



Hauling Back of Recyclables from Rural Alaska

A Discussion and a Plan to Sustain Backhaul Initiatives Statewide

Prepared by:

the Yukon River Inter-Tribal Watershed Council

Written by:

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Qualifications of YRITWC:

2000 – Alaska Governor’s Pollution Prevention Award
2003 – Semi Finalist Harvard Project on American Indian Economic Development
2005- High Honors Harvard Project on American Indian Economic Development
2008 – Harvard IBM Innovations in Governance Award

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Background: The Yukon River Inter-Tribal Watershed Council (YRITWC) created a watershed –wide / village-based backhaul effort in 2004 with Jon Waterhouse leading the effort. The YRITWC has coordinated an initiative inspired by local communities, driven by tribal leadership, and dependent upon the investment of funders and the good will of transportation companies and numerous recycling companies. In four years time the YRITWC has facilitated the backhaul movement of 8-million pounds of recyclable and hazardous materials from Yukon River communities. The result has been the increased life span of landfills - which has saved millions of dollars in new landfill construction and most importantly the reduction and prevention of hazardous materials entering the salmon bearing Yukon River Watershed. The U.S. EPA has invested over one million dollars into this multi-year endeavor.

Intent of Paper: It is the intention of this paper to explore the many variables that may impact the sustainability of backhauling and recycling efforts in remote rural Alaskan villages. The discussion and suggested plan ingredients; will focus on villages that reside off the road system and within remote Alaskan watersheds. Factors associated with the movement of hazardous waste and recyclable materials are numerous and ever changing. Therefore, the reader is asked to consider the fact that there is no one best way to sustain village-based recycling and backhaul efforts. Ultimately, the reader can expect to find a series of steps that can be taken to: maintain local infrastructures, nurture relationships with partner organizations, maintain important relationships with transportation and recycling companies, prepare and stage materials for backhaul, assess potential markets, increase funding opportunities and income-generation options, and inspire maximum local participation. Further the writer will make an effort to highlight the interdependence between the sustaining of: programs, organizations, community development initiatives, volunteer commitments and long term relationships with the business and local communities, while igniting grassroots enthusiasm. Ultimately the reader will have a clear sense of the need to maintain the ability to be consistently adaptable and flexible while always being prepared to utilize opportunities that are available to coordinate, maintain and sustain remote backhaul programs and initiatives.

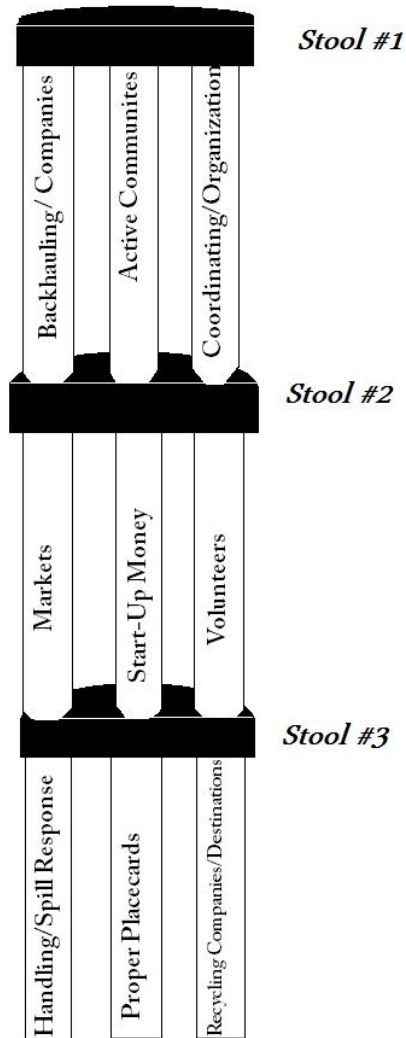
The critical importance of the **value** (resale price) of certain products such as: Steel, Gold, Glass, Used Oil, Lead, and Used Antifreeze can't be overstated or too strongly emphasized. The markets associated with these products are ever changing and volatile. Prices are also driven by the sheer magnitude of and volume (quantity) of products.

