

BACKHAUL

A “HOW TO” GUIDE



This work is supported in part by grants through the EPA and USDA Rural Development



Welcome to the Backhaul Manual

Since the creation of the Yukon River Inter-Tribal Watershed Council (YRITWC), it has been our organization's goal to provide assistance and information to the Tribes we represent and beyond. While our Backhaul program has been very successful in removing solid waste from the Yukon River Watershed (well over 10 million pounds), there is always more that can be done. One issue that we wanted to address was a lack of transparency as to how we have been so successful and how others could duplicate that success. As we were writing a funding proposal to bring backhaul to a statewide level, we knew that one of the best ways for that to happen was to create a backhaul "How-To" manual. With a manual, anyone with an interest in starting their own backhaul could have the same tools we have used for years right at their fingertips.

In 2007 the US Environmental Protection Agency (EPA) granted the YRITWC an Alaska Tribal Multi-Media Project grant to address this issue. In our work plan outlined five goals:

- Increase capacity among Tribal Solid Waste Coordinators throughout the Yukon River Watershed to operate and maintain newly created Regional Recycling and Reuse Hubs
- Expand types and quantity of materials that are backhauled off the River
- Provide documentation and other information in the form of a manual for other regions to create backhaul initiatives
- Provide training to 4-7 region-wide and watershed-wide efforts throughout Alaska
- Create a "Sustainability Plan" for the YRITWC Backhaul Pilot Project.

Through this grant we hope to bring backhaul capacity and awareness to a larger audience. Besides this manual, we are taking a Hub approach to expanding backhaul statewide. The reason for this is efficiency. It is easier (and cheaper) to remove a lot of solid waste for a few places than it is to remove a little solid waste from many places. Also, it is more likely for recyclers to invest in backhaul if there are large amounts of recyclable items in central areas.

One of the most important lessons we would like readers to take away from this manual is the importance of strong partnerships with transportation and recycling companies. Without these partnerships backhauling in rural Alaska, or anywhere for that matter, is nearly impossible. Another important aspect of backhaul is knowing when to stop talking and start doing, so let's get going!

Acknowledgments

This manual would not have been possible without the help of one of our oldest and most trusted partners, Total Reclaim. Particular credit is due to Larry Zirkle and Reilly Kosinski. It is through their invaluable in-kind contributions of information regarding the proper staging of electronics, fluorescent bulbs and batteries that we are able to have such a comprehensive manual. It is our hope that future electronic editions of this manual will include more of their expertise to be shared with all those who need it.

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Dear Backhaul Partners,

The Yukon River Tribes have backhauled more than 17 million pounds of hazardous waste and recyclable materials since 2004. We appreciate the important part that you've played in this success. Because of this effort led by tribes and with your partnership, the life of landfills in Yukon River communities have been extended and human health has been protected.

We invite you to continue to partner with tribes in this important work. Tribal stewardship is exemplar. The Solid Waste Program at the YRITWC will continue to be your "go to" resource for technical assistance and best practices in waste management. Please review our updated *Backhaul Manual 2016* for the latest information on waste management and handling practices. Staff are available for questions and to provide advice when requested.

Best wishes for another successful backhaul season!

Warm regards,

Kelly Donnelly, MPA, Director
Yukon River Inter-Tribal Watershed Council

The Yukon River Inter-Tribal Watershed Council

The Yukon River Inter-Tribal Watershed Council (YRITWC) is an international organization with 501(c)(3) non-profit status in the United States and Societal Status in Canada. As a coalition of sovereign Tribal and First Nation governments, we were founded in 1997 by a group of 56 Chiefs and elders who gathered in Galena, Alaska, to discuss their concern about increased cancers and other health problems in human communities and the animals they depend on within the Yukon River watershed. Mining activities, military contamination, and industrial and residential solid waste were identified as the primary contributors to the declining environmental quality and human health in the region. From this gathering and based on these concerns, the YRITWC was formed to restore the River and to protect it from further contamination.

The long-term vision—and the guiding light for the organization—was articulated by those Tribal leaders at the historic 1997 Summit in Galena that birthed the Watershed Council: to once again drink clean water directly from the Yukon River as our ancestors did for thousands of years before us.

Today, 73 Indigenous governments within the watershed are actively participating in the coalition through the signing and enactment of an Inter-Tribal Accord that governs the Watershed Council and its members. The YRITWC administrative office is located Anchorage, Alaska with an annual budget of approximately \$1.1 million and a staff of nine.

To provide a geographic sense of the area in which we work, the image below displays the Yukon River Watershed within Alaska and Canada and overlays this region onto the lower 48 United States.



Map by Laura Kaskela for the Yukon River Inter-Tribal Watershed Council

The Yukon River, over 2,200 miles long and draining an area of 330,000 square miles—about twice the size of California—supports the largest and longest inland run of Pacific salmon in the world. As the fourth largest basin in North America, the watershed consists of the mainstem Yukon River and all tributaries, covering a vast portion of Alaska and the Yukon Territory.

For more information on the YRITWC's current efforts in the Yukon River Watershed, please see our website at www.yritwc.org.

What is Backhaul and Why is it Important?

Backhaul is when transportation companies transport old materials out of a community, after delivering other goods and services. Regrettably, over the last 100 years, companies have brought a lot of material into Alaska and taken very little out. This imbalance has caused serious problems for communities and ecosystems across the state. Without a system to remove solid waste items from the community, most are buried, burned, or dumped into rivers and lakes. Over time, that solid waste can break down and release toxic components into the environment which can contaminate the air, ground and water.

Backhauling solid waste items both protects communities against contamination and greatly reduces the costs of local waste management. Every item backhauled is one less item sent into the landfill. This prolongs the life of each landfill and saves the money that would have been used to close and open a new one.

Collaborations between interested communities and the transportation entities that serve them can lead to the safe removal of key solid waste materials.



Every item in this photograph has some value to recyclers while many pose a threat to the community health if left in a landfill.



If reprocessed correctly, used oil and glycol can be kept in the community for use as heating fuel and renewed anti-freeze.



Backhauling junk vehicles can return much needed space to your landfill.

Safety and Education

With enough community support, anybody could launch a backhaul program. The main thing you need is the desire to make a difference in your community. After that your most important tools will be common sense and an ability to build relationships with effective partners. The first steps in building a backhaul program will likely involve communication with transportation companies that provide services to the area and local education about safely handling the materials to be backhauled.

To work with most waste items, a clear plan and simple common sense will reduce much of the risk involved in backhaul. Only handle items when you know what they contain. Be aware of your surroundings and the materials you are working with and take appropriate precautions. Protect yourself by using work gloves, clothes, boots and eye protection. While you are not required to have special training to backhaul, the following trainings will give workers a better understanding of hazardous materials. For more information on these classes, contact the Yukon River Inter-Tribal Watershed Council or a provider listed in our Resources section.

1. CPR/FIRST AID

This is a valuable class for anyone, not just people working with solid waste. It will give you the basic knowledge of what to do should anyone get hurt on the job.



2. 40 HR HAZWOPER (Hazardous Waste Operations and Emergency Response)

- Understand the purpose of Occupational Safety and Health Administration (OSHA) and its role in regulating occupational safety
- Use Site Characterization to establish problems that may exist in your workplace and measures that can be implemented to eliminate hazards
- Identify hazardous materials existent in the workplace and the possible methods, symptoms and preventative measures of exposure
- Encourage the use of Material Safety Data sheets (MSDS) to identify and properly handle hazardous materials
- Familiarize yourself with materials, compounds and mixtures that may present flammable, explosive, chemical or radiological hazards
- Emphasize the importance of personal protective equipment in limiting hazardous exposure
- Establish an effective Site Control Program to limit the risk of exposure to only those working in the hazardous work zone
- Implement procedures for treating workers in the event of hazardous exposure

- <http://www.oshacampus.com/hazwoper-40-hours.cfm>

3. DEPARTMENT OF TRANSPORTATION (DOT) HAZMAT REGULATIONS

This course covers DOT regulations for shipping hazardous waste on road, rail, ship or plane.

Building Partnerships

This manual reflects the importance of good relationships with multiple entities in order for backhaul to be successful. Solid Waste management must be adapted to local needs and available resources. Backhaul coordinators must build strong relationships with partner entities to be successful and accommodate the changing demands and dynamic relationships characteristic to this work. When looking to remove solid waste, the easiest place to start is with the transportation companies that already service your community. You can speak with the employees of the transportation company that physically come to your area but in most cases it is better to speak directly to an operations manager within the company. These are the people who can make things happen.

Since most planes, trains and automobiles that deliver goods leave empty, their return trip is a perfect time for them to take solid waste items out. Discuss with the manager what you're trying to do to clean up the community and ask for assistance. It is important to let them know that whatever they are willing to take out will be properly packaged, labeled and staged to be easily removed. Have an inventory sheet filled out (example Appendix A) so that it is clear what you are asking to be taken. Of course this leads to the next partnership you will have to develop. **You have to have someone to pick-up the solid waste items from the transportation company.** Sometimes the items can be dropped off directly to the recycler but this is not always the case. One of the worst things that can happen is to have your partner stuck with items that are going nowhere.

Building relationships with recyclers can be much simpler, mostly because they want what you are trying to get rid of. Scrape yards and metal recyclers will usually take your metal at no cost or even pay you for it. This can help with shipping costs but you cannot always expect to be paid for your material because the price of metal changes constantly. If they can only take it off your hands for free you're doing great. Other recyclables, like electronics, may require you to pay for them but always check with the manager. If you are sending bulk product to them it might be free of cost or at a discounted rate. You should also have an inventory list for the recycler.

Once you have established successful relationships, let your partners know how important they are and how much you appreciate their work. Think of it like a marriage; you cannot take your partners for granted. We have shown our appreciation to our partners by presenting them with plaques thanking them and including their name in our local Super Bowl commercial. You don't have to get extravagant, but showing that you appreciate them is always important.

This idea also extends to your funders. Securing funds to help you remove solid waste can be difficult so when you do secure funding be sure to credit your supporters in all your outreach. We have supplied contact information for organizations that have funded us in the Resources section. There is money out there to do this work and these people may help you find it.

Getting Started



1. Separate Your Landfill by Waste Types and Strategize Storage Locations

For the best results, a landfill should have separate areas for different items. Vehicles (including cars, trucks, ATVs, and snowmachines) should be in their own area, electronics in another, food waste in another. Once items are separated, getting them out of the landfill will be a lot easier. Designating areas for future landfill drop-offs will help streamline ongoing backhaul and should be done with removal options in mind. For example, heavy items such as lead acid batteries may be best accumulated closer to the ultimate load area for removal if hauling will be a challenge.

