

Integrated Solid Waste Plan For the Community Newtok



August 2006

Integrated Solid Waste Plan For the Community of *Newtok*

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Additional Special Acknowledgements:

We would like to thank the Elders in our community for their valuable words and wisdom: Mary Julia Carl: Toksook Bay, John White: Nightmute, Joseph John Sr.: Newtok, the late William Andy, Newtok, Mark Tom: Newtok. Thanks to their advice and comments on June of 2005, Nelson Island Consortium meeting here in Newtok, we have a more of information of how they handled their waste in their young days, and how they kept their subsistence area cleaned. Paul Carl from Newtok, for his time and effort on giving the committee advice on how to handle the waste in our present days.

We would like to thank Simone Seballo for her time and effort and Lynn Zender Environmental for their support. Without them, we would have not finished this template

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1. INTRODUCTION

Mission and Values Statement:

Our community developed this plan because subsistence lifestyle is our number one priority. We want to be sure to have the best solid waste practices possible so that we can help protect our subsistence. A good dumpsite with safe disposal practices will help protect subsistence. Our Elders say that we must respect our lands then we will be given the opportunity to have plenty to take and to gather. Also, they say we must respect each other and keep our town and camps clean. Our community abides by its traditional Yup'ik laws that our Elders pass down to us.

History of the Community: Newtok was first established in first year of 1950's. The old village site is Kayalivik. The reason why we got relocated was river channel was too shallow for the barges to go up stream. So the men looked for higher ground to build the BIA school site, during that time some villager build sod houses, just a few build real homes.

(The link is: http://www.commerce.state.ak.us/dca/commdb/CF_CIS.htm).

Demographics and Utilities:

The number of residents is 320 people, and enrollment of residence is 444. There is a clinic, 1 ½ schools, and old BIA school with warehouse (which both building are contaminated with asbestos), a Tribal Office, 1 post office, two stores, 1 church, 40 food cache, 20 steam bathes, 12 vans, 4 tank farms, 2 fuel pump stations, 2 armories, 1 battery box, 6 burners (old drums and a burner), 120 old and new ski-doods, 32 Hondas (old and new), 21 satellites, 103 old and new 55 gallon drums, 20 plastic drums, 94 old and new boats, 49 wooden and plastic sleds, an electrical generator plant, and a untreated water gets dumped right outside the building. The washeteria has three new unused dryers and six washers. Treated water can be obtained from 1 watering points. However, most residents obtain their drinking water from rain catchment's systems 67 (35 gallon plastic containers) in summer and from melted ice and hard snow in the winter. There are 61 (including 5 Teacher Housings, 20 houses, 15 old houses, 12 BIA housings, 9 AVCP housing) houses, with 7 connected to tank haul/flush units, three within the village and four on teacher housing site and the remainder using 137 (5 gallon containers) honey buckets. The school has its own sewage lagoon and is piped. The sewage lagoon is right behind the school and is primary untreated, after which the water drains to the wetlands, Creek and is near the fish rakes, also the school's well water is about 200 feet from the school's lagoon. It has had several problems, including often seeping out. The honeybucket are being dumped along the Newtok River, the haul system is now being used and being dumped into Ninglick River. A water upgrade project that will hook-up additional homes and provide an improved sewage lagoon is supposed to occur within a few years. However, it is several years overdue, and as is the case with most water upgrade projects, it is unclear still if the original project scope will remain and also when the project will start or finish. Electrical power is supplied by Newtok Traditional Council. Outboard motor, gallon containers for outboard motor, flood problem, (checks indoor equipments, like computer, TV's, implement fees for school on computer wastes.

2. ELDERS' GUIDANCE ON TAKING CARE OF OUR WASTES PROPERLY

Elder Guidance:

We interviewed Elders and our Elders took part in the Nelson Island Consortium meetings. They told us what we needed to do to keep our community safe and clean and protect our subsistence. We have recorded their words and have their tapes. Their words included rules about taking care of wastes in the subsistence areas and also how to live life properly so that we will not have these problems. Their rules are about respect and how this will bring good opportunities and help when we need it. This plan is based on their words and explains how to carry out what they say as it relates to our wastes.

Elders' words:

Mr. Secretary, George Tom of Newtok Traditional Council had said about what an Elder Paul Carl, 81 years old had stated. Mr. Carl is from the small village of Newtok, Alaska. Mr. Carl addressed the importance of what will happen if we were to drain the Big Lake (Nangevpak) (The Big Lake is between the Airstrip and the village) out or empties out by itself, the whole land where Newtok sits, will sink down. This has happen before in another two sites that Mr. Carl knows of. One site that had happen before is across the Ninglik River and Niuqtam Kagatii which is on the East side of Newtok about two to three miles out.

Paul Carl, 81 years old of Newtok, is originally from old village site called Ayimqeryarmiut. His belated parents were father's name was Menerqalria, mother's name was Apamaralria. His first belated wife's name was Mary Julia Carl, Cakayak. Second wife was Anna Charles, Qiraun. By his first marriage, they had 5 children. Later on he gained 9 more children by his second wife. He was a subsistence hunter, and has traveled all around the southwestern region with other hunters. He used to travel by dog team by winter, wooden boat by summer. Later on snow machine took over the dogs. He is well respected and knowledgeable of his surrounding. We, The IGAP Department appreciate his great help on passing the valuable information to us.