Therefore regional backhaul efforts increase the chances of being able to stockpile significant quantities of any one product, in order to demand high dollars. Profits can be used to run programs that are no longer funded by grant dollars or they can be used to subsidize or augment existing programs financially.

Meanwhile, it is very difficult for regional backhaul efforts to be assured sustainability - over the long term - due to the need to have ongoing volunteers or paid employees to coordinate efforts. Volunteerism can drive an initiative for several years. Volunteer can also play a lead role in staging, handling and shipping within communities. Volunteer commitments are of equal importance to the ongoing free or low cost backhauling of products provided by companies that include barge, shipping, airlines, trucking, railroad, and recycling businesses.

Below please find the essence of backhauling depicted as a stack of 3 – Three (3) legged stools. Creating Backhaul systems that work involve many moving parts. Essentially there are 9 key ingredients which are found as the 9 legs of the 3 stools below. If one leg is pulled out the entire stack of stools will fall, as will an entire Backhaul system.

This ain't no joke. Pull one leg out from anyone of these stools and the Backhaul System will collapse..



Definition of Sustain / Sustainability: Sustain / Sustainability are frequently used words which are often over used and misunderstood. Essentially to sustain something is to: keep it going. To keep something going does not have a time limit. As soon as there is a time limit then we can no longer utilize the words “sustain or sustainability”. When there is a time limit in mind then we should be compelled to use the phrase, “long-term” or a term that is synonymous.

Sustainable Development: Sustainable Development has many definitions with various consistent common threads. Sustainable Development refers to community-development endeavors that are forward moving, progressive and that help villagers ensure the longevity of accessible and affordable health care, healthy food systems, justice systems that promote community wellness and healing, economic activity that provides employment and economic opportunity, educational centers that offer relevant learning, and environmental and natural resource systems that are “kept going” and sustained for the betterment of the entire population. The above is merely a few of the areas that are considered when a community sets out on the road towards “Sustainable Development”. Certainly “Sustainable Development” also involves the building of efficient and well built homes, the creation of renewable energy systems and the effective management of sewage and solid waste systems. Models of “Sustainable Development” commonly promote democratic processes where everyone has a voice and a vote in matters that may impact their daily realities. “Sustainable Development” models also promote a healthy interplay between government, non-profit, church-based, local businesses and community citizens. A healthy interdependence and maximum cooperation between all potential beneficiaries are essential to move a community towards a common vision that evolves the community into healthy place to raise children, care for the elderly, welcome visitors and live in harmony with natural surroundings while maintaining rich traditions and cultures.

Sustainable Non-Profit Organizations: Sustainable Non-Profit Organizations require a diversity of funding inputs and clear vision and mission, while they are commonly driven by the beneficiaries of their services and are most importantly grassroots and participatory in practice and in behavior. The Yukon River Inter-Tribal Watershed Council is an example of a Non-Profit Organization that is driven by the grassroots and consistently participatory from community beneficiaries. The Yukon River Inter-Tribal Watershed Council has a clear vision and mission and operates by consensus. The organization mostly works towards the, “Sustainable Development” of each of the 66 indigenous governments that depend on the Yukon River Watershed for survival. A special emphasis of the YRITWC is to work towards healthy solid waste, sewage, environmental and rural development infrastructures. In practice the YRITWC could potentially put itself out of business as communities gain greater self-reliance. That said, the YRITWC does still aspire to achieve a long-term existence, which is necessary to accomplish a long-term or sustainable backhaul infrastructure.

A Sustainable Non-Profit organization also requires a variety of financial inputs and human resources that are paid or minimally reliable volunteers alternatives are required. A Sustainable Organization often benefits from funding streams that include: government funding, foundation dollars, private donations, corporate giving and income – generation activities. Additionally, healthy and strong organizations are more often assured longevity if they have a high degree of community participation and volunteerism. Most importantly, exemplar organizations demonstrate the ability to partner with others, while continuing to reassess and evaluate its effectiveness. Internal and external monitoring and evaluation are key ingredients to require organizations to continue to grow, learn and ultimately evolve and adapt to changing realities.