2. Prioritize Items to be Removed

Now that you have your materials separated, there are three ways to look at what you can get rid of. (1) You can prioritize the most potentially hazardous materials in the landfill, which likely include lead acid batteries, electronics, drums of oil and glycol, and fluorescent bulbs. (2) You can prioritize the materials that take up the most space in the landfill but aren't as potentially hazardous, which likely include junk vehicles, appliances, and scrap metal. (3) You can prioritize the materials that have the highest resale value with recycling entities, which likely include junk vehicles, copper wire components from appliances, and scrap metals. Unfortunately the hazardous materials will most likely not get you a return for sending it into a recycler while bulky, nonhazardous material can very possibly have value. This means that prioritizing removal must involve decisions about resale value as well as the potential health impacts of keeping hazardous materials within a community.

3. Stage Materials for Backhaul

See the next section for information on how to stage some of the most commonly backhauled items found in rural Alaskan communities.

Vehicles

Vehicles are an important part of many people's everyday life. Vehicles become a problem when they reach the end of their useful lives. Junk vehicles often become eyesores and an annoyance for the owners, and members of the community. Furthermore, vehicles contain hazardous components that should be recovered and kept out of communities and landfills. ***Why should you recycle junk vehicles?*** Recycling steel (vehicles, snow machines, 4-wheelers), saves energy and natural resources

Junk vehicles contain fluids and hazardous components that can harm human health and the environment. *Before staging vehicles please take a moment to familiarize yourself with the Department of Environmental Conservation's contacts numbers for spills and emergency response, available in our Resources section.

- Gasoline, antifreeze, and motor oil can leak from junk vehicles and contaminate soil, groundwater, and air sources.
- Cars with air conditioners may contain chlorofluorocarbons (CFCs) which, when released, are damaging to the ozone layer.
- Car batteries contain lead, a known human toxin.
- Many older cars have switches containing mercury, capable of contaminating the ground, water, and air.

Junk vehicles are often made of steel, an easily recovered and recycled product.

- All steel products contain recycled steel; steel scrap is necessary for producing new steel.
- By weight, an average car is about 65% steel and iron.
- Each year 14 million tons of steel is recycled from end-of-life vehicles, equal to approximately 13.5 million automobiles.
- Recycling 1 ton of steel saves 2,500 pounds of iron ore, 1,400 pounds of coal, and 120 pounds of limestone.
- The manufacturing of recycled steel results in 86% less air pollution, 76% less water pollution, and 97% less mining waste.
- Annually, recycling steel conserves enough energy to power 18 million households for an entire year.

*Anchorage DEC office 907-269-3063
Fairbanks DEC office 907-451-2121

Staging Vehicles

For most transportation and recycling companies to accept junk vehicles, all oil, anti-freeze and gasoline must be removed. This should be done away from water sources to mitigate risks in the event of a spill. It is best to **ONLY** have vehicles that are ready to be transported to the loading to avoid confusion and to keep things easy for the loading crew. Always check with your transportation and recycling company to know what they require to take your solid waste.

Recommended Tools:

DOT Reflective Vest
Safety Goggles
Hard Hat
Work Gloves
Funnels
Monkey Wrench

Hammer
Steel Toed Boots
Knife
Pliers
Socket Wrench
Hole Punch Spike

1. You will need at least **3 good, empty drums**. Make sure there are no holes or creases.



2. Paint over any old labels.



3. Make new, easy to read labels for what will be going into that drum: Old Gas, Used Oil, Used Glycol (Anti-freeze). Labels should be as weather-proof as possible.
4. Remove the gas, oil and radiator caps from the vehicle to expedite the draining process.
5. Now you can drain fluids. If you have a heavy-duty forklift they work very well, but use common sense and make sure safety is your first concern. ALWAYS lift a vehicle from the frame and make sure you have good supports for the vehicle to
5. Locate the gas tank, oil pan drain plug and the radiator drain plug.



6. Locate the lowest point of the gas tank and, using a non-sparking tool or spike, put a good sized hole in the gas tank and let it drain into the drum. It helps to have large funnels for this. Draining gas tanks are usually the longest part of the entire process simply because the gas tank holds the most fluid and will take a long time to drain. It is a good idea to have more than one drum for gas and it is very important to only use non-sparking tools.

7. Removing anti-freeze from the radiator can be challenging. Almost all radiators will have a drain plug but locating it and getting to it can be difficult. One way around this is to simply cut the large hose that is attached to the radiator. This is easier to get to.

8. Draining oil is the easiest of the three since the oil pan is made to be drained regularly. The only problem you may run into is not being able to remove the drain plug. In this case, like the gas tank, punch a hole in the lowest point of the oil pan and drain from there.



9. Once the vehicle is drained, if you have heavy equipment, crush the vehicle down to make it stackable for transportation. Now it is ready to be backhauled.



10. The gasoline recovered from the junk vehicles is completely reusable. Here are some instructions on how to recondition it and how to remove water:

“Unless contaminated with another substance, gasoline and fuel oils remain usable under most circumstances. However, as gasoline ages, it tends to lose some of its ability to ignite in an engine. Old gas used at full strength may account for sluggish behavior or temporary failure of an engine. Stored for long periods, gasoline can become contaminated by rust particles, dirt or water and become “gummy” or “varnished”. Most gasoline, even if it is old or contains oil or water, may be used after it is “reconditioned”. Reconditioned gasoline can be used in cars and trucks, and some two-cycle engines such as lawn mowers, snow blowers and outboard motors.



Check your owner’s manual before using reconditioned gasoline in your engine. Do not use reconditioned gasoline in a car with a fuel injection system.”

Reconditioning Gasoline



To recondition gasoline, follow these basic instructions:

1. Work outdoors away from open flame and sources of heat or sparks. Do not smoke or wear contact lenses while working with gasoline.
2. Pour the old gasoline into a second container through a funnel lined with a coffee filter or two layers of thin cloth to remove particles.
3. When the filter is dry, throw it in the trash.
4. Mix one part filtered gasoline with five parts new gasoline. You can pour the reconditioned gasoline directly into a tank of new gasoline that is at least three-quarters full.

To remove water from gasoline, follow these steps:

1. Pour the gasoline into a transparent jug. The water will settle to the bottom of the container, because water is heavier than gasoline.
2. Carefully pour off the gasoline into a gas can, leaving the water in the jug.
3. Pour the leftover water into a box lined with plastic and mix with an absorbent material such as sand or cat litter. Let the water dry and place the box, plastic and sand in the trash. Do not pour the water down the sink, storm drain or on the ground.

Gasoline contaminated with antifreeze, brake fluid, carburetor fluid or other unusual substances cannot be reconditioned. NEVER mix these substances together.”

- <http://www.erie-county-ohio.net/does/recycling/gasoline.htm>

For reuse options for used oil and glycol refer to the Used Oil / Glycol chapter

Lead-Acid Batteries

Approximately 99 million lead-acid car batteries are manufactured each year. However, lead-acid battery recycling is one of the most successful recycling programs in the world. More than 90% of all lead-acid batteries in the US are recycled; a higher rate than glass, aluminum cans, and newspaper. ***Why should you recycle your lead-acid batteries?***

Lead-acid batteries contain hazardous materials capable of leaching into the environment.

- An average car battery contains 18-20 pounds of lead, a known human toxin.
- Lead-acid car batteries contain about 10 pounds of sulfuric acid which is extremely corrosive and potentially harmful to the environment.
- About 3 pounds of plastic is used in an average car battery. Plastics, when burned, can release toxic compounds.

Lead-acid batteries contain reusable materials.

- Over 80% of lead produced in America is used in lead-acid batteries.
- A typical lead acid battery contains 60-80% recycled lead and plastic.
- Battery acid can be neutralized, treated, and discharged into sewers or processed into sodium sulfate, a powder used in laundry detergent, glass, and textile manufacturing.
- Recycling lead-acid batteries helps reduce greenhouse gas emissions produced while unearthing, refining, and manufacturing raw materials.

Not all lead-acid batteries are used in vehicles.

- Lead acid batteries have uses in items other than vehicles, such as back-up computer power supplies, industrial equipment, and emergency lighting.
- Non-vehicle lead-acid batteries can be recycled along with lead-acid batteries from vehicles.

Keep a successful program going! Remember to recycle all lead-acid batteries!



Staging Lead-Acid Batteries

Safety

Lead-acid batteries that are damaged or missing a cap can leak acid. Battery acid can severely damage your eyes and skin, so personal protective equipment should be worn when handling batteries. More specifically, follow these guidelines:



- Wear gloves and safety glasses.
- Wear long-sleeved clothing, heavy pants and an acid resistant apron if available.
- Handle lead-acid batteries with care. Do not drop or manhandle the batteries.
- Be careful not to short circuit the battery terminals.

Staging

- Store lead acid batteries indoors. A stable room temperature will minimize the risk of cracking and leaking.
- Batteries should be store in a heavy, leak-proof, polyethylene container (such as a fish tote) with a lid. Check the tote regularly for cracks.
- Complete lead acid battery recycling kits may be available from a recycler. Contact a battery recycling from our Resources section to see if they supply kits.

Preventing Leaks

- Avoid stockpiling spent lead-acid batteries.
- Store batteries upright to protect against acid leaks through vent holes.
- Inspect batteries weekly for cracks or leaks. Keep a log of your inspections. If batteries have been exposed to freezing temperatures, inspect them more often.
- Place cracked or leaking batteries in an acid-resistant, leak-proof container such as a sturdy plastic tote.
- Small acid spills should be contained and can be neutralized using lime or bicarbonate soda.
- Cracked and/or leaking batteries should be double-bagged in 6 mil polyethylene plastic bags. The bagged batteries may then be sealed in a 5-gallon bucket.

