer/hazwaste/mercury/spills.htm http://www.epa.gov/boston/eco/mercury/spillstherm.html http://www.state.in.us/idem/ctap/mercury/spill.pdf http://www.idph.state.il.us/envhealth/factsheets/mercuryspills.htm http://www.state.nj.us/health/eoh/survweb/merchome.pdf http://www.michigan.gov/deq/1,1607,7-135-3585_4127_4175-11751--,00.html

Shipping out mercury containing items:

Unfortunately, shipping out mercury can get expensive, but you should be able to use IGAP funds for this activity. To save money, it's best to store all your mercury containing items and ship them out together rather than item by item. So if there are several thermostats, thermometers, switches or other mercury containing items in the community that will eventually need to be disposed, it's best to **store them in a safe place** until everything can be shipped out, all at once.

When the mercury containing items are ready to be shipped out, contact the following companies for quotes:

Total Reclaim www.totalreclaim.com Tel: (907) 229-0183
12101 Industry Way, Unit #C4 Anchorage, AK 99515

Emerald Services www.emeraldhw.com Tel: (907) 258-1558
800 East Ship Creek Avenue Anchorage, AK 99501

Phillips Services Anchorage, AK 1 (800) 478 9008 (907) 272 9007



Through these companies, you can order **DOT-approved shipping containers** to put the "mercury debris" in. These containers come in a variety of sizes (e.g. 1-gallon, 5-gallon etc. containers). The companies will also help you fill out a hazardous waste manifest to ship the material.

Any **spilled mercury will need to be put in a ziplock bag** with absorbent material around it (e.g. kitty litter), in the DOT-approved container. (Read the information on the webpages listed in the table on the previous page on how to safely cleanup small mercury spills)

What are the typical costs for shipping out mercury containing items?

The table below shows sample costs for shipping out mercury containing items gathered from the companies listed above:

Item	Costs
DOT-approved container	\$6-\$20
Processing fee (manifest and shipping paperwork)	\$50
Transportation costs from Village to Anchorage (depends on location)	\$25-\$100
Disposal fee for mercury debris	Up to ~\$350

The Bottom Line On Household Battery Collection

If you have time (or can find volunteers or write a grant to get the time), definitely **start a household battery collection program**. It won't take much time or money, and **will remove a significant amount of local-source mercury out of your environment**. A program is especially important if you **burn your wastes or your dump is flooded each year**. A program might be difficult to get a lot of participation, but it is **easy to start**. Collect the batteries in non-cracked plastic bottles in a dry space. **Do not mix the batteries with other objects such as metal keys or coin change since this can short circuit the battery, causing heat and sparks.**

Because rechargeable batteries are possible to recycle for free, it might be useful to **separate them**. Also, not all battery recycle companies take button batteries, because of their mercury content, so these should be placed in a separate bottle if possible, as well. It is up to you whether you want to include regular alkaline batteries in your program. They will take up more office space. But on the other hand, people might get confused about what batteries they should recycle, or **they might have old batteries, or Alkaline batteries from foreign countries that allow mercury**. It might be best to **accept all batteries**. If your space is limited, you can always go through and throw out the post-1996, made-in-U.S., Alkaline and Carbon-Zinc batteries later.



- ❖ Ideally, **no batteries should be thrown into trash that will be burned, but Alkaline and Carbon-Zinc are still safest**. If you run out of office room, find an unused storage space until you are able to find the funds and time to recycle.
- ❖ **Almost all batteries made before 1996 contain mercury**, even regular Alkaline batteries. It might be a good idea to post flyers about this fact for Spring Cleanup.

- ❖ **Check that your store carries batteries manufactured in the U.S. or Canada**. If they are made elsewhere, there is a decent chance that they contain mercury still. Work with your store to switch to a different distributor, or to offer residents a choice. You can make a little sign in the store by the batteries that let people know why the price difference makes a difference in their environment, and to publicize your collection program.



- ❖ **Work with your clinic** to make sure that any **mercuric oxide batteries** are **not** disposed at the dump, and mercury thermometers and blood pressure cuffs are sent out. Medical equipment is the primary use now for mercuric oxide batteries, which are like multiple button cell batteries in one, and thus **contain a very high level of mercury** compared to other batteries.

- ❖ While you won't find a lot of them, be on the look-out for older, pre-1996 or foreign-made **household mercuric oxide batteries**. These are most important household batteries to take out of your waste stream. Look also for old mercury thermometers while you are at. You can collect these along with your batteries, but because they are glass, you will need to cushion them carefully and store them separately. Follow the information from websites listed on page 7, in case of breakage.



❖ If people still want to dump their batteries in the landfill (or your office is running out of space), ask them to first put their batteries into closed, non-cracked plastic bottles. Those of us living here know that the plastic bottles will tend to crack sooner than later, especially in the North and Interior. You can try triple-bagging the batteries instead. Try a **container left at the dump** for people to drop their battery filled bags and bottles. A **lidded garbage pail** should work fine for this purpose. This will be especially important if you burn at the dump. The batteries should not be burned after all the trouble people went to, to separate them. You might wish to have children paint the container with messages and pictures so that people will be careful in using it only for household batteries. You can teach children at school why the pail is there. Replace the pail if it gets cracked.

Funding

There are places to recycle many household batteries, but you will likely need to pay for postage at least. However, **postage for sending household batteries and fluorescent lights back can be covered through IGAP funds** because it is a solid waste activity.

Alternatives To Mercury-Containing Household Batteries

Rechargeable batteries are less wasteful because they can be used over and over again. But they are also more toxic. There *are new rechargeable Alkaline* batteries that **do not contain cadmium**. These should be promoted as much as possible. Solar batteries (the solar panel can recharge the batteries, or directly supply power) are also becoming more and more affordable.