Note: Please note that the writing above and below may also apply to Sustaining Boroughs, Sustaining Tribes and Sustaining Municipalities.

In summarizing the key ingredients of a Sustainable Organization, the Institute for Conservation Leadership does a fine job in their paper, entitled, **The Ten Ingredients of a Sustainable Organization**. They state the key ingredients to include:

1. A Compelling Vision, Focused Mission and a Strategic Plan that involves many and gets used.
2. Effective and Focused Programs
3. Diverse Fundraising Efforts
4. Clear and Accurate Financial Management
5. An Effective Governing Body
6. Intentional Volunteer Leadership And Staff Development
7. Community Networking and Visibility
8. Appropriate Technology That Supports The Organization's Work
9. Clear Communication Within a "Learning Environment"
10. Ability to Celebrate Successes and Enjoy The Work.

Sustainable Projects / Programs: A good program attracts people, which then attracts funding. Programs need to be well thought out, doable, and able to involve many people. Above all, programs must serve a need. A Sustainable Organization is able to take a program idea and implement it by creating a strategy with measurable steps. In our rapidly changing world, Sustainable Organizations are able to assess program successes and weaknesses regularly and change approaches as needed.

Sustainable Programs have strategic plans, solid volunteer components, measurable results, enduring partnerships, generate-income and continue to fulfill an ongoing need – while making steps towards accomplishing the Vision and Mission of the Tribe, Municipality or Non-Profit Organization.

Striving for a Sustainable / Regional Backhaul Plan:

At this point in the paper we will take a closer look at the specific ingredients needed to sustain backhaul initiatives. The reader may find that suggestions only serve to elongate the life span of existing local and / or regional backhaul efforts. Our hope is that ideas from this paper will be combined with other creative thoughts to result in sustainable backhaul efforts statewide. Let's begin the dialogue with the topic of money and let's end the dialogue with the importance of effective and ongoing training, staging and storage of materials.

Money: Let's first take a look at the need for funding. Funding is needed to pay staff, provide for office and storage space, overhead costs and occasional shipping costs and/ or transfer fees. While money is also important to assist with travel necessary for training of volunteers and emergency spill response when spills occur. Money is also needed to rent trucks and pay for deck space on barges when necessary. Money also comes in very handy when thanking volunteers, recycling companies and transportation companies.

In the Non-Profit world we seem to expect everyone to hold the same values as our organization and often become shocked when we find that there are many businesses and companies that operate in order to make a profit!! Of course capitalism is the system mostly embraced throughout the United States. Therefore it is essential to know the mindset of companies and individuals seeking profits. A very important question to ask is; How do we offer something to inspire a volunteer to come to work again or welcome a business to offer free or reduced cost backhaul services? This question has many answers.

Businesses: Businesses can be motivated by saying thank you in multiple ways. A plaque can be presented at an annual board meeting, a thank you add can be placed in a newspaper, and a public service announcement can be purchased on radio or television. Additionally, Recycling and Transportation companies can be honored at high profile gathering and also be honored in publications, websites and newsletters.

Giving public exposure to a For-Profit business for a volunteer role in a backhaul program can in the end bring more business to the company.

During the past 4 years, the YRITWC Backhaul Program received ongoing support from, the Alaska Railroad, thirteen airlines, 3-barge companies, 3-trucking companies, 3-recycling companies, and at least 5-battery and steel recycling companies. In all instances plaques were given, thank you lunches were conducted, exposure was offered on our website and in our newsletters and they were acknowledged in various Public Service Announcements. Saying thank you to companies in multiple ways often ensures that the companies may continue to make ongoing contributions to the effort if affordable to them. Remember if they have a poor year and don't make profits they are less likely to contribute. They also maybe unable to contribute if there costs go up. For example last summer (2008) the companies suffered from very high increases in fuel costs. Consequently some of the barge and shipping companies began to charge per pound for their services. Fortunately, charges were kept to a low cost of about 10 cents per pound.