Summary of Regulatory Requirements for Battery Recycling

Key:

CFR – Code of Federal Regulations

RCRA – Resource Conservation and Recovery Act

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
UN Number – The United Nations four digit number identify hazardous substances

- A facility that collects batteries for the purpose of shipping them to a reclaimer is not subject to RCRA regulations under 40 CFR parts 262-266 (see 266, subpart G).
- If a facility chooses to empty the acid out of the battery and neutralize it in an elementary neutralization unit, this makes the facility a generator. They must then notify EPA of their generator status if they generate more than 100 kg. per month. Generators may be required to have a contingency plan, spill prevention plan, and training records, per 40 CFR 262.34.
- If the facility collecting the batteries has a spill causing a release of a characteristic waste (i.e. acid) prior to being shipped to the reclaimer, then Alaska statute 18 AAC 75.080 (Discharge, Reporting, Clean-up and Disposal) may come into play. If the facility has had a history of spills they may be subject to CERCLA or the Alaska Contaminated Sites regulations for clean up.
- 49 CFR 171-179 specifies DOT regulations for packaging, shipping, labeling, and placarding of batteries. Batteries must be packaged to be capable of withstanding shocks, protected against short circuits, etc. The common practice of pelletizing--2 to 3 layers of batteries, with honeycomb cardboard in between, shrink wrapped and banded--appears to meet U.S. Coast Guard regulations. Another practice is to use a drilling mud box lined with visqueen, with layers separated to protect against short circuits and superimposed weight.
- Pallets must be marked with "corrosive" labels, shipping papers must include proper UN number and description, and vans must be properly placarded.
- Battery handlers should wear safety equipment to protect against contact with corrosive materials--gloves, apron, and face shield should be worn.
- Leaking batteries should be handled separately. A common practice is to put batteries in a 55gal drum with soda ash to neutralize acid. Additional requirements are specified in 49 CFR 173.3.



Household Batteries

Each year, Americans dispose of approximately 3 billion batteries, equal to 125,000 tons. Only 3-5% of household batteries are recycled. Thus, the vast majority of household batteries end up in landfills. ***Why should you recycle your household batteries?***

Batteries may contain hazardous materials capable of leaching into the environment.

- Household batteries may contain heavy metals such as mercury, cadmium, and nickel, all of which can have toxic effects in humans.
- Nickel-Cadmium batteries are responsible for 70% of all cadmium found in landfills.
- Dumping batteries risks contaminating the environment with heavy metals.
- Burning batteries may release harmful materials into the air.

Batteries contain reusable materials which are readily extractable.

- The majority of a battery's contents, by weight, are metals.
- Reusing and recycling used batteries helps save our natural resources and avoid air and water pollution.
- A typical single-use battery produces only 2% of the energy required to manufacture it.
- Reusing and recycling batteries helps reduce greenhouse gas emissions caused by extracting and transporting raw materials, as well as manufacturing new batteries.

Using rechargeable batteries and recycling old batteries can extend the life of your landfill.

- Only about 1 in 5 household batteries bought by Americans are rechargeable batteries.
- One rechargeable battery can replace 50-300 single-use batteries.
- Rechargeable batteries tend to be recycled more easily than single-use batteries.



Staging Household Batteries

Battery Types

Household battery types commonly accepted by recyclers:

- Alkaline
- Rechargeable Alkaline
- Nickel-Cadmium
- Nickel Metal Hydride
- Lithium
- Lithium-ion
- Carbon-Zinc
- Zinc-air
- Silver oxide



If you are unsure if a certain battery type is recyclable, contact an electronics recycler from our Resources section.

Staging

There is always a chance of fire when handling batteries. The following safety procedures are recommended:

- Batteries should be kept in a fireproof container (i.e. plastic 5 gallon bucket, metal drum).
- Batteries should be kept covered.
- Batteries should be stored away from flammable materials.
- Batteries should be stored at a stable room temperature.
- Handle batteries carefully. Mishandling may cause them to leak or explode.
 - Handle Lithium and Lithium ion batteries with extreme care; they are more volatile than other battery types.
 - If cracked or leaking, bag them separately and avoid contact with water.
- If possible, sort batteries by type.
 - If uncertain of the battery type, place it into a “mystery bucket” with other unknown battery types.

Shipping

Be sure to check with your carrier for specific shipping requirements regarding household batteries.



Battery ID Sheet

<p>Alkaline</p> <p><i>Found in - Remote controllers, stereos, cameras, CD players</i></p>	
<p>Lithium</p> <p>Li</p> <p><i>Found in - Cell phones and hand-held computing devices</i></p>	
<p>Lithium-ion (rechargeable)</p> <p>Li-ion</p> <p><i>Found in - Digital cameras, and computer motherboards</i></p>	
<p>Nickel metal hydride</p> <p>Ni-MH</p> <p><i>Found in - Laptops, power tools, digital cameras</i></p>	
<p>Nickel cadmium (wet cell)</p> <p>Ni-Cad</p> <p><i>Found in - Wheelchairs, aircraft, solar applications</i></p>	
<p>Nickel cadmium (dry cell)</p> <p>Ni-Cad</p> <p><i>Found in - Remote controllers, telephones, and portable radios</i></p>	

Electronics

Americans own about 3 billion electronic products, producing approximately 2 million tons of electronic waste per year. Unfortunately, 80-85% of end-of-life electronics are either incinerated or put in a landfill. Of the remaining 15-20% only a fraction is recycled within country. ***So, why should you recycle your electronics?***

E-waste contains hazardous materials capable of leaching into the environment.

- Computer monitors contain 4-8 pounds of lead, a known human toxin.
- Circuit boards also contain lead, along with other potentially toxic heavy metals.
- Older monitors and transistors contain arsenic, an extremely toxic element.
- Most plastics contain brominated flame retardants (ex: PBDEs), believed to cause hormonal disorders.

E-waste contains reusable materials and precious metals, all of which are readily extractable.

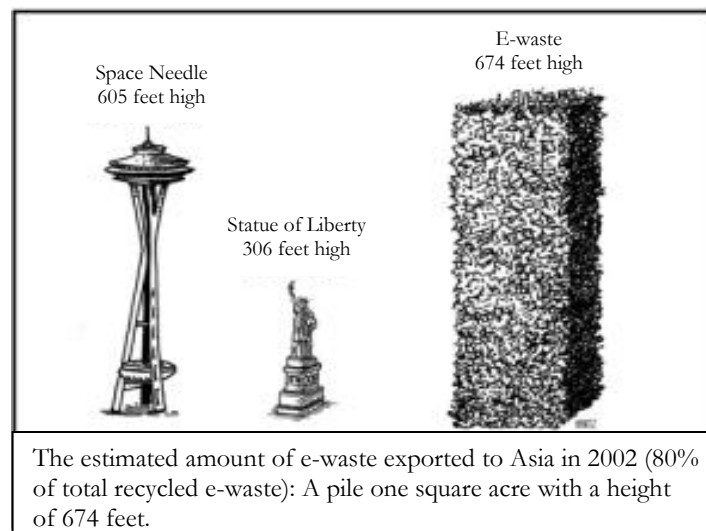
- Electronic products are made from valuable resources (metals, plastics, and glass), all of which require energy to extract and manufacture them.
- Reusing and recycling materials from end-of-life electronics helps conserve our natural resources and avoid air and water pollution.
- Reusing and recycling helps reduce greenhouse gas emissions caused by extracting and transporting raw materials, as well as manufacturing new products.

Recycling electronics extends the life of your landfill.

- E-waste comprises about 5% of America's waste stream by volume.
- E-waste is growing 5 times faster than all other waste stream components.

Recycle electronics responsibly or else your waste will become another's problem.

- A Seattle based e-waste watch-dog group, the Basel Action Network, estimates between 50-80% of US e-waste is exported for recycling overseas.
- E-waste shipped out of country becomes an environmental liability and a human health hazard.



Staging Package Electronics

Smaller Shipments

1. Small shipments of electronics do not have to be palletized. Electronics just need to be packaged in cardboard boxes.



A computer packaged in the original box



Boxes of electronics sent in from rural communities

2. If still available, package your electronics in their original boxes. If the original box is no longer available, any other cardboard box will do.

3. If packaging a TV or computer monitor, be sure to add some padding to lessen the risk of breaking. Padding may also be used on other electronics if needed.



Newspaper used as padding



Miscellaneous electronics

4. Do not send miscellaneous office equipment, or other non-electronic items such as binders, notebooks, towels, etc. If you need more information on what can be recycled, contact an electronics recycling provider from our Resources section.

5. If your area has a regional hub, check to see if electronics are being staged for backhaul.



Unacceptable material

Pallatizing Miscellaneous Electronics

Many times what may seem like a lot of material can actually be consolidated into a small area. This is the advantage of packaging miscellaneous electronics on pallets.



A pallet and spare boxes



Electronics waiting to be palletized

1. Begin by placing a pallet in an open work area. If available, boxes may be used for smaller items, such as mice, keyboards, and cords. Boxes also work well for odd-shaped material (such as printers) which would otherwise be difficult to stack.

2. Place heavy and flat items on the pallet first. This will build a strong, stable foundation.



Workers placing the flattest items on the bottom layer



3. Continue building up the pallet of material. A good stopping point is when the material is between waist and chest height.



Building up the pallet

4. Use stretchwrap to hold the material in place. 80-gauge stretchwrap works well for wrapping electronics. To tightly wrap the pallet, pull the stretchwrap tight as you go around the corners. When finished wrapping, give the material a push to check how tightly bound it is. Continue wrapping if needed.



Finishing off a pallet by tightly securing it with stretchwrap

Palletizing Similar Electronics

If a large quantity of electronics has been collected, then it is recommended to palletize computer monitors, televisions and computer towers separately.

Palletizing Computer Monitors

1. Begin placing computer monitors on a pallet. Start with one on each corner and one in the middle, all positioned facedown. Try to use the monitors with the flattest faces and backs for the first layer. **Optional:** Remove the monitors' bases and cables if it makes stacking easier. Cables and bases can also be boxed and shipped.



Five facedown monitors



2. Next, place monitors face up between face down monitors. The curves in the monitors should allow them to fit together snugly (see below).



Monitors will normally fit together nicely when using the face up/face down pattern

3. Start the second layer, placing the monitors the same way as the first layer. Next, use stretchwrap to secure the load. 80-gauge stretchwrap works well for wrapping monitors. To tightly wrap the pallet, pull the stretchwrap tight as you go around the corners. When finished wrapping, give the stack a push to check how tightly bound it is. Continue wrapping if needed.