- ✦ People should not expect to get paid for helping each other.
- ✦ When I became aware, we had little. Everything we had returned to the earth. Now we have plastics and things that will harm us and our way of life. We must be careful with these things.
- ✦ *It is disrespectful to the person who goes camping in that area and to others to leave litter at the camps.*

3. COMMUNITY PARTICIPATION

Community participation for the best solid waste plan is very important to us. Community disposal practices play a big part in whether our plan protects our health and environment. In addition to listening to our Elders speak, our community participation included the following:

Nelson Island Consortium Meetings: We held community meetings at the following villages and dates. At each meeting we had Elders from our community (and all the other communities), and we had our Environmental staff and a council or administrator attend. We offered free travel to these meetings to our community members.

- ◆ Tununak: January 4-6 2005

- ◆ Newtok: June 13-15, 2005
- ◆ Chefornek: August 3-5, 2005
- ◆ Toksook: January 11-14 2006
- ◆ Nightmute: 2007, exact date to be determined

When we hosted the meeting here, we had 20 community members attend, including 9 Elders.

Community Survey: We carried out a community survey on concerns and suggestions. The full results are included in the appendix. This survey was conducted in January 8-12 2007 by the IGAP staff. *(Note attach to the end of this plan all of the surveys or the summary sheet for the surveys). If you did not do a survey, and you do not plan on doing one, delete this section.*

The top concerns of our residents were: Garbage in the village, and Dumpsite.

The most common suggestions were: Hire a trash man to haul the trash to the dumpsite, and fix fence around the dumpsite and or clean out the dumpsite and haul its contents.

Council Meetings and Presentations: We held community Council meetings where we discussed solid waste issues and what our community wanted to do. We held these meetings each month from August 2005 to July 2006.

Environmentally Clean (Menuicaraq) June 2005 in Newtok. Nelson Island Consortium had guests from five (5) villages along with their Elders. Tununak, Nightmute, Toksook Bay, Chefornek and Umkumiut were here along with five (5) people from Anchorage. Lynn Zender, Simone Sebalo of Zender-Environmental, Tami Fordham of Region 10, Joseph Sarcone of Government EPA and Steve Sumida of Acting Assistant for AITC. Oscar Wassillie of Nelson Island Consortium Director for Chefornek asked the groups of elders on how they use to keep their surrounding (May it be the fish camps, old village sites) clean.

Mary Julia Carl, Cakiileq, of Toksook Bay Elder,

Our first ancestors used it, may it be within the village or anywhere in the tundra. They didn't have much of the trash to trash with. Just the animal bones or used grass that was used for beddings or floor matting. Whenever they wanted to change the old beddings or floor matting, they just gathered up the used grass and burn them in one place. As for animal bones, they would place them in the gunny sack. In the spring time, they'd throw the gunny sack into the lakes or ponds. They didn't have five (5) gallon plastic honey bucket containers. Only our Grandparents had one or two type gallon potty trainer containers. Our elders were much respected and totally important to us as well. Mr. Wassillie was very understandable when he talking about our past. Everything that we did have a reason, according to rules that has been passed on to us, especially from our unseen Universal Creator. In this belief, our ancestors honored the air, water and the land. Because of all three elements, we are still surviving. Without these three elements, we become nothing because of the human era. For this reason, we must keep our environmental area clean.

John White, Acuruunaq of Nightmute Elder

How are we going to live? How are we going to understand, going against each others and trying to understand? We should be getting started now. I never got to know both of my parents. People, who lived in Cakcaak from what I used to see, never had any trash to trash

with. There were lot of fishes and they were taken care with care, our mothers made sure our stomach won't go hungry. Ever since the white people appeared, the trash appeared; they even showed us how to live in this crazy world, which we are losing our identity slowly. Whatever the white people bring unknown products, they only bring in illness. Even if we go to the hospital, we are still dying of some kind of cancers. For crying out loud or gee whiz, we should start following how our late ancestors use to live. Our Universal Creator is watching us, he made this planet and it was clean when he gave it us.

Joseph John, Arnaucuaq, 69, Elder/Member of Newtok

As for the dried fishes that has been burnt by the sun, they became inedible, even the dogs won't eat them. So, it is better to bury them in the ground or even just burn them.

Late William Andy, Ungusraq, 76, Elder of Newtok

These people who have been talking are true but even if we tell our workers, they are still trying to make it work. Having only one worker just doesn't cut it. We will still telling them but it still won't work.

Mark Tom, Nuuyaraleq, Elder of Newtok

We, males should take our hats off during all the meeting to show respect just like if we are at the church since we do start the meeting with a pray. Even if I haven't attended all of the meeting, it is just like I have gone to all of them. Because I have heard these messages before, it still continues even up to this day. As we continue to go on living like this, we will stop seeing what we use to see. God is for real. When you look at the map of Alaska, you are looking at Subsistence Way of Life, Alaska. It should not be divided by the people of State of Alaska nor does Federal Department who thinks they are governing our daily live which in truthfully not true at all.