Volunteers: We generally think of volunteers as free labor and neglect to plan for the many costs associated with recruiting, overseeing, training, and maintaining them. Depending upon how many volunteers are involved will determine how much supervision and training costs will be. Perhaps volunteers are going to be used to crush aluminum cans while in other cases perhaps they will be utilized to encourage each household to join recycling efforts. Regardless of the role of a volunteer it is essential to provide training and supervision. Volunteers also don't generally stay with programs and organizations for more than one year. In order to increase this amount of time it is necessary to provide incentives, volunteer appreciation events, and even career counseling if desired. Please keep in mind the money needed to pay for supervision and for the variety of ways to show appreciation for the important work of the volunteers.

Back to the 3-legged stools: Remember the most important 9 ingredients of a sustainable backhaul effort that are written on the 9 legs of the 3 stools above?

The 9 items above include: **1.** Backhauling / Companies, **2.** Active Community, **3.** Coordinating organization. **4.** Markets, **5.** Start-up money, **6.** Volunteers , **7.** Handling / Spill Response, **8.** Proper placards, and **9.** Recycling Companies / Destinations.

So far above we have briefly talked about why money is needed in working with companies and volunteers.

Money is also needed to train individuals in areas of Handling and Emergency Spill Response. Individuals need to be trained in the actual case of spills while backhauling and to properly prepare products for backhaul in a safe manner that does not harm the individual or the environment. Trainings are costly as they require folks from the village to go to another village or a city, while trainers often require payment. Seed money can be used to train individuals and produce training guidelines and tools. Initially there are also costs associated with acquiring proper clean up attire. There is a high turn over of staff and volunteers in rural Alaskan Villages. Which informs the need to maintain ongoing training programs to ensure there is someone who is updated in most villages.

Training needs are often ongoing due to high turn-over of staff and volunteers.

How to get money: Tribes have the ability to conduct Bingo and utilize the proceeds to benefit the tribe, sustain backhaul programs, or other important community needs, such as the school. Meanwhile regional organizations don't have the legal authority to engage in Bingo.

Community members can also offer small cash donations to the program directly or a local raffle or fundraiser can occur. Tribes can also make a small amount of money from the Flying Cans Programs with ALPAR.

The YRITWC is an organization that has diversified funding that includes multiple government funding sources, up to 20 foundations and sporadic corporate donations. All of which is not sustainable and a most that is for other restricted programs and purposes.

We had hoped to generate income resulting from the backhaul effort and later learned that most of the items that we have backhauled pay very little if anything at all. In some cases there is actually drop off fees to bring materials to a recycling company.

Sustainability Plan for YRITWC:

Despite the difficulty in developing an income to absorb project costs and sustain programs, the YRITWC has arrived at one solid means of producing approximately \$70,000 per year to go back into the operational costs of the program. We will initiate this step during the fall of 2009. The source of income – generation will result from the recycling and resale of used antifreeze. The YRITWC owns an antifreeze recycling unit

and has stationed it in Nenana. We have access to about 163 – 55-gallon drums filled with used Antifreeze, This product will be reprocessed in Nenana, rebottled and resold. Proceeds will cover project overhead, volunteer coordination and company relations and appreciation activities. The YRITWC estimated an annual income from used antifreeze to range from \$60,000 - \$90,000. These figures are informed from the estimated barrels we have identified, resulting from our annual inventory efforts. Additionally, we anticipate being able to sell used antifreeze by the gallon for approximately \$7.50 per gallon. The usage of the \$70,000 of income generated will be directed towards the minimum requirements associated with operating this program. The actual breakdown of costs follow:

Backhaul Budget:	
Personnel: 1FTE 6 months	= \$22,000
Fringe: 25%	= \$5,500
Contractual: Transfer and shipping fees	= \$10,000
Contractual: Public Service Announcements	= \$6,000
Supplies:	= \$6,000
Phone:	= \$3,000
Rent:	= \$4,500
Travel to villages for training And technical support and for spills	= \$13,000
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Total	\$70,000

Note: Please note that to be effective in coordinating a multi-community backhauls effort it is of course ideal to have year round staff, more than one staff member and a larger sum of funds to contribute to organizational overhead items that may include bookkeeping and audit services. The \$70,000 budget above is merely a bare bones austerity budget in the event that cash flow from grant programs are completely eliminated.