Purchasing and distributing Alkaline rechargeable batteries and solar battery chargers are something that could be part of an IGAP demonstration project-- to reduce household hazardous wastes. Type in "rechargeable alkaline" or "solar charger" into your internet search engine for places with. See www.realgoods.com for one place to order these types of batteries and solar chargers.

Where Can I Recycle My Household Batteries?

Rechargeable batteries: These can be recycled through RBRC. See www.rbrbc.org or call 1-800-9-BATTERY. A good resource on their site that we like is the Battery Lesson Plan. You can link to it from their home page. It includes lots of information about the makeup of household batteries, as well as an actual lesson plan for schools and community.

Several Radio Shack stores accept NiCad batteries and other rechargeable batteries, including stores in Anchorage, Wasilla, Eagle River, Soldotna, and Kenai. Call first to make sure you have the right kind of batteries, and that the particular store accepts them. The 5th Ave Mall Radio Shack in Anchorage doesn't accept batteries, but the ones at 500 E. Benson (258-9050), 210 Muldoon Rd (337-2100) and 9220 Lake Otis Pkwy (644-8313) do. **Batteries Plus** at 910 West International Airport Road (770-6110) also accepts rechargeables. Still, for all stores, **call first** to be sure that their current policy hasn't changed.



NiCad 7.2 volt battery

Non-rechargeable batteries: The Anchorage Landfill Hazardous Waste Facility accepts up to 40 lbs of all types of household batteries from residents each day. That is a lot of household batteries. If you have any relatives in Anchorage, consider bringing a small plastic bottle of button cells as a "gift" the next time you are at a conference. Besides bringing any household battery to the Anchorage Hazardous Waste Facility, or your rechargeable batteries to a Radio Shack store, you'll likely need to post them via mail-in programs.



Non-rechargeable lithium battery

To find a place to post your non-rechargeable (and rechargeable) batteries, Go to the "Earth 911 Organization" link at <http://alaska.earth911.org/master.asp> Click on "battery recycling" to the left, or go directly to <http://alaska.earth911.org/usa/master.asp?newpostal=99501&s=1s&serviceid=126>

Mail-in programs for non-rechargeable batteries: Mail-in programs can vary a little bit. For example, some may accept credit cards and some may not. Costs can vary some as well. In addition to batteries, some companies might recycle other materials, like fluorescent lights and other mercury-containing materials. It is good to call a couple of companies with your specific needs and questions (for example, will you be recycling all household batteries together, or just button cells?). You might be able to see who would be best to work with, just by speaking with them. Just like people, some companies are easier and nicer.

Most Mail-in programs operate like this:

1. Order a prepaid container through the company.
2. They will ship you the container.
3. All labels and proper documentation are included.
4. Once filled, just call the company to have the box shipped back.
5. The company will recycle the batteries.
6. They will then send a Certificate of Recycling. Keep this for your records. You can include a copy in your grant reports.



Cost: Cost will change depending on the "metals market" and shipping costs. The metals market means how much that company can make by selling the recovered metal. Below is a "generic" planning chart for budget planning. The chart is based on a typical Fall 2005 cost of \$165 for 70 lbs of batteries, using the national average of 2 lbs of batteries per person each year:

Recycle Cost Planning Table for Household Battery Recycling (Annual Estimates)

Recovery Rate	200-person village	400-person village	600-person village	800-person village
10%	\$94	\$189	\$283	\$377
20%	\$189	\$377	\$566	\$754
30%	\$283	\$566	\$849	\$1,131

40%	\$377	\$754	\$1,131	\$1,509
50%	\$471	\$943	\$1,414	\$1,886
60%	\$566	\$1,131	\$1,697	\$2,263
70%	\$660	\$1,320	\$1,980	\$2,640
80%	\$754	\$1,509	\$2,263	\$3,017
90%	\$849	\$1,697	\$2,546	\$3,394
100%	\$943	\$1,886	\$2,829	\$3,771

A good starting goal for household battery recovery would be 10% of all the household batteries in community. Each year, you will be able to get more people to participate. So for your IGAP budget, you could request money for recycling about 10% to 20% the first year. Then the next year, you could budget funding to recycle more of the batteries. You can step up the recovery rate each year with education.

Complete Recycling Solutions, LLC

One Father Devalles Blvd
Fall River, MA 02723

Phone: 866-CRS-9797

Fax: 508-402-7750

Email: kboyea@crsrecycle.com

EPSI (Earth Protection Services, Inc.)

10 South 48th Avenue, Suite #4
Phoenix, AZ 85063

Phone: (800) 414-0443

Web link: www.earthpro.com/

KBK Innovations

Weblink: www.kbk-innovations.net/

Email: benkbk@juno.com

Fax: (480) 857-0794

NES (National Environmental Services)

Tucson, AZ 85705

Phone: (800) 872-2226

Web Link: www.nesllc.com

Mercury Solutions (for button cells)

21211 Durand Avenue Union Grove, WI 53182

Phone: (518) 459-0820

Days/Hours: Monday to Friday 8am to 4pm

Notes: Through the MEREKO Button Battery Program, you can receive payment for used watch or hearing batteries while solving a difficult disposal problem.



Program Participation

[Click on the otter](#) to find out how to conduct a battery wastestream study and program participation rate, or look up "Batteries", then "Counting Your Battery Wastestream" in the SWAN A-Z Index.



Additional Resources

The Earth 911 battery resource site lists several places for additional information concerning household batteries as well as other hazardous wastes:

http://alaska.earth911.org/master.asp?s=lib&a=electronics/bat_links.asp