Oscar Wassillie, Uquviarlug of Chefornak Nelson Island Consortium Director

We came here to Newtok to talk about your fishing areas like Cakcaak or any known subsistence site rivers, any fish camps that looks trashy or getting trashed by the people who leaves their trash behind. Even if the campers dig a hole to burry them, the animals are still digging them out, that makes it messier. We are still going to keep telling the communities to bring in their trash into the village dumpsite for proper disposal.

Community Solid Waste Committee: A Committee was formed on June 1st, 2004. This committee is comprised of 5 members. They represent different parts of our community. Their job was to make sure that our plan fits our community and will work best for our community. Their concerns included:

- Find a solution to haul the trash from the bank of the river on the other side of the river.
- Find income to hire trash haulers.
- Make trash bins in the village and emptied by the trash hauler.
- Spring clean up set up, ask for donations and wages.
- Making sure what we plan is affordable for everyone.
- Having a good collection program so that residents do not need to visit the dump. This will protect their health and keep the dump cleaner and safer.

The committee meets about once a month. The following people served on our committee:

- Joseph John Sr. Council Member
- Dominic Charles, IGAP Director
- Margaret Nickerson, Nelson Island Consortium Representative
- Paul Carl, Elder
- Carol Kassaiuli, Youth Member

Community Education and Outreach Nelson Island fish net monitors and subsistence camp monitors speak to the hunters at our camps. They educate them about littering and toxic chemicals in the oil and gas. We learn from them what people are concerned about and what education they need. Our environmental staff, including our Nelson Island Consortium representative, went to homes to educate people about environmental issues. They talked to people at the stores. They also found out from our people what the big concerns were. This is what people are saying in our community that is related to solid waste management:

- Honey bucket dump is polluting our river
- When is our water for homes coming?
- Dumpsite is polluting our river
- Town is dirty.
- Too much plastic bags and litter on the tundra
- Need to move the old ATVs and snowmachines out of town
- People are not respectful and should be picking up their trash and bringing it to the dump.

Community Information for Solid Waste Planning

Current Community Population

We have 320 people living here now, including 7 school staff that leave during the summer. Additionally, we have about 1 people who leave for commercial fishing. On most days in the summer, about 50 people are camping overnight at fish camps. During Fall hunting, we have about 40 to 80 people out hunting overnight. During winter, about 20 to 50 people are gone from the village on most days for subsistence. The average number of people gone from the village for other reasons, like visiting, shopping, medical appointments on most days is about 3 to 5. About 3 to 5 visitors come and stay over in our village each day in the summer, and in the winter we have about 50 people each month for tournaments and gatherings. We usually have about 2 to 7 people each year who live here during summer for construction, and 0 to 3 people for winter projects. For about 4 to 6 weeks during Spring Breakup, and 4 to 6 weeks during Fall Freeze up, most people stay in the village due to dangerous boat and snow machine travel.

Average yearly community growth expected for next 20 years: 4.0% Open the "Growth Rate" file to read about how to estimate your community's population growth. If you have problems with this, ask us and we can help with the numbers.

Table: Project Population for the next 20 Years for the Community of *Newtok*

Year	Population
2006	320
2007	327
2008	334
2009	341
2010	348
2011	355
2012	363
2013	370
2014	377
2015	384
2016	391
2017	398
2018	405
2019	412
2020	419
2021	426
2022	433
2023	440
2024	447
2025	454
2026	461

(The above Table was made by estimating growth rate and calculating for each year. OR if you use the “discussion method” to estimate your population growth, you can write a sentence like this:)

We estimated our population would be about 355 people in 5 years, 461 people in ten years, 496 people in 15 years, and about 992 people in 20 years.

Growth Rate Calculation Process:

Our expected growth rate is based on the average growth rate we had in the past 3 years. In the future, we do not expect any development projects or changes in people moving in and out that would affect our rate. So we expect our growth rate to be about the same.

We had a meeting of our Council and discussed all the different factors that affect our population growth, including moving in and out, how many babies women are having, what development projects might bring in tourism or additional people, what subsistence would be like, how much housing there would be, etc. We looked at our past growth and how that has changed from these factors. We then reached agreement on the most likely future population.

4. DUMPSITE INFORMATION

The following table describes the primary features of our current dumpsite. There are additional tables in the next sections that detail the operation and maintenance, collection system, recycling, and waste burning.