Please also note that the YRITWC is also working on other income generation opportunities that will depend on the actual markets for recycled goods such as used steel, electronics and cooper. Finally it is imperative for all 9 legs of the 3 x 3 legged stools to be in place inorder to allow the YRITWC Backhaul effort to continue.

Sustainability Plan for other Regional Entities: It is certainly possible to develop other creative methods to generate income to sustain regional and / or village based recycling efforts. The YRITWC approach has been developed through trial and error. We find the most important aspect of creating a Sustainable Project is to have at least one highly motivated person to keep enthusiasm high and lead coordination efforts. One or two people can motivate others, secure volunteers, maintain relationships with shipping companies and ensure that the shipping companies don't get stuck with any products. It is imperative not to allow Backhaul programs to become a burden on the transportation or recycling companies. Ultimately is crucial to ensure that all 9 legs from the 3 x 3 legged stools are in place.

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Below we give an overview of the changing prices of various products and the cost of shipping these products. This is being provided to give a realistic look at what we have learned during the past 4 years.

Keep in mind that fluctuating fuel prices can radically change the purchase price of products and the shipping costs without warning.

Product Summaries:

Steel (cars, sno-gos, fuel drums, ect.): During May of 2004, a metric ton of steal was over \$600 and then went up to \$1,200 and now has plummeted down to \$650. Crowley Barge currently charges 10 cents per pound. Recyclers have suggested that they are willing to pay \$40 – 50 per vehicle. These prices have not yet been secured, although Ron Smith, Bernie Carl with K & K will be approached during the winter of 2009 after fuel prices have hopefully stabilized.

Suggestion: Tribes, Municipalities and Regional Coordinating groups should now aim to stockpile steel until prices goes up. The cost of stockpiling steel will often be absorbed by recyclers. This is not a guarantee but may very well be possible.

Vision: The YRITWC has envisioned the purchase of a barge to get up the Chandler and the Koyukuk Rivers. We have looked at landing crafts and would also like to obtain two flat bed trucks. We have thought about delivering products to villages that Crowley Marine can't get to. We could make money by delivering to villages and then utilize any proceeds to purchase fuel for return trips loaded with recyclable steel and other materials. The U.S. EPA, Indian General Assistance Program can be utilized to contribute to shipping costs if determined a priority by tribes. Perhaps \$5,000 - \$10,000 per tribe could be put aside for shipping costs. Tribes can also use funds for travel to trainings and to pay trainers as well as purchase protective gear. All expenditures must be approved by an EPA Project Officer.

Fluorescent light bulbs: The YRITWC has just started to move fluorescent light bulbs to avoid mercury entering into the landfills. There are recyclers that are willing to take bulbs. Regional organizations can send a boxes to put the bulbs in. Shipping costs with barges are about ten cents per pound, which means about 4 bulbs = one pound. This means it would cost cost 10 cents to ship one pound. An alternative is to send bulbs on airlines for free. Relationship with partners are key in this area so that free shipping maybe allowed. Total Reclaim generally will receive the bulbs. They suck out the gasses including mercury and reuse the glass. Ideally Airlines will continue to ship the bulbs for free and they will go directly to Total Reclaim.

Cell Phones: Total Reclaim will accept cell phones at no cost. Airlines usually ship for free

Cans (Aluminum). ALPAR flying cans program. Tribes are sending the cans independently, airlines backhaul for free and ALPAR provides a check per pound. The Minimal size and weight of cans are in favor of continuing this effort. Communities get 10 cents per pound. Aluminum can recycling is done by Smurfit-Stone Recycling Company which runs the Anchorage Recycling Center. This is who ALPAR uses in it's Flying Cans Program. Smurfit is currently paying 10 cents a pound for aluminum cans. Fluctuations in Aluminum prices are listed below.