One the monitors are two rows high, the stack can be wrapped

Optional: Start third layer, by placing the monitors the very same way as the first and second layers. The monitors can be stacked 3-rows high for efficiency in transporting. However, monitor stacks with three layers tend to be more unstable and are at greater risk of collapsing while in transit. *Only attempt stacking monitors 3-rows high if you are capable of securing them tightly to the pallet.*



Tightly wrapped triple-stack of monitors

Palletizing Computer Towers

1. Begin by placing four computer towers on each corner of the pallet. Be sure that these towers are placed flat on the pallet (see below). Don't worry if towers are missing parts, or pieces fall off. Tower parts that fall off can be boxed and shipped to recyclers.



Filling in gaps between towers



Four computer towers on each corner of the pallet

2. Fill in the narrow spaces by placing computer towers upright between the towers in the corners.

3. Continue stacking the computer towers. Stack the towers flat on the corners and upright within the gaps. Stop when the towers are between waist and chest high.



Building up a computer tower stack



Finished stack ready to be wrapped

4. Use stretchwrap to secure the load. 80-gauge stretchwrap works well for wrapping computer towers. To tightly wrap the pallet, pull the stretchwrap tight as you go around the corners. When finished wrapping, give the material a push to check how tightly bound it is. Continue wrapping if needed.



Wrapping to secure the computer tower stack for shipping

Palletizing Televisions

1) Begin by placing a pallet in an open work area. If available, place the most flat, box-like televisions on the first layer. Typically, four televisions will fit on the first layer.



A foundation of four flat-topped televisions

2) Secure the first layer with stretch wrap. 80-gauge shrink-wrap works well for wrapping electronics. *Be certain the first layer is wrapped and secure before starting a second layer!*



Two layers of televisions ready to be wrapped



Securing the first layer of televisions

3) Stack a second layer of televisions on top of the first. Don't rush this step. Plan out where you want to fit the remaining televisions. *Be very careful not to allow televisions to fall and break the screens.*

4) Secure the pallet with shrink-wrap. To tightly wrap the pallet, pull the shrink-wrap tight as you go around the corners. When finished wrapping, give the material a push to check how tightly bound it is. Continue wrapping if needed.



Wrapping to secure the televisions for shipping

Other Electronics

Other similar electronic equipment may be palletized. Just remember to start with a strong, sturdy foundation and work up to no higher than chest height. The photo on the right shows a pallet of printers.

Any leftover electronic equipment can also be palletized follow the steps in “*Palletizing Miscellaneous Electronics.*”



An example of a palletized stack of printers

Fluorescent Bulbs

The popularity of fluorescent lighting is growing due to the fact that they last longer, use less energy, and save money. However, many people don't know fluorescent lights contain mercury. Fortunately, fluorescent lights (mercury included) are nearly 100% recyclable.

Why should I recycle fluorescent lights?

- **All** fluorescent lights contain mercury in both liquid and vapor form.
- Breaking a fluorescent lamp releases mercury into the air and surrounding environment.
- Throwing away fluorescent lamps releases mercury back into the environment.

What's the problem with mercury?

- Mercury is toxic to humans, especially children.
- If a fluorescent lamp is broken indoors the EPA recommends opening doors and windows, then leaving the room for at least 15 minutes.
- Effects of mercury poisoning include...
 - Memory loss
 - Lack of coordination
 - Muscle weakness
 - Extreme mood swings

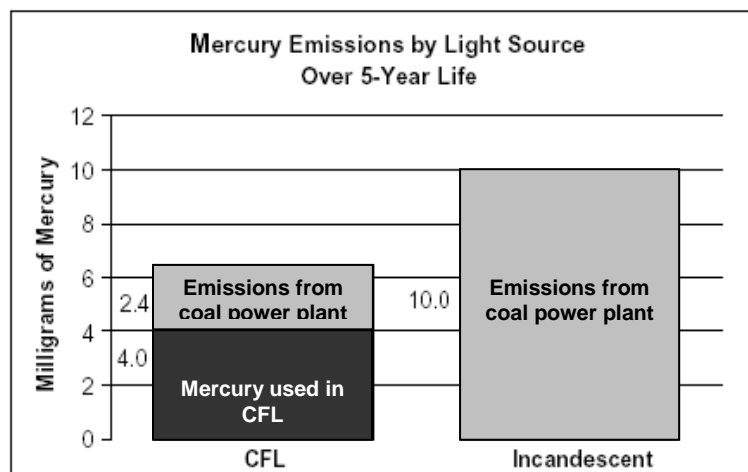


Results of dumping fluorescent lights...

- Over 600 million fluorescent bulbs are disposed of each year in the USA, resulting in the release of approximately 4 tons of mercury in landfills and the environment.
- Mercury from **one** compact fluorescent light (CFL) can contaminate 2,000 bottles (Liters) of water.
- Concerns regarding mercury have prompted the states of California, Minnesota, Ohio, Illinois, Indiana, Michigan, and Wisconsin to pass legislation making it unlawful for anyone to throw fluorescent bulbs in the trash.

Should fluorescent lamps still be used?

Of course! When used and recycled properly, fluorescent bulbs significantly reduce mercury and fossil fuel emissions.



Source: US EPA, June 2002

Staging Fluorescent Bulbs

Packing Fluorescent Lamps

1. Be sure to use gloves and safety glasses when handling fluorescent lights.



Using gloves and safety glasses



2. If available, use the original box for packing fluorescent lamps. Recyclers may be able to supply light boxes if none are available locally. When a new bulb is taken out, put the expired bulb in its place. Mark the old bulb to indicate it no longer works.

Marked used fluorescent tubes

3. Carefully place the expired fluorescent lamps in the light boxes. Be careful not to over-fill the boxes, BUT also make sure boxes are shipped full to reduce breaking.



Full box of used fluorescent tubes ready to be closed and labeled



Taped box lid

4. Tape both ends of the boxes to seal them securely. Carefully tape all seams of the boxes and tape the corners so that if lamp breakage occurs, toxic components will stay in the box.

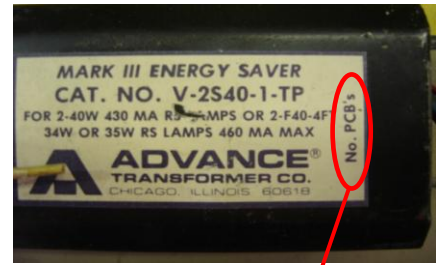
5. Contact your shipper concerning proper labeling. Boxes should include “used fluorescent lamps” and “fragile” labels.



An example of Alaska Building Science Network's labeling

Staging Ballasts

1. Be sure to use gloves and safety glasses
2. Check all ballasts to make sure they do not contain PCBs. The ballasts should say *NO PCBs* directly on the label. ***Most recyclers cannot accept any material containing PCBs.*** If you have ballasts with PCB's contact Emerald Services from our Resources section.



“No PCB” label



If the label is missing or you cannot find the “no PCBs” statement, you can look for a manufacturer’s date. Any ballast made *after* 1979 will not have PCBs and may be recycled.

Imprinted manufacturer date (03 97 = March, 1997)

3. Five-gallon buckets work well to ship non-PCB ballasts.
4. Stack ballasts vertically in the buckets as a first layer



5. Then stack horizontally. This will allow about 20-24 ballasts to fit in each 5-gallon bucket (60-70 pounds).

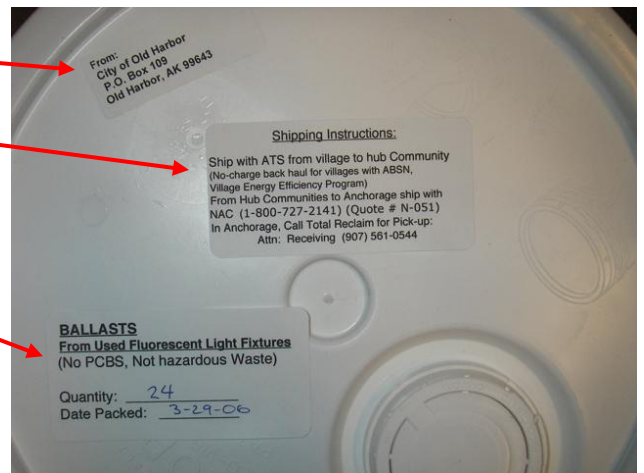


6. Seal the bucket with a lid.



8) Contact your shipper concerning proper labeling. The picture below displays how Alaska Building Science Network labels their ballast buckets.

- **Shipper Address Label**
 - Address of generating village entity
- **Shipping Instructions Label**
- **Ballast Content & Date Label**
 - Write number of non-PCB ballasts shipped.
 - Write the date the ballasts were packed.



Remember....

Always have arrangements for pick-up and delivery of your backhaul materials....before shipping.

Used Oil and Glycol

Used oil and glycol (used in antifreeze) are two of the largest sources of potentially hazardous waste in rural Alaska. Drums of used oil and glycol, when left outside and unchecked, will rust and eventually leak their contents. Over time, leaky drums may contaminate the soils and groundwater. ***Why should you reuse old oil and glycol?***

Motor oil and glycol can pose a threat to human health and the environment.

- One gallon of motor oil can contaminate *one million* gallons of drinking water.
- Oil concentrations of 50 to 100 parts per million can disrupt sewage treatment processes.
- Waste antifreeze contains potentially toxic heavy metals such as lead, cadmium, and chromium.
- Exposure (ingestion or inhalation) to glycol can lead to throat and respiratory complications. High doses can lead to more serious complications such as respiratory failure and coma.

Used oil is reusable either through recycling or burning for heat.

- Used oil is not worn out, it is just dirty. Recycling used oil can save a valuable resource.
- Used oil burners can eliminate waste oil by converting it into heat.
- One 55 gallon drum of used oil equates to \$275 - \$605 of heating fuel savings, (based on \$5 - \$11 per gallon for heating fuel).

A Waste Oil To Energy Converter (WOTEC) is more expensive, but has greater versatility than a used oil burner.

- A WOTEC can blend used oil into an accessible supply of heating fuel.
- The final product of a WOTEC is heating fuel which can be transported wherever it is needed.

Used glycol can be recycled and reused within a community using an Antifreeze Recycling Unit.

- An Antifreeze Recycling Unit filters used glycol and, with the aid of an additive, produces usable glycol.
- If oil has been mixed with the glycol, an add-on to the unit can filter out oil before putting the glycol through the recycler.

*****IMPORTANT ** If you don't know what type of liquid is in a drum, STAY AWAY FROM IT.***
Contact Emerald Alaska for information regarding unknown fluids.