Dumpsite Features

Feature	Description
Land Ownership	The land where the dumpsite is located is owned by the Newtok Traditional Council.
Dumpsite Location	The dumpsite is located on the other side of the river. It is east side of town.
Summer Dumpsite Access	The access is in poor condition. It is on other side of the river. People travel to the dump by boat in summer. People throw there trash along side of the river and when funding is available, Traditional Council hires people to haul the garbage to the dumpsite. The people just throw the bags on the ground, than the workers using the Honda with the trailer finishes the rest.
Winter Site Access	In winter, people travel to the dumpsite by snow machine. They enter the site from the South, East, and West. Even just throw it over the fence, and on the side.
Wind Direction	The wind blows from the dumpsite away from the village. We don't light up the dump when the wind is toward the village.
Site Size	The dumpsite is about 150'x150'. This excludes the windblown litter (i.e. plastic bags, paper). The windblown litter goes out about 1000 feet from the dump in most directions. There is also some dumping along the summer access path, beginning about 400 feet from the dump.
Site Shape?	The dumpsite is shaped like a long circle. Its width is about 150 feet, and it is about 150 feet long. About 75% of the dump area is covered by piled waste. The rest is ground, a pathway, or windblown litter. Where there is piled waste, the average depth is about 4 feet high.
Estimated Waste Volume (± 20%)	65,500 ft ³ or 2,500 cubic yards. <i>(When calculating the waste volume at dump, make sure all your numbers are in 'feet' before you start. Using the above numbers as an example: Volume in ft³ (cubic feet) is 150 wide x 150 length x 0.75 ground covered x 4 feet high = 67,500. To convert ft³ to cubic yards (= yd³), divide by 27. In the example, 67,500 ÷ 27 = 2,500)</i>
Estimated Waste Weight (± 30%)	2000 tons 2,500 x 400 = 1,000,000 / 2000 = 500.
Type of site management	Open dumping on surface.
Heavy Equipment used at Dump	We have a Honda 4 wheeler that is 3 years old, with a trailer about 5 yrs old. It is owned by the NTC. This Honda 4 wheeler with a trailer is used for one project in other side of the river.
How often wastes are covered	Zero times each year.
Operator/Technician Staff	We have 1 waste technician who works 8 hours each week. He works 4 hours a day for 2 days a week. His duties are: collecting garbage, trying to keep dump organized.
Burning wastes	We don't have a burn box, we burn our waste in the open(Open

Dumpsite Features

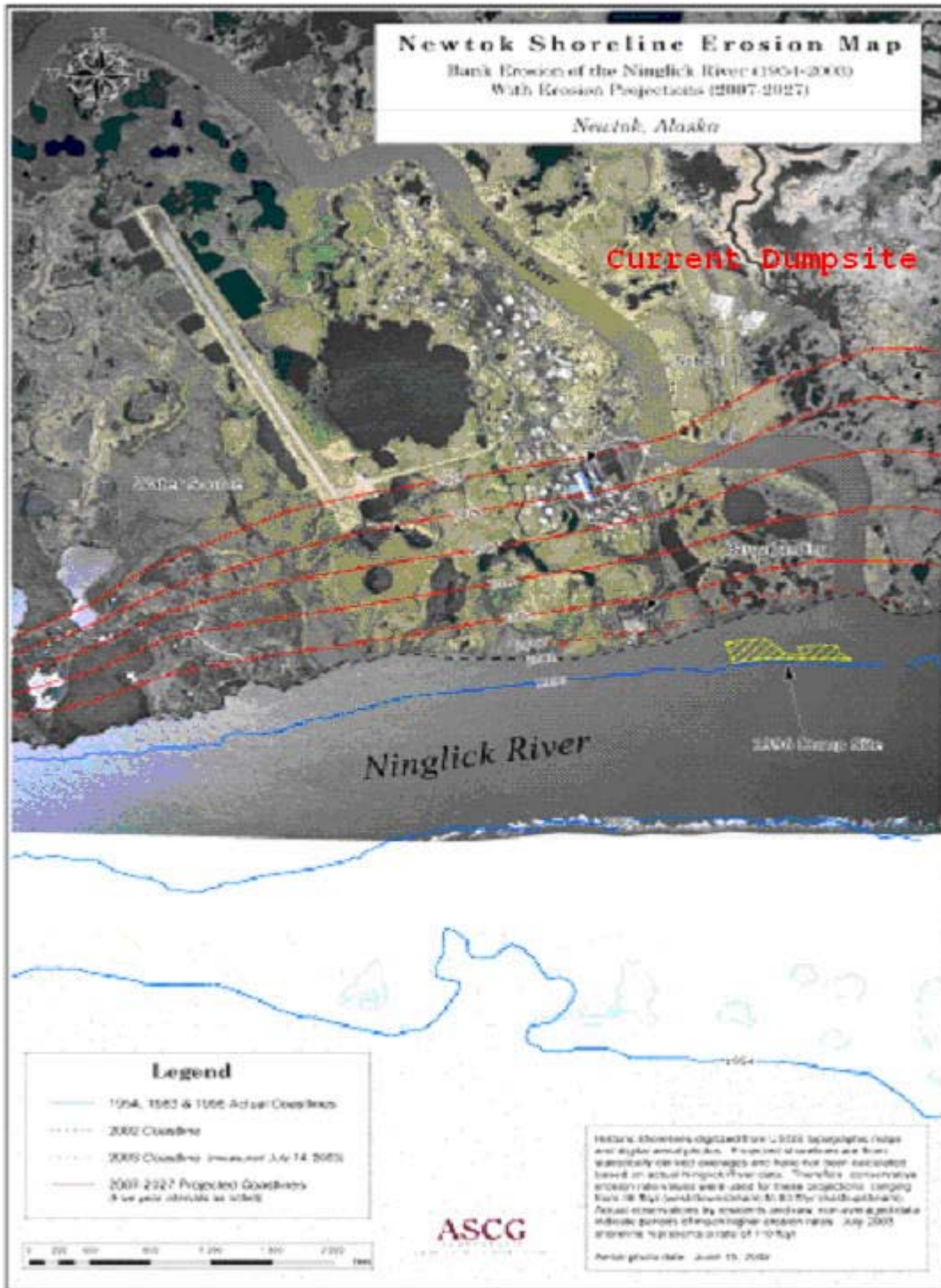
Feature	Description
	Dump Burning). Our local trash collector burns the trash. The wastes that are burned include all trash taken to the dump. This includes regular trash brought by households and regular trash brought by collection service, school, or businesses. Large items like drums, appliances, vehicles are not burned.
Salvage Pad/Area	An area of about 30 feet wide by 70 feet long is used by people to find usable items. It is located in the east side of the dump. The type of wastes here are vehicle parts, appliances, scrap metal, lumber, other wastes that people can use.
Recycling Shed/Area	A recycling shed is located in town, near the tribal office. People drop off the following items: Plastic containers of any types are being recycled, too. <i>(List wastes that are taken. Note a separate section on recycling is included below. This is just a summary.)</i>
Dumpsite Age	About 6 years old. The other dumpsite has been eroded away. Picture on page 15 and 16.
Fencing	The fencing at the dumpsite has fallen. It is like it isn't there anymore. All 4 sides has fallen down.
Types of Wastes that Are Now at the Dump	
Residential wastes:	Cardboard, paper, plastics, tin and aluminum cans, diapers, Styrofoam, old or broken household items like furniture, toys, clothes, rugs, appliances, dishes, glass, tires, ATV's, snow-machines (only the parts that are not salvaged), computers, TV's, small batteries, tires
School wastes:	Cardboard, computers, Styrofoam plates and cups, Cans, old equipment, paper, fluorescent lights
Store Wastes:	Cardboard, paper, fluorescent lights
Utility wastes:	Antifreeze, transformers, old equipment, used oil, batteries, fluorescent lights
Honey bucket Wastes	The honey buckets gets dumped into the river. Flushed haul tank system is in use as long as it does not break.
What goes into the burnbox that shouldn't:	A plastic, rubber, aerosol cans, batteries, foam, diapers, wastes with sealants and fire retardants, leftover cleaners and chemicals from almost empty bottles.