Aluminum (changing prices)

02/04 - \$0.70 a pound

08/08 - \$1.25 a pound

10/08 - \$0.80 a pound

11/08 - \$0.85 a pound

Aluminum can be found in many backhauled items including appliances and vehicles and has some value to recyclers. Its value has dropped significantly in the last three months.

Used oil: We have found that transportation of used oil can be \$40 - \$50 per barrel. Therefore we find that it is more effective to leave the used oil with the community to reprocess in used oil burners and / or Waste Oil to Energy converters. This approach reduces risk and encourages local reuse of the used oil rather than transporting the product on the river. The YRITWC owns a portable WOTEC which is deployed to communities that have a high quantity of used oil and don't have a way to reprocess the used oil on site. Used oil burners are a great option and can be purchased for approximately \$6,000 each. Used oil maybe sold in the village for potentially \$1.00 - \$1.50 per gallon to defray the cost or the oil can be used to heat a community building to reduce the energy bill.

Anti Freeze: YRITWC currently has access to 163 barrels. Communities have paid for the transport out of the village on barges to eliminate a hazardous waste in their community. Communities also pay for storage until the antifreeze is actually reused and processed. Per barrel the municipality or tribe can pay about \$50 per barrel and the YRITWC can receive the income to sustain regional coordination. Each community has between 10-100 barrels. Most barrels are just sitting in villages rusting away. Anti Freeze recycling offers the greatest potential to pay for staff wages to sustain an entire backhaul effort.

Batteries (Value of lead). Prices of lead **fluctuated** from Feb 2004 from about .49 cents a pound and by Nov 2007 went up to 1.75 per pound. Now in November of 2008 the prices of lead dramatically decreased to .55 cents losing more than half of its value. Consequently, no companies are paying for batteries. Recyclers are paying for the purchase of totes, and transport of totes and pick-up of batteries. Airland Transport will truck batteries from Fairbanks to Anchorage. ABS will charge a pickup fee \$25.00 per

tote. If money is to be made on batteries, we would need a volume of batteries to ship to companies in Seattle who \$3.00 per battery. An Alaskan entity could attempt this business but it would make it necessary to transport high numbers if we were going to eliminated the middle man (ABS). Fluctuations in Lead prices follow.

Lead (changing prices)

02/04 - \$0.25 a pound

08/08 - \$0.95 a pound

11/08 - \$0.55 a pound

Lead is found in most car batteries and televisions. It is also a main ingredient in forming steel. At its height in 10/07 lead was worth \$1.75 a pound. It is now \$0.55 a pound.

Computers, Electronics (gold). Free electronic recycling to tribes was offered by Total Reclaim and very few communities took them up on the offer. Gold prices have fluctuated in the following way. E-waste has very little gold. The main focus of E-waste recycling is to keep lead, cadmium, plastics, arsenic beryllium and PBDE's out of the landfills and out of the watersheds.

Gold (changing prices)

02/04 - \$400 an ounce

08/08 - \$800 an ounce

10/08 - \$700 an ounce

11/08 - \$700 an ounce

Gold's value has continued to rise over the years but it is not immune to the overall drop in the value of metals. Gold is found in most electronics.

Total Reclaim is the primary shipper of computers in Alaska. Glass and plastics provide a nominal income. This reality could only change if another entity developed a competition to Total Reclaim. The key is volume and Total Reclaim has markets in Seattle and the Washington area. They are the best option at this point and often donate hundreds of hours in free training per year.

Refrigerators and Freezers: Metal, Cooper and aluminum prices impact the market for refrigerators and freezers. Freon removal can potentially gain Freon credits and could become available in the global market in the future. Freon removal has a cost for removal and very little opportunity to recoup this cost.

Copper (changing prices)

02/04 - \$1.00 a pound

08/08 - \$3.50 a pound

10/08 - \$1.60 a pound

11/08 - \$1.60 a pound

Copper is found in most white goods and also in vehicles. Copper was in high demand not long ago, so much so that copper theft became common place. In the last three months copper has lost over half its value.

Washers and Dryers: Metal recycler such as CR Pipe and K & K in Fairbanks, Crowley. CR Pipe will likely receive products but are not likely to pay because of the minimal amount of steel and work involved in breaking down products.