Emerald Services
2940 Commercial Dr.
Anchorage, AK 99501
Phone: (907) 569-5300
Fax: (907) 569-5301

Uses for Used Oil and Glycol



While it might seem like these would be things you would want out of your community, they can actually be an asset. In the case of used oil, there are a couple ways we can reuse it such as burning it for heat. A used oil burner not only eliminates a potentially hazardous material but provides free heat. Heating fuel prices in rural Alaska range in price from 5 dollars a gallon to over 11 dollars a gallon. If you had even one 55-gallon drum of used oil that would equate to \$275 to over \$605 worth of heating fuel.



Setting up a used oil burner in Tanana.

Another solution is to blend used oil into an existing heating fuel supply using a Waste Oil to Energy Converter or WOTEC. This method costs more but is more versatile than a used oil burner. Instead of only being able to heat one place, the final product of a WOTEC is heating fuel which you can bring anywhere you need it.



Jon Ward of Simpatico filling the WOTEC used oil tank.



Blending used oil and heating fuel.

Used glycol is another product that, with the help of some equipment, can be kept in the community and reused. The best option we have found is an Anti-Freeze Recycling Unit which filters “dirty” glycol and, with the aid of an additive, produces like new, usable glycol. If you have glycol that is mixed with oil a useful add-on to this equipment is a water-scrubber which will filter out hydrocarbons (oil) from the glycol before it goes into the recycler.



Drum of Used Anti-Freeze



An Anti-Freeze Recycler Unit.

“White Goods” and Appliances

“White Goods” refers to common appliances such as refrigerators, freezers, stoves, washers, and dryers. In 2005, approximately 3.6 million tons of white goods were disposed of in the US, of which about 2.4 million tons of ferrous (iron-bearing) metals were recovered. ***Why should you recycle your white goods?***

White goods contain reusable materials which are readily extractable.

- By weight, a typical household appliance is about 65% steel.
- All steel products contain recycled steel; steel scrap is necessary for producing new steel.
- Steel used in appliances contains, at the very least, 25% recycled steel.
- In 2005, 90% of all large appliances in the US were recycled.

Refrigerators and freezers typically contain Freon, an ozone depleting substance.

- Ozone protects the earth by absorbing hazardous forms of radiation.
- Chlorofluorocarbons (CFCs) and hydrogenated chlorofluorocarbons (HCFC) destroy ozone molecules.
- A CFC molecule can persist in the upper atmosphere for 50-150 years.
- One chlorine atom can destroy 100,000 ozone molecules.
- CFCs and HCFCs can be safely recovered from appliances with refrigerant.

Recycling white goods can ease landfill burdens.

- Older, gas-fired appliances may have switches containing mercury, a known toxin.
- White goods are often bulky and made of materials that do not break down naturally.
- Recycling white goods, rather than dumping, can save landfill space.



Before White Goods can be backhauled, an EPA certified technician must remove all Freon gas. It would be a better value for a community to have someone take the Freon removal course and become certified. That way you always have someone in-house that can do the work instead of having to bring someone in. See our Resources section for training providers.

Once the Freon is removed, White Goods are ready to be backhauled along with other appliances like stoves, washers, dryers etc. Whether they are to be shipped, driven or flown to the recycler to best way to stage appliances is to strap them to a pallet. This will make them much easier to be transported. *Note: All appliances should be completely empty of garbage.

Contacts

Yukon River Inter-Tribal Watershed Council

725 Christensen Drive Suite 3

Anchorage AK, 99501

907-258-3337 Office

907-258-3339 Fax

www.yritwc.org

Backhaul Contacts:

Rob Rosenfeld / Alaska Region Director

Katherine Brower / Solid Waste Management Coordinator

Total Reclaim, INC.

12101 Industry Way # C4

Anchorage, AK 99515

(907) 561-0544 Office

(907) 222-6306 Fax

<http://www.totalreclaim.com/alaska.html>

Zender Environmental Science and Planning Services

308 G St., Suite 312

Anchorage, AK 99501

907-277-6050 Office

907-222-3416 Fax

<http://www.zender-engr.net/index.htm>

Resources and Partners

The following is a list of resources that YRITWC has used in the past and continue to use which make our backhaul program successful. This is not a complete list of all the resources within the state of Alaska. For the electronic version of this manual which will be on our website (www.yritwc.org) we will be accepting suggestions of other liable companies that support backhaul efforts and will be glad to incorporate them into this list to make it more comprehensive. If you would like to recommend a certain company please email Stephen Price at sprice@yritwc.org. The subject line should read “Resource Recommendation” and the text body should have a brief description of the company and their contact info. If you would like to add a backhaul success story that includes them that would also be helpful.

Solid Waste Removal and Recycling Funding

US Environmental Protection Agency
Alaska Operations Office
222 W. 7th Ave #537
Anchorage, AK 99513
907-271-5083 Office
www.epa.gov/region10/

USDA Rural Development Alaska State Office
800 W. Evergreen, Suite 201
Palmer, Alaska 99645
907-761-7705 Office
907-761-7783 Fax
<http://www.rurdev.usda.gov/ak/>
Primary type of funding: Solid Waste Training

Training and Safety Education

Rural Alaska Fuel Services

6000 C Street Suite 201

Anchorage, Alaska 99518

907-562-0285 Office

907-562-0435 Fax

www.rafs.net

Type: Personal Safety, Hazardous Waste Handling

*For a full list of trainings provided please call or visit the website.

SafetyEd

32789 Cumulus Road

Eagle River, Alaska 99577

907-696-3490 (office)

www.safetyed.net

Type: Outdoor and Remote Area Safety

*For a full list of trainings provided please call or visit the website.

Total Reclaim Inc

12101 Industry Way, Unit #C4

Anchorage, AK 99515

907-561-0544 Office

907-222-6306 Fax

www.totalreclaim.com/alaska.html

Type: Freon Removal (Appliances)

University of Washington

Department of Environmental and Occupational Health Sciences

Continuing Education

Northwest Center for Occupational Health & Safety

Pacific Northwest OSHA Education Center

4225 Roosevelt Way NE, Suite 100

Seattle, Washington 98105

800-326-7568 Office

206-685-3872 Fax

<http://depts.washington.edu/ehce/OSHA/>

Type: Personal Safety and Hazardous Waste Handling

*For a full list of trainings provided please call or visit the website.

Transportation

Barge Companies

Alaska Marine Lines

1048 Whitney Road
Anchorage, AK 99501
907-339-5150 Office
907-272-8152 Fax
<http://www.aml.lynden.com>
Area of Operation: Coastal

Crowley Marine Services

PO Box 220
Nenana, AK 99760
907-832-5505 Office
907-832-5282 Fax
www.crowley.com
Area of Operation: Interior

Glacier Marine

601 South Myrtle Street
Seattle, WA 98108
(206) 763-2766
Area of Operation: Alaska – Seattle

Inland Barge Service

822 Front St
Nenana, AK 99760
907-832-5645 Office
Area of Operation: Interior

Northland Services

660 Western Drive
Anchorage, AK 99501
907-276-4030 Office
907-276-8733 Fax
www.northlandservicesinc.com
Area of Operation: Coastal

Continued on next page

Seattle Action Services
Seattle, WA 98107
206-686-3534 Office
206-686-3534 Fax
Area of Operation: Alaska – Seattle

Totem Ocean
2511 Tidewater
Anchorage, AK 99501
1-800-234-8683 Office
907-278-0461 Fax
www.totemocean.com
Area of Operation: Coastal, Alaska - Seattle

Airline Companies

Arctic Transportation Services
5701 Silverado Way, Unit L
Anchorage, AK 99518
907-562-2227 Office
907-563-8177 Fax
www.atsak.com
Area of Operation: West Coast (Alaska)

Era Aviation / Alaska Airlines Cargo
4750 W. International Airport Road
Anchorage, AK 99502-1090
907-243-3322 Office
(907) 266-8384 Fax
www.flyera.com
Area of Operation: Interior

Everts Air Cargo
6111 Lockheed Avenue
Anchorage, Alaska 99502-2300
907-243-0009 Office
(907) 243-7333 Fax
www.evertsair.com
Area of Operation: Statewide

Continued on next page

Grant Aviation

4451 Aircraft Dr
Anchorage, AK 99502
907-248-7025 Office
907-248-7076 Fax
www.flygrant.com
Area of Operations: Yukon and Kuskokwim River Deltas

Frontier Flying

3830 W Intl Airport Rd
Anchorage, AK 99502
907-243-2761 Office
907-450-7274 Fax
www.frontierflying.com
Area of Operation: Statewide

Lynden Air Cargo

6441 S Airpark Pl
Anchorage, AK 99502
907-456-7882 Office
907-245-0213 Fax
www.lac.lynden.com
Area of Operation: Statewide

Northern Air Cargo

3900 Old International Airport Rd
Anchorage, AK 99501
907-543-4155 Office
907-543-3313 Fax
www.northernaircargo.com
Area of Operation: Statewide

Pen Air

4100 W. International Airport Road
Anchorage, AK 99502
907-266-7804 Office
907-771- 2661 Fax
www.penair.com
Area of Operation: Peninsula

Continued on next page

Wright Air

3842 University Ave S

Fairbanks, AK 99709

907-474-0502 Office

907-474-0375 Fax

www.wrightair.net

Area of Operation: Interior

Railways

Alaska Railroad

327 W Ship Creek Ave

Anchorage, AK 99501

www.akrr.com

907-265-2624 Office

907-265-2597 Fax

Area of Operation: Interior

Trucking Companies

Air Land Transport Inc

11100 Calaska Cir

Anchorage, AK 99515

907-248-0362 Office

907-248-9706 Fax

Area of Operation: Road System

Lynden Transport Inc

3027 Rampart Dr

Anchorage, AK 99501

907-276-4800 Office

907-257-5155 Fax

<http://www.lynden.com/ltia>

Area of Operation: Road System

Continued on next page

Weaver Brothers
2230 Spar Ave.
Anchorage, AK 99501
907-278-4526 Office
907-276-4316 Fax
www.wbialaska.com
Area of Operation: Road System

Recycling

Aluminum Cans

Alaskans for Litter Prevention and Recycling
P.O. Box 200393
Anchorage, AK 99520
(907) 274-3266 Office
(907) 274-8023 Fax
www.alparalaska.com

Batteries (Lead Acid and Household)

ABS Alaskan
2130 Van Horn Rd
Fairbanks, AK 99701
907-452-2002 Office
907-451-1949 Fax
www.absak.com