Dump site Photographs

The following pictures show the dumpsite and its key features.

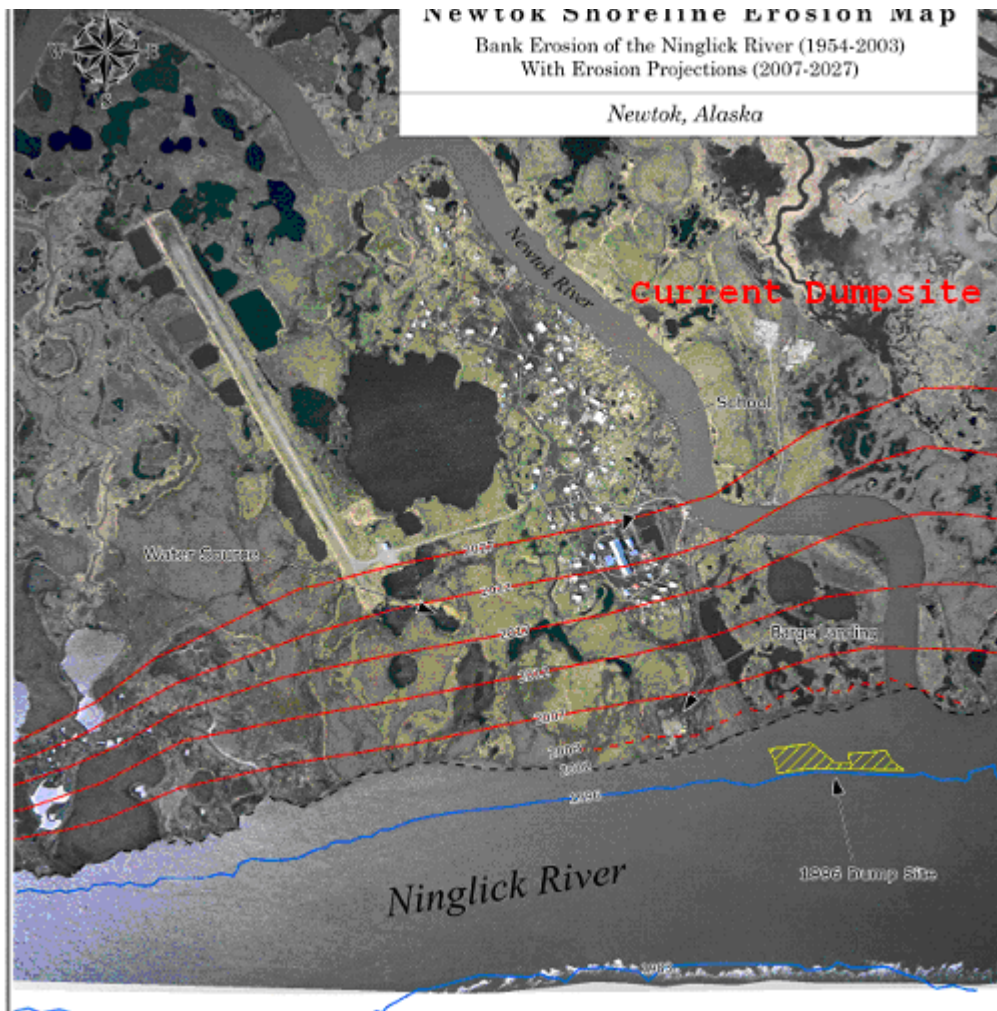
An old burn box that belongs to the school here in Newtok. Rarely used now.