Transformers: There is a high cost if PCBs exist and Total Reclaim will take transformers without PCB's for a price. Emerald Consulting also will take transformers for a price. There is a high risk associated with transport, handling and storage of transformers as PCB's are very dangerous to human and environmental health.

Television (value of lead): will get charged to drop off batteries at Total Reclaim because it takes money to break down. Transport of TV's to avoid lead going into the landfill is necessary but maybe costly.

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Staging and Storing Needs:

Proper staging can be done by one person but it is ideal to have community involvement ranging from the Tribe, to the City to even the school. Showing that removing solid waste is good for the continued health of the whole community can help gain support from different entities to become involved, usually at no cost. The type of material the community wants to move and where it is located will determine the equipment that is needed. Heavy equipment makes staging items (like vehicles) much easier. In most communities, the City has this type of equipment and many times are willing to donate it as well as cover the costs of the operator to help in staging. There are few costs involved in staging if communities work together. Equipment and labor are often donated and barrels to hold drained fluids and general tools can be found in the village.

There are some costs, that are hard to avoid which included having Freon removed. Either a certified technician has to come out to the village, or someone in the community has to get that training and the equipment. According the Solid Waste Alaska Network or SWAN website, the cost of hiring someone to come out and remove Freon can cost between \$1,200 to \$2,490. There can be other smaller costs associated with staging. For example a village may need to purchase pallets and shrink-wrap. Battery totes can be expensive (ranging \$200+ each) although some battery companies will send totes out for free.

Another area of potential cost can come from solid waste trainings including CPR/First Aid, Hazardous Waste Operations and Emergency Response (HAZWOPER), and a course in the Department of Transportation's Hazardous Waste regulations. These trainings are not required but should seriously be considered before beginning to Backhaul effort. Costs vary depending on what company provides the training.

There may be times when items need to be stored before they can be moved. For example since the price of steel has dropped, many recyclers are hesitant to take large numbers of junk vehicles. In this case, vehicles should continue to be staged (drained of fluids and crushed) and stock piled out of the way until prices rise again. There may be leftover fluids that need to be stored such as used oil and used glycol. These should be stored in good 55 gallon drums out of the weather to keep from rusting until they can be of use. It is necessary to follow RCRA codes and regulations in this area.

Ongoing training needs, handling and safety needs are reoccurring costs to ensure that new staff and volunteers are safe and that materials are handled to code and that no spills occurs. High turn-over issues increase the cost of ongoing trainings. It is important to note that relevant trainings can gain certificates that can lead into various career paths.

Creating regional recycling hubs can maximize profits, increase efficiency and improve transportation and processing options.

Sustaining Local Backhaul Efforts: Sustaining any project at the local is dependent upon the community seeing high value in the results. Some communities have banned together voluntarily to improve local solid waste circumstances. In some cases communities have mobilized when it was clear that damage would be created to the local drinking water sources, traditional use places or local fishing locations were in jeopardy. Once a community is clear how to fix a problem resources often flow without question. Local volunteers show up in great numbers and a key coordinator is then required to help focus efforts and acknowledge volunteers.

Gaining ongoing community participation from youth and every household is also possible in many different ways. Households can assist by separating batteries and other household hazardous waste, while youth can play a lead role in coordinating the recycling of aluminum cans and encouraging each household to assist in the area of separation of Recyclable materials.

Schools, health clinics, village corporations, outside contractors, grocery stores and the local fuel service can all participate in sustaining local backhauls efforts in multiple ways.

Tribes can revise their US EPA Indian General Assistance Programs to cover various backhaul related costs and include 10,000 per year as a suggestion in existing grants.

Relationships:

Ways to maintain backhaul relationships are important to think about. It is unwise to expect others to participate in backhaul efforts. It is much better to take the time to share the importance of the work with others and allow them to voluntarily participate. Showing appreciation is the best way to increase the chances that individuals and businesses will remain involved. A Sustainable Backhaul Program will have ongoing participation of community members, municipalities, tribes, local businesses, transportation companies, recyclers and a coordinating entity when appropriate.