Interstate Batteries
7740 Schoon Street
Anchorage, Alaska 99518
907-349-1577 Office
907-349-6878 Fax
www.interstatebatteries.com/www/distributors/alaska/default.asp

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Total Reclaim Inc
12101 Industry Way, Unit #C4
Anchorage, AK 99515
907-561-0544 Office
907-222-6306 Fax
www.totalreclaim.com/alaska.html

Electronics & Fluorescent Bulbs

Total Reclaim Inc
12101 Industry Way, Unit #C4
Anchorage, AK 99515
907-561-0544 Office
907-222-6306 Fax
www.totalreclaim.com/alaska.html

Metals

Alaska Metal Recyclers
9705 King St
Anchorage, AK 99515
907-349-4833 Office
907-344-9907 Fax
www.alaskametalrecycling.com

C&R Pipe
401 E Van Horn Rd
Fairbanks, AK 99701
907-456-8386 Office
907-456-6875 Fax

K&K Recycling
2040 Richardson Hwy
North Pole, AK
907-488-1409 Office
907-488-4058 Fax

Continued on next page

West Seattle Recycling
3881 16th Ave SW
Seattle, WA 98116
206-935-4255 Office
206-935-1791 Fax
www.westseattlerecycling.com

Hazardous Waste Testing and Disposal

Emerald Services
2940 Commercial Dr.
Anchorage, AK 99501
907-569-5300 Office
907-569-5301 Fax
<http://www.emeraldncw.com>

Spills and Emergency Response Contacts

Prevention & Emergency Response Program
Division of Spill Prevention and Response
Department of Environmental Conservation
555 Cordova Street
Anchorage, AK 99501-2617
907-465-5349 Office
907-465-2237 Fax
Email: Bob.Mattson@alaska.gov

Southeast Alaska Response Team – Scot Tiernan, SOSOC
Division of Spill Prevention and Response
Department of Environmental Conservation
410 Willoughby Ave., Ste 303
P.O. Box 111800
Juneau, AK 99811-1800
907-465-5378 Office
907-465-2237 Fax
Email: scot.tiernan@alaska.gov

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Central Alaska Response Team – Gary Folley, SOSC
Division of Spill Prevention and Response
Department of Environmental Conservation
555 Cordova Street
Anchorage, AK 99501-2617
907-262-5210 Office
907-262-2294 Fax
Email: gary.folley@alaska.gov

Northern Alaska Response Team – Ed Meggert, SOSC
Division of Spill Prevention and Response
Department of Environmental Conservation
610 University Avenue
Fairbanks, AK 99709-3643
907-451-2124 Office
907-451-2362 Fax
Email: ed.meggert@alaska.gov

Success Stories

In this section we would like to highlight communities that have backhauled around the state of Alaska. If you have a backhaul story that you would like to add please contact Katherine Brower, 907-258-3337.

Charlie Ess
RAVEN/AmeriCorps Program Coordinator
cess@ruralcap.com
1-800-478-7227 ext. 7355

While the exact weights of the steel, aluminum, white metal, batteries, paper, plastics and other recyclable materials backhauled from rural Alaska would be difficult to pin down, more than 2 million pounds had left communities hosting the Rural Alaska Village Environmental Network (RAVEN) AmeriCorps program by the end of its third quarter in September.

The RAVEN program, coordinated by the Rural Alaska Community Action Program (RurAL CAP) in Anchorage, recruits the AmeriCorps members for a year of service within their respective communities and chooses up to 20 sites each year.

Many communities use the AmeriCorps program to tackle solid waste issues, and this year more than 2.4 million pounds were diverted from dumps or landfills and sent upriver, down the coast or across roads to recycling facilities.

Communities along the road system and with access to trucking, led the charge in terms of tonnage. In Tok, RAVEN member Lanyce Smith solicited support from local entities and negotiated with truckers to haul 1.9 million pounds of steel from old highway snowplow blades and condemned bridges to recycling facilities in Anchorage. Some sections of the old bridges were trucked east to Whitehorse, Yukon Territory where usable portions were cut out to fabricate smaller bridges with shorter spans for local creek crossings.

Other backhauled goodies from Tok included 31,000 pounds of paper products, which were recycled in Fairbanks. Among other road-system success stories, Carrie Williams, RAVEN AmeriCorps member from Cooper Landing, posted 17,000 pounds of back hauled aluminum, plastic and batteries as of September.

Along the Yukon River, Russian Mission reports that barges loaded an array of nested aluminum skiffs, snowmobile carcasses, outboard motor parts and old appliances for the second year in a row. When it comes to sending e-waste out of the villages, Yakutat sent containers south loaded with old office machinery, computer monitors and other goodies for an estimated 10,000 pounds. E-waste backhauling efforts were also highly successful in some of Alaska's remote sites.

With the creative use of grants and other funding, the village of Kwigillingok collected and back hauled 2,300 pounds of e-waste, according to Emma Kiunya, environmental coordinator with the Native Village of Kwigillingok.

Other host communities collected an estimated total of 29,000 pounds of lead acid and household batteries, of which 4,000 pounds made it into backhauling channels.

Council of Athabascan Governments
Garry Webber, 800-478-2667, gwebber@catg.org

CATG is working with the villages in the Yukon Flats region to assess solid waste issues. Garry Webber, CATG Solid Waste Coordinator, has developed a solid waste tracking system and is working with villages to develop a regional backhaul program. Checklists have been developed for backhauling specific materials such as batteries, refrigerators, and electronics. CATG has also provided solid waste training in the region by collaborating with Total Reclaim, Inc., Alaska Forum, Inc, SWANA, Alaska Chapter, ITEP, and YRITWC.

Native Village of Venetie Tribal Government Backhaul Project
Lance Whitwell, NVVTG/ANA Tribal Energy Programs, 907-849-8165

The Native Village of Venetie Tribal Government has been orchestrating a major backhaul of items from Venetie. Summary by Lance Whitwell: I was approached by Garry Webber of CATG on plans to begin backhauling white goods, hazardous material, etc. out of our villages. Of course this sounded good to me, as the environmental programs coordinator for the tribe. In early June, I attended a Freon removal tech training in Ft Yukon. As a part of the class we did some hands on training, and I discovered that the procedure is not as difficult as I had imagined it to be. Later on in June, Garry Webber, CATG, came to Venetie for a SWM workshop and to assist with the removal, and packaging of 2 PCB positive electrical transformers that were discovered in town. We discussed pushing the envelope on our newly formed partnerships with our resource agencies. As we have been TALKING for years about backhauling stuff from this area. But we have to fly everything into our villages, because there are no roads into our remote communities. The Air Cargo carrier had made a partnership with the YRITWC to receive backhaul items and transport back to Fairbanks.

Since we were tired of talking about it, we decided to test the system: So I began a freezer pick up service in Venetie and ended up with 12 on the first day and 3 on the next day. I called Garry in Ft. Yukon and told him to send up the Freon removal equipment on the next mail plane. Kind of in a rush, because we had no idea when the cargo plane would come in and we had to be ready. Rather than sending the equipment, Garry came up too. It worked out really good, because I took all of the freezers to the airport garage, and Garry had brought a banding tool. So we feverishly started removing Freon, then place freezers onto pallets, and band them all together. We repacked and banded the battery tote and prepared the PCB transformers in overpack drums We were set to go and the system worked without any snags. The EVERTS AIR CARGO plane came in, the VENETIE VILLAGE HOUSING ORGANIZATION used their loader and operator to load our items on the plane and took it all to Fairbanks, the YUKON RIVER INTERTRIBAL WATERSHED COUNCIL picked the stuff up in Fairbanks and took it all to Nenana and loaded it all on YUTANA BARGE LINES' slow boat to Seattle where it will all be recycled.

Native Village of Venetie Tribal Government Remediation Project
Lance Whitwell, NVVTG/ANA Tribal Energy Programs, 907-849-8165

In an effort to encourage other community members to clean-up small scale fuel spills associated with leaking fuel tanks, the Native Village of Venetie Tribal Government has

embarked on a project to clean up our own site. During the winter we had several incidences of fuel leaks from our monitor heater fuel tank. This spring we could really see and smell the fuel around our tank. As the environmental leaders of our land we thought it would be good to demonstrate our dedication to the environment, by providing comprehensive clean up instructions and an estimated cost for clean-up of small scale spill sites.

We used recycled sewage pipes, and old tarps as liners, the only other cost was 16 hours of labor, and hauling gravel. I have compiled a step-by-step instruction of what we did, so others who wish to do this can have a clear program to follow. While this is not a professional soil remediation, it follows the basic principles of a major remediation project that was done in Venetie in the past. Total cost for this project was only about \$200, less than the cost of 1 drum of fuel. Feel free to email Lance at lancewhitwell_nvvtg@hotmail.com for a supply list and step-by-step instructions.

Agdaagux Tribe of King Cove Environmental Department
Desirae Roehl, 907-497-2648, des_atcenvironmental@yahoo.com

The Agdaagux Tribe Environmental Department has been extremely successful over the last three years in developing their program to make a difference in protecting the health of the environment and the residents of King Cove. Desirae Roehl, Charly Bendixen, Sunshine Gould, and Joyce Gould have worked together to advance environmental public education, promote sound scientific practices in managing natural resources in King Cove, and collaborate with the many entities needed to successfully implement environmental projects in rural Alaska.

The Agdaagux Tribe Environmental Department has fostered coordination and cooperation among professional, scientific, educational, and non-profit organizations having leadership responsibilities for Alaska's environment and natural resources by facilitating the development of a comprehensive community environmental plan. This plan was developed over many meetings in collaboration with city council, community members, school representatives, and local businesses. Ms. Roehl and her staff's recycling efforts to collect aluminum, paper, plastic, and cardboard, lead-acid batteries, and household batteries required cooperation with school, businesses, and community members. Their mission to eliminate plastic shopping bags in the community of King Cove included meetings between the Agdaagux Tribe, City of King Cove, Youth Litter Patrol, and the community.

The Agdaagux Tribe Environmental Department has consistently ensured that all parties are included when an environmental issue needs addressing. Projects include: used oil storage program complete with tanks, a safe oil filter burner and educational materials, ink jet and toner cartridge recycling, household battery collection (over 8 gallons in the first 5 months), creation of watershed maps to help identify water resources with potential threats, collecting water quality data in water sites with potential threats, providing baseline data and identifying current problems, creation of a comprehensive community environmental plan, creation of a recycling plan and a recycling center to be opened when connexes arrive (anticipated December 2005), ordered household and business collection receptacles for recyclables which will be distributed free-of-charge, working to reduce the use of plastic shopping bags which results in litter and health hazards to wildlife, ordered bear-proof/wind-proof dumpsters which will arrive in December 2005, hosted a solid waste training for all Aleutian Pribilof Tribes to attend and work collaboratively on larger issues.