www.commerce.state.ak.us/dca/planning/Newtok_Planning_Group_Webpage.htm

www.commerce.state.us/dca/planning.htm



www.commerce.state.ak.us/dca/planning/Newtok_Planning_Group_Webpage.htm

www.commerce.state.us/dca/planning.htm

Pages 13 & 14 shows where the old dumpsite (in yellow stripes) was before it was eroded away, and the current location of the current dumpsite. And the prediction of how much land will be eroded away in the near future (in red lines).



June 10, 1983



July 4, 1996

These photos show the extent of erosion over a thirteen-year period.

www.commerce.state.ak.us/dca/planning/Newtok_Planning_Group_Webpage.htm

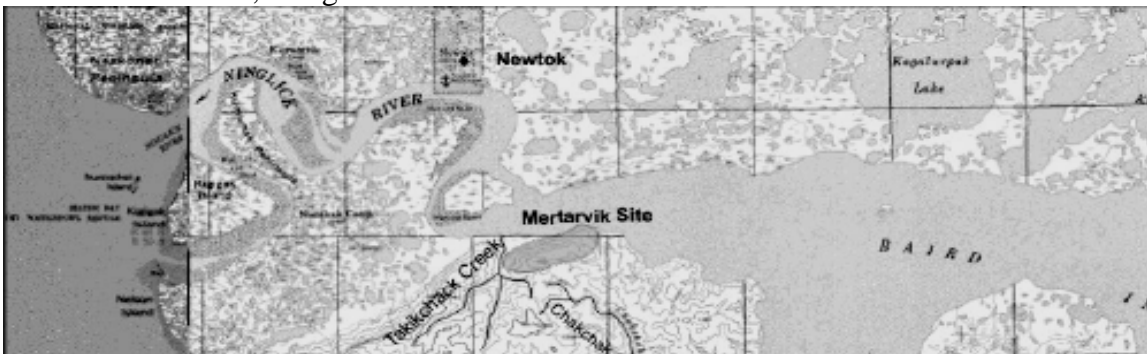
www.commerce.state.us/dca/planning.htm



http://www.dced.state.ak.us/dca/planning/pub/Newtok_Flood_Sept_22_05.pdf Flood over lay of Newtok.



During and after the flood in Newtok. Newtok will be relocating to the new site which will be called Mertarvik with in the next few years. Mertarvik I located North of Nelson Island in the northern Area. We will need to close the dumpsite, and move its contents to the new location, or have it back hauled, and get a burn box.



(Highlighted in circle is where the new location will be for the new village site.)
 (U.S. Army Corps of Engineers Alaska District: Newtok Environmental Baseline Data Studies)

5. CURRENT SOLID WASTE MANAGEMENT PROGRAM

Waste Collection Program:

Table for Waste Collection Program

Item	Description
Number of collection services, including any private services that an individual offers:	1
Operated by:	Newtok Traditional Council
Average of households that use the service each month	65
Total number of households in villages	65
Besides the fees collected, what other money is used to pay for the collection service?	Newtok doesn't have collection fees
How often garbage is collected from households by main collection service.	Two times per week

Sewage collection and disposal (Honeybucket and/or Flush/haul	
How are honey buckets disposed? (Bunkers, lagoon, slough, ponds, etc.)	Most honey buckets are usually dumped in the river. Sometimes during winter, people dump them closer to town, or they will dump them out at the river. Some people store their honey buckets alongside their house until they are able to borrow a vehicle.
Is there a collection service offered?	No.
What is the fee for honeybucket collection or bunker maintenance?	0.00
For Tank-haul, what is the fee for Tank-haul of water?	Newtok doesn't currently haul water to residents. They go to the local washeteria water point, and haul their own water.
Can people haul their own water to their holding tanks?	Yes.
About how many tank-hauls are purchased each month, total for the town?	We don't have holding tanks in the village. People have 33 gallon containers to hold their water in, and or collect rain water.
What is the fee for hauling the sewage/used water?	\$0.00
About how many flush hauls are paid for each month, total for the town?	3 houses only have a flush haul system, and they pay \$35.00 a month. And the honey bucket disposal do not pay fee

Site Operation and Maintenance:

Summary Table for Site Operation and Maintenance

Program Feature	Description
Operation Type	Basic monitoring by waste technician, occasional consolidation, burnbox, and some volunteer clean-up
Certifications or trainings?	Waste collector: HAZWOPER Waste operator: HAZWOPER, Freon Removal Environmental staff: ITEP Solid Waste Management, IGAP Grant Management, HAZWOPER
Available Local Cover Material for Dumpsite?	No, no gravel or silt source.
Cover material is not used, or not used very often, because:	We don't have the money to afford operating heavy equipment, and we can't operate the equipment during summer because it gets stuck, and it is hard to find cover material.
Heavy Equipment:	There is a Honda 4 wheeler, with a trailer across the river to haul the garbage to the dumpsite. And a boat to haul the trash to the other side of the river. And in the winter, the collector uses a snow machine to haul trash to the dumpsite.
Heavy Equipment Operation Limitations:	During the summer, the only time to haul trash over is only on the high tide. When its low tide, the river is all slushy mud. The 4 wheeler (Honda) is on the other side of the river, and is hard to drive it across the river to haul the garbage. And when the flood season comes, the flood scatters the garbage all over the tundra.
Heavy Equipment Uses (Past and Current Uses):	The 4 wheeler is used to haul the trash from along side of the river.
Heavy Equipment Seasonal Limitations	During the summer, they haul trash using the side walk which is like about 5 feet wide, and that is the only road system from along the side of the river to the dumpsite. In the winter, it is not used. We use snow machines during the winter, and when spring and ice break up season comes, we can't haul garbage period.
Equipment Storage:	None. Our 4 wheeler and the snow machine has to be stored outside.
Estimated Cost to repair heavy equipment needed for dumpsite:	Snow machine repair \$ 200.00, sled \$ 644.00 and labor. 4 wheeler parts, repair and oil----- unknown
Additional Waste Operation Information that is important	It is really the summer months that we need a waste operator the most. The dump gets very messy because it is difficult for people to dump their trash. People are gone for subsistence and we also run out of operator funds. In winter it is easier to access the dump and it doesn't smell as bad.

Table for Waste Burning Practices

Feature	Description
Is burning waste a normal way to manage some or all of your wastes?	Yes.
How many households burn waste in barrels in town?	Not many, depends on time of year. About 20.
What wastes do businesses burn in barrels that are in town?	Store(s): Cardboard Office(s): None School: None Clinic: Kleenex, Gauze, regular trash (no sharps) Electric Utility: used oil in a drum that looks like a barrel Water Utility: None Other: None
Is waste burned on the ground at the Dump? Who lights the fire?	Some times residents light the dump on fire. Maybe 1 or 2 times each summer. The school and clinic light their own wastes on fire in separate pile.

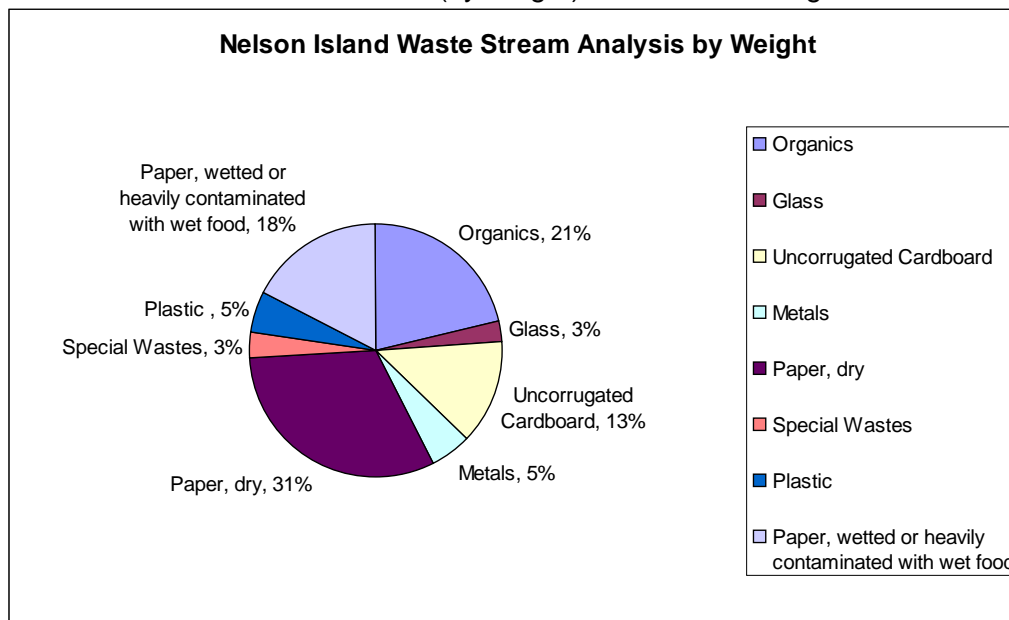
6. HOW MUCH WASTE IS GENERATED

As part of our Nelson Island Consortium project, we learned how to conduct a waste characterization in our communities at the ITEP workshop we sponsored along with the Toksook Consortium meeting in January 11-13, 2006. As a follow-up, an assessment was carried out in Chefnak with the help of a consultant, to generate good numbers for our region. Because of the general similarity of our lifestyles, there is a good justification to use the Chefnak waste stream numbers as being accurate for our village. The assessment was carried out in August 2006. The total waste generation rate found was 2.13 lbs/person/day which includes the following:

- Residential waste
- Business waste (based on comprehensive business waste assessment carried out in Chefnak)
- Diapers and other special wastes
- Estimated construction waste (Estimated 2% of residential waste)

The population of our community is 320 people so the approximate amount of waste generated by our community each year, using the results from the Chefnak waste assessment, is 248,784 lbs per year (or 124.392) tons per year).