Re-Assessing New Variables On An Ongoing Basis:

Please note that there are many variable to a Sustainable Backhaul Program. Therefore it is essential to recognize that variables change regularly. Consequently being flexible and having the ability to reassess and re-evaluate options are essential.

Sustaining Uncertain Markets Of Recycling Companies:

It is important to note that markets for each item being backhauled is uncertain. As a result, it is important to be able to stock pile materials until markets and sale and shipping prices are desirable. Minimally the willingness of recycling companies will often drive what villages can and can not ship. Recyclers are for-profit businesses and they will need to continue to show a profit on products that they receive.

Uncertainty of Government, Foundation and Private Donations In Economic Hard

Times: It is imperative to note the difficult economic times that currently exists in the United States and Alaska. Businesses are less likely to make non-profit decisions, while many non-profit organizations are progressively experiencing reduced funding.

The above reality speaks to the importance of maximizing volunteerism and creating programs with low overhead and travel costs. Despite these cautious efforts the cost of shipping and value of products will ultimately dictate the movement of recyclable materials from Rural Alaska.

Summary:

Recommendations summarized / an outline for a plan that may work:

If relations are good, skills are maintained, volunteers are involved, a market exists, and a coordinating entity is able - then a Backhaul Project may be sustained.

Remember the Key 9 Ingredients to a Successful and Sustainable Backhaul Plan:

- 1. Backhauling / Companies:** Without them we would need our own barges and airplanes. The purchase of planes and barges cost a great deal, so we may as well politely and respectfully ask companies to continue to provide this vital community service.
- 2. Active Community:** Since money is scarce in rural Alaska an active community is required to separate materials and gather local resources. Without an active community then projects run the risk of being imposed externally and are not ultimately sustainable.

3. **Coordinating Organization:** This could be a tribe, a consortia of tribes, an environmental non-profit, a for-profit recycling business and city or state government.
4. **Markets:** They are ever changing. Don't take it personal if the markets change. Just be patient and stockpile what can be stockpiled for a later date.
5. **Start-up money:** This helps with initial training and overhead costs. Programs benefit from ongoing external funding but are wise to minimize costs to sustain efforts with minimal operational costs.
6. **Volunteers:** They are the backbone. Treat them good. They won't forget. Remember they are the ambassadors for the work. (Contractors can become volunteers and they can be asked to take backhaul materials away at the end of a job.)
7. **Handling / Spill Response:** Lets do it right so nobody gets hurt and no spills occur while we follow regulations.
8. **Proper placards:** Label everything well. So that the product is known and contact information if available. It is the right thing to do.

9. **Recycling Companies / Destinations:** Be grateful, build relationships and seek their guidance as they know how materials should be labeled, staged, packaged and they know the markets as well as the destinations.

Closing: What we don't know we can't predict but we can be ready to take advantage of opportunities as they arise, which will be driven by the demand and then - the supply of recyclable materials will flow out of rural Alaska to extend the life span of landfills and reduce contaminants entering into watersheds.

Let's stockpile items that can be backhauled and inventory regularly, separate items at landfills and be ready to take advantage of backhaul opportunities as they arise. Markets will drive opportunities, while the good will of the transportation companies will make it all possible. So let's be nice to the transportation companies and thank them for their generosity as they have been the key to success thus far. *It should be noted, that a long range goal for the effective management of rural landfills is to eliminate the need for backhaul by finding uses for all materials that are brought into the communities.*

Finally be creative, passionate and positive. Many creative ideas have not yet be born and many passionate people have yet to find their path. Being positive will realize the many dreams of healthy waters and healthy people.

Elder Quotes to consider:

Marjie Attla / Louden Tribal Elder:

“We work together – We Help Each Other”

Henry Lickers / Mohawk Elder:

“A Community that works together will be sustainable”

Henry Sijohn / Coer d’lane Elder:

“Years ago our mother earth was so pristine, that we would never consider doing anything to harm her in fear of retribution”

Billy Frank Jr. / Nisqually Elder:

“Let’s stop talking about things and let’s get out their and role up our sleeves and get busy”.

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