Kivalina IRA Council**Millie Hawley, 907-645-2256, millie.hawley@kivaliniq.org**

Despite a number of overwhelming environmental challenges and little infrastructure, the Kivalina Environmental Department has managed to operate a recycling program with one of the highest participation rates by residents in the State. When not carrying out subsistence activities, they collect from 7 to 11 full bags of recycled materials per week – and have shipped out an average of 100lbs per month for the first half of 2006. This same staff is successfully collecting lead-acid batteries as they go door to door for the cans, and the Environmental Assistant collects household batteries. Through the Alaska Materials Exchange, they found someone in Anchorage to ship their Styrofoam peanuts and they also collect plastic bags. They use their can refund monies to pay for posting out their Styrofoam, etc. In short, they have a high participation, sustainable, and diverse recycling program. They continue look for ways to expand the opportunities, increase participation, and persevere when their program runs into obstacles. Our motto is “Never Say Die.”

Nelson Island Consortium**Jonathon Lewis, Chefornak, 907-867-8306**

This group has made ground breaking work in community cooperation. These seven communities (one being a summer subsistence camp) formed from a meeting held almost three years ago that was attended by 50 people from all the villages, including a number of elders. Their cooperation is traditional-based, as they have shared the same subsistence areas for thousands of years. They saw these areas being impacted by pollution and felt together, working traditionally and led by their Elders insights, they could reclaim their lands and clean up their communities. They have brought three separate trainings into their villages (HAZWOPER, Freon Certification, and Solid Waste Management Planning), rather than pay separately to go out to Anchorage. The money saved has been devoted to ordering bilingual signs for their subsistence areas asking visitors to bring their trash home, to additional community members traveling to the meetings, to cleanup projects, to monitoring fish nets, to bring Elders to conferences, to recycling efforts, and to teleconferencing. Besides the use of traditional respect in keeping costs low, one of the unique features of the Consortium is that they meet every week by teleconference. The meetings are attended not just by environmental or Nelson Island staff, but also by Tribal Council and Elders.

The Nelson Island Consortium is a sustainable entity that has built enough history and redundancy in the organization such that if one or more villages are dealing with a crisis, or staff turnover occurs or subsistence trips are needed, there are always staff from other villages that will step in to help out. For example, in calling a contact, in hosting a training, in turning in a grant, in researching needed information. Each village has HAZWOPER trained staff and they are ready to assist each other in emergencies. They have developed a planning style with an entrenched foundation in tradition. When two of the villages could not fill a part-time position, rather than keep the money for their own village, they both donated the money to a Consortium-wide subsistence area litter monitoring project. They cooperate in submitting grants, deciding which are important, and each submitting a support letter for the village that is submitting it. In

this way, they were able to be funded for three different solid waste related projects. Over the past two years, each village has begun recycling programs and cleanup projects: one is taking part in a demonstration of tundra bag technology, one is taking part in a demonstration for compost toilets, one is demonstrating how a hazardous waste program can be carried out in the YK Delta. Two villages were able to make significant improvements in the honeybucket disposal situation. The Consortium also received a Brownfield grant they will start next year, which again will be shared equally to fund part-time positions in community education on reducing contaminants, and will fund an in-village GIS training taught in Yup'ik. When one of the staff learns about how to carry out a solid waste component, such as packing and backhauling batteries, they share the information and steps with the other villages. They have shared duties of resolution-making for banning Styrofoam and plastic bags as well as researching contaminant effects on human health, and how to educate their communities in Yup'ik with the information that they gather in English.

Their rotating community meetings are open to all residents and they provide an opportunity for the host community to learn from and meet experts on solid waste and related environmental matters, to voice specific individual concerns, to listen to Elders from other villages, and to understand the Consortium process and participate actively in its projects. There are no other community entities in the state which represent their full communities and who meet on such a regular basis. Most inter-tribal/inter-community organizations are seated in hub villages, and in this past year, the Consortium has demonstrated that an organization alternative for small off-road villages that fits traditional, non-hierarchical community partnering patterns can be as effective as the common urban-centralized inter-village entity model. This demonstration can have a profound effect on increasing community partnerships and sub-regional solutions because it empowers and builds capacity in the village.

Chefornak Compost Toilet Project

**The Chefornak community contact for this project is: Billy Chagluak 907-867-8306
billychagluak@yahoo.com**

**The Zender Environmental contact for this project is: Simone Sebalo 907-277-2111
ssebal@zender-engr.net**

Chefornak's honeybucket lagoon is 6 years past its designed closure date, and elders and the community are very concerned about the frequent flooding to the nearby creek. Therefore, Chefornak decided to test compost toilets as a honeybucket alternative. This is a demonstration project that started earlier this year working with Zender Environmental and will continue until Spring 2007. One toilet is being tested in the community store and four toilets are being tested in households. The project funds a local operator in Chefornak to monitor the toilets and teach the households how to operate and maintain them. The toilets are straightforward to use – they require adding a cup or so of peat moss each day, pulling an aerator bar a couple times a week, and adding a natural microbe accelerator every 2 weeks to help speed up the composting process. Fans and a small heater help to evaporate any liquids out through a vent pipe. Every couple months, compost is produced and can be emptied out from the bottom of the toilet. The compost can then be used for gardening projects (flowers, plants, etc.) or as cover for garbage at the dump.

Zender Environmental is the technical consultant for the compost toilet project and communicates daily with the local operator to help monitor the project, troubleshoot any

problems, and get feedback from the operator and households. Initial funding for the project is through a Central Council of Tlingit and Haida Indian Tribes EPA Special IGAP Grant, and Zender has been providing a large amount of additional volunteer time in project planning, analysis, installation, and in securing funding for additional toilets to continue and broaden the scope of the project, so that more residents are able to switch to them. From this effort, Envirolet and SunMar are now providing a free toilet each.

Newtok

Margaret Nickerson, 907-237-2314, dinning69@yahoo.com

Newtok is, according to Bethel Recycling, the first (and possibly still the only) village to ship out electronic wastes. Despite every sort of environmental and logistical challenge, including the lack of heavy equipment and a dumpsite that is only accessible by boat twice per day due to tides. They have an active hazardous waste program. They have their staff HAZWOPER certified and a Freon Removal certified person and the equipment. They have an antifreeze recycler machine which is getting set up. Much of this was helped by them receiving a hazardous waste grant from EPA. But they took the initiative to draft up this very competitive national grant, with every chance at not getting it, and they got it. Newtok separates out their lead-acid batteries, fluorescent lights, and electronic wastes now. Because they burn, they are also starting to separate out plastic bottles from their waste stream for backhauling eventually to Bethel.

Additionally, they are beginning a collection program for newspaper and aluminum cans and household batteries. They developed a hazardous waste and construction waste ordinance and contract for outside projects. Access to Newtok's old HB lagoon was cut off and no place for the community to dump but in the river in town. With just \$30,000 from BIA, they invented the individual HB vacuum to reduce exposure to germs from leaking and overflowing HB's hauled through town, and also creating a separate HB bunker apart from town.

Newtok was the initiator of the Nelson Island Consortium and is heavily involved in educating its community about contaminants that can come from wastes, and in working with the school to ban the use of Styrofoam. Its staff, consisting of IGAP and Nelson Island representatives, is very helpful to other villages and constantly seeking out ways to improve their environment with very limited resources.

Selawik IRA Council

Raven Sheldon, raven.sheldon@akuligaq.org, Lorraine Ticket, lorraine.ticket@akuligaq.org, 907-484-2005

A 24-acre open tundra dump serves as the Selawik's solid waste disposal site. All wastes generated in the town, including hazardous wastes, construction wastes, and honeybucket wastes from non-hooked homes, end up at this dump, or a much smaller river bank dump, a mile out of town. The main dump edge is encroaching on town, and dump fires occur several times each summer, causing toxic smoke to permeate the Village. Access is poor and treacherous so that residents often store their garbage in town, or worse, use home burn barrels to avoid visiting the dump.

The Selawik Environmental Program has been leading an effort for 5 years now to close the dump and to construct a new landfill located further from town. Successes include: 1) a State

approved landfill permit and SWM plan, 2) Grants that purchased a waste collection system, a dozer, an equipment shed, gravel for a turnaround at the existing dump, and a hazardous waste plan and equipment 3) Funding to train residents, prepare for the construction projects, and identify potential community impacts 4) DOT funding to build a landfill road, 5) Selection as a National Federal Environmental Justice Project, and 6) Galvanizing the community through carrying out petitions, surveys, school education, Community Organization meetings, and 7) Organizing a Community Environmental Committee and an Environmental Youth Group. Through conferences and workshops, Selawik has been active in sharing their experiences with other Native Villages throughout the state.

Selawik's current efforts include the following: They recently fenced their landfill with 900 feet of fencing funded through their open dump grant. Their landfill road will be constructed next year with DOT funding. They currently store e-wastes and batteries for shipping out of the village for recycling. They installed a used oil burner in their equipment shed and collect oil from the public. Selawik has worked cooperatively and successfully with the Tribal and City Government. Selawik completed a community comprehensive plan by meeting with the IRA, City, and planning committee and used information gathered in several public meetings. They trained 28 people in HAZWOPER in their Village. They hired 18 HAZWOPER certified people to clean up their dump Selawik used part of its YR 2001 and 2003 open dump grant monies to build an equipment garage for their new (used) dozer. The shop was finished in September 2003. It houses their new dozer and new Bobcat, and provides a place to maintain them during the winter. The garage will also be used as a central location for recycling wastes. Kids from the Alternative School will run the Recycling Program. It will provide a place for them to "hang out", fix elders' snowmachines and keep out of trouble. There is no other place in town for kids to do this. The community will benefit as a result and be supportive of the Solid Waste Program.

Total Reclaim, Inc.

Larry Zirkle, Total Reclaim, Inc. 907-561-0544, larryz@totalreclaim.com

Staging, Recycling, and Backhaul. Larry Zirkle has been working with YRITWC, ITEP, Seven Generations, and Zender Environmental in rural Alaska, educating and developing tools for villages to stage and ship recyclable materials and assists in determining priorities for backhaul efforts. He is currently developing a "Rural Recycling Kit" that includes signage for drop offs, staging requirements, how to and where to ship, and safety supplies for minor spills with MSDS sheets. Additionally, Larry provides Freon removal training and volunteers his time to "clean up" when visiting a village. Larry's goal is to educate the communities by spending time in rural Alaska talking with youth, elders, and councils. Larry also promotes "One Voice" throughout Alaska by emphasizing the importance of collaboration toward environmental solutions.

Tribes That Have Backhauled

Alphabetically Sorted

Anvik Tribal Council
PO Box 10
Anvik, AK 99558-0010
907-663-6322 Office

Alakanuk Traditional Council
PO Box 149
Alakunak, AK 99554-0149
907-238-3419 Office

Alatna Village Council
PO Box 70
Alatna, AK 99720-0070
907-968-2304 Office

Algaaciq Tribal Government
PO Box 48
St. Mary's, AK 99658-0048
907-438-2935 Office

Arctic Village Council
PO Box 22069
Arctic Village, AK 99722-0059
907-587-5329 Office

Asa'carsarmiut Tribal Council
PO Box 32249
Mountain Village, AK 99632-0249
907-591-2814 Office

Beaver Village Council
PO Box 24029
Beaver, AK 99724-0029
907-628-6124 Office

Birch Creek Tribal Council
PO Box KBC, Birch Creek Via
Fort Yukon, AK 99740-8999
907-221-2211 Office

Chalkyitsik Village Council
PO Box 57
Chalkyitsik, AK 99788-0057
907-848-8117 Office

Chevak Native Village
PO Box 140
Aurora St.
Chevak, AK 99563-0140
907-858-7428 Office

Chuloonawick Native Village
PO Box 245
Emmonak, AK 99581-0245
907-949-1345 Office

Circle Village Council
PO Box 89
Circle, AK 99733-0089
907-773-2884 Office

Council of Athabascan Tribal Governments
PO Box 33
Fort Yukon, AK 99740-0283
800-665-2981 Office

Eagle Traditional Council
PO Box 19
Eagle, AK 99738-0019
907-547-2281 Office

Gwichyaa Gwich'in Tribal Gov't.
PO Box 126
Fort Yukon, AK 99740-0126
907-662-2581 Office

Grayling IRA Council
PO Box 49
Grayling, AK 99590-0049
907-453-5116 Office

Holy Cross Traditional Council
PO Box 89
Holy Cross, AK 99602-0089
907-476-7124 Office

Hughes Village Council
PO Box 45029
Hughes, AK 99745-0029
907-889-2239 Office
Huslia Tribal Council
PO Box 70
Huslia, AK 99746-0070

Iqurmiut Tribal Council
PO Box 9
Russian Mission, AK 99657-0009
907-584-5511 Office

Kaltag Tribal Council
PO Box 129
Kaltag, AK 99748-0129
907-534-2224 Office

Kotlik Traditional Council
PO Box 20210
Kotlik, AK 99620-0210
907-899-4836 Office

Koyukuk Tribal Council
PO Box 109
Koyukuk, AK 99754-9999
907-927-2253 Office

Louden Tribal Council
PO Box 244
Galena, AK 99741-0244
907-656-1711 Office

Marshall Traditional Council
PO Box 110
Marshall, AK 99585-0110
907-679-6302 Office

Native Village of Bill Moore's Slough
PO Box 20288
Kotlik, AK 99620-0288
907-899-4232 Office

Native Village of Shaktoolik
PO Box 100
Shaktoolik, AK 99771-0100
907-955-3701 Office

Native Village of St. Michael
PO Box 59050
St. Michael, AK 99659
907-923-2304 Office

Native Village of Unalakeet
PO Box 270
Unalakeet, AK 99684
907-624-3622 Office

Nenana Native Council
PO Box 356
Nenana, AK 99760-0356
907-832-5461 Office

Nulato Tribal Council
PO Box 65049
Nulato, AK 99765-0049
907-898-2339 Office

Ohogamiut Traditional Council
PO Box 49
Marshall, AK 99585-0049
907-679-6517 Office

Pilot Station Traditional Council
PO Box 5119
Pilot Station, AK 99650-0119
907-549-3373 Office

Pitka's Point Traditional Council
PO Box 127
St. Mary's, AK 99658-0127
907-438-2569 Office

Rampart Village Council
PO Box 67029
Rampart, AK 99767-7029
907-358-3312 Office

Ruby Tribal Council
PO Box 210
Ruby, AK 99768-9999
907-468-4479 Office

Scammon Bay Traditional Council
PO Box 110
Scammon Bay, AK 99662-0126
907-558-5425 Office

Shageluk IRA Council
PO Box 109
Shageluk, AK 99665-0109
907-473-8239 Office

Stebbins IRA Council
PO Box 71002
Stebbins, AK 99671
907-934-2393 Office

Stevens Village Council
PO Box 16
Stevens Village, AK 99774-9999
907-934-2393 Office

Tanana Tribal Council
PO Box 77130
Tanana, AK 99777-0130
907-366-7160 Office

Venetie Tribal Government
PO Box 99
Venetie, AK 99781-0099
907-849-8165 Office

Yupit of Andreafski
PO Box 88
St. Mary's, AK 99658-0088
907-438-2312 Office

APPENDIX A: Sample Backhaul Inventory

Below is an example of an inventory sheet for backhauled items. This kind of document may be useful when prioritizing items for backhaul as well as for communications with transportation entities that need to know what materials will be hauled before committing to remove them.

Yukon River Inter-Tribal Watershed Council Backhaul Inventory

Items	Amount
Vehicles:	Total
Cars	
Trucks	
Heavy Equipment	
Batteries:	
Total	
Vehicle	
Household (# of containers full)	
Computers: (Monitors, CPUs, Keyboards, etc.)	
Office Equipment: (Copiers, Fax machines, etc.)	
Refrigerators/Freezers:	
Boats: (Metal Only)	
Outboard Motors:	
Snowmachines:	
ATVs:	
Generators**:	
Fuel Tanks*:	
Tires*:	
Tire Rims:	
Drums*:	Total
Empty	
Glycol	
Used Oil	
Other (specify if possible)	
Electrical Transformers**:	
Miscellaneous (Please Describe):	

*These are items that we cannot take yet but need to know about for our records.

**Contact us about these items, we need more information before they can be shipped.

APPENDIX B: Sample Memorandum of Agreement

Below is an example of an MOA to outline an arrangement between a community and a transportation entity in conducting a backhaul. This type of document is not necessary to backhaul but may clarify responsibilities and commitments on both sides of an arrangement.

Memorandum of Agreement Total Reclaim, Inc. and COMMUNITY ORGANIZATION

Introduction – Total Reclaim, Inc. has pledged to be ‘Caretakers of the Land’ and will ‘For the People’. These two principals guide Total Reclaim, Inc.’s work throughout Alaska. To better care for the land and the people dependent on the land this Memorandum of Agreement (MOA) formalizes the relationship between Total Reclaim, Inc. and **COMMUNITY ORGANIZATION**. By working together, communicating, and sharing resources the collective goals of Total Reclaim, Inc. and **COMMUNITY ORGANIZATION** can be realized.

Intent – It is the intent of this MOA between Total Reclaim, Inc. and **COMMUNITY ORGANIZATION** to establish a partnership to expand and improve solid waste services in **COMMUNITY NAME** through greater awareness and participation in electronics recycling. It is understood that this partnership will allow greater coordination between the two entities while outlining specific responsibilities for each entity. In consideration of the above premises, the parties agree as follows,

Responsibilities of **Total Reclaim, Inc.**

- Total Reclaim, Inc. will provide instructional materials outlining safe handling procedures for electronics waste.
- Total Reclaim, Inc. will provide instructional materials outlining safe shipping procedures for electronics waste.
- Total Reclaim, Inc. will be available for assistance by means of telephone contact during regular business hours.
- Total Reclaim, Inc. will provide a per pound cost estimate prior to shipment.
- Total Reclaim, Inc. will collect materials upon arrival in Anchorage.
- Total Reclaim, Inc. will, within 30 days of accepting materials, provide a clear invoice to communities.
- Total Reclaim, Inc. will NOT accept materials sent Cash On Delivery (C.O.D.).
- Total Reclaim, Inc. reserves the right to reject materials that do not qualify as electronics waste.
- Total Reclaim, Inc. reserves the right to reject electronics known or believed to contain PCBs.
- Total Reclaim, Inc. will abide by all local, state and federal laws and regulations in the conduct of their operations.

Responsibilities of **COMMUNITY ORGANIZATION**

- **COMMUNITY ORGANIZATION** will assume responsibility for organizing the collection and transportation of electronics for backhaul.
- **COMMUNITY ORGANIZATION** will handle all materials in accordance to instructional materials provided by Total Reclaim, Inc.
- **COMMUNITY ORGANIZATION** will contact Total Reclaim, Inc. prior to collecting or shipping materials.
- **COMMUNITY ORGANIZATION** will ship all materials in accordance to instructional materials provided by Total Reclaim, Inc.
- **COMMUNITY ORGANIZATION** will assume responsibility for any transport costs that arise.
- **COMMUNITY ORGANIZATION** will assist all community members in participating in the electronics recycling program at low or no cost to the individual.
- **COMMUNITY ORGANIZATION** will provide estimated weight of materials to Total Reclaim, Inc. prior to negotiating a per pound rate.
- **COMMUNITY ORGANIZATION** will provide estimated weight of materials to Total Reclaim, Inc. prior to shipment.
- **COMMUNITY ORGANIZATION** will ship only clean and safely packaged electronics to Total Reclaim, Inc.
- **COMMUNITY ORGANIZATION** will not knowingly ship PCB's or other highly hazardous materials to Total Reclaim, Inc.
- **COMMUNITY ORGANIZATION** will abide by all local, state and federal laws and regulations in the conduct of their operations.

Term of the Agreement

- This agreement shall remain in effect for 2 years from the date of signature. It may be terminated immediately by mutual written agreement of both parties, or upon 30 days notice in writing by either party.
- The agreement may be extended for additional 2 year periods provided an updated written agreement is reached.

NAME OF COMMUNITY CONTACT

For **COMMUNITY ORGANIZATION**

Date _____

Larry Zirkle, General Manager

For Total Reclaim, Inc.

Date _____