A breakdown of the wastestream (by weight) is shown in the figure below.



We also did our own estimate of wastes generated in Newtok. Here's what we found.

65 houses and businesses in Newtok generate a bag a day averaging 10 lbs a bag=650lbs a bag a day for each household
 School generates 4 bags a day also at an average of 10 lbs a bag = 40lbs a bag a day, totaling 690lbs a bag a day for the Village of Newtok. X that by 365 days for a year at 251,850 lbs a year. Divide that by 2000 125.925 tons a year for the Village of Newtok.
 So from our own estimations, Newtok generates approximately 126 tons of trash per year which is quite similar to the amount estimated from the Cheforank assessment numbers.

Table on Estimating Special Waste Generation Rates and Storage Space Needed

Waste	About this many households have at least one of the waste/item:	Average number that households own that have the waste/item	Average number of years does the waste work before it is discarded	Total number generated each year	How many total of these wastes do businesses have	Total average number each yr discarded from business, schools, offices, utilities.	Total from households and businesses	Average Weight of Single Item in pounds (lbs)	Estimated Total weight generated	Estimated total weight each year that is not salvaged for parts or reused
Lead-acid batteries (this row is for the batteries in the vehicle, not the vehicle)	Boat: 94	1.5	2	25 (=50 x 1 ÷2)	1	0.5 (=1÷2)	26 (=25+1)	40 lbs	800 (=25 x 40)	800
	Atv's: 30	1	3	10 (=30 x 1 ÷3)	5	1.67 (=5÷3)	12	12 lbs	120 (=10 x 12)	120
	Sno-gos: 100	1.5	3	50 (=100 x 1.5 ÷ 3)	6	2	51	12 lbs	600 (=10*12)	600
	Car or Truck: 0	n/a	4	0	1	1	1	40 lbs	40 lbs (=1 x 40)	40 lbs
Aluminum skiff (exc. engine):	30	1	8	3.75 (=30x1÷8)	1	0.12 (=1÷8)	3.87 (3.75+0.12)	1000 lbs	3,870 lbs	3,870 lbs
Other boats (with engine):	20	1	20	1 (=20x1 ÷20)	0	0	20	2000 lbs	2000 lbs	2000 lbs
Atv's:	30	1	5	6 (=30 x1 ÷5)	5	1 (=5÷1)	6 (=5+1)	800 lbs	4,800 lbs (=6 x 800)	3,500 lbs
Sno-gos:	100	1.5	5	30 (= 100 x 1.5 ÷5)	5	1	31	1000 lbs	31,000 lbs	20,000 lbs
Car or Truck: 0	0	0	20		1	0.05	0.05	2000 lbs	100 lbs	95 lbs

Waste	About this many households have at least one of the waste/item:	Average number that households own that have the waste/item	Average number of years does the waste work before it is discarded	Total number generated each year	How many total of these wastes do businesses have	Total average number each yr discarded from business, schools, offices, utilities.	Total from households and businesses	Average Weight of Single Item in pounds (lbs)	Estimated Total weight generated	Estimated total weight each year that is not salvaged for parts or reused
Heavy Equipment	N/A	N/A	20	N/A	1	0.05	0.05	10,000 lbs	500 lbs	500 lbs
Refrigerators and freezers	100	2 (1 fridge and 1 freezer)	20	10 (=100 x 2 ÷ 20)	20 from stores	1 (=20 ÷ 20)	11	250 lbs	2750 lb	2750 lb
Stoves, Washers, Dryers	65	2.1	20	6.825	10	0.5	7.325	200 lb	1465 lb	1450lb
Office fluorescent lights	65	N/A	1.5	N/A	6	12 4 ft tubes (count 8 ft tubes as 2 4 ft tubes)	12 (3 ÷ 1.5)	2 ft tube=0.7 lb	1.4 lb	1.4 lb

Important Wastes with different estimation methods

Disposable Diapers	Number of babies in village that use disposable diapers: 23	Number of diapers each day for each baby: 6	Number of diapers each day: 138 (=23 x 6)	Number of diapers each year: 50,370(=150 x 365)		N/A	50,370 total from households and businesses.	Average weight of full diaper = 0.4 lb	Total Weight: 20,148 lb (=0.4 x 54,750)	
Used oil from vehicles (household and businesses)	Number of households that have vehicles that use oil: 65	Average number of vehicles per household (boats, atvs snowmachines): 2.5	How often old oil is drained on purpose and new oil put in: 2 times each year for each vehicle	Average number of quarts that are drained per vehicle: 2	Number of quarts drained each year by houses: = 650 (=100 x 2.5 x 1 x 3)	Total number of vehicles for businesses = 11	Average number of times per year that old oil is drained per vehicle = 1	Average number of quarts that are drained per vehicle: 1	Number of quarts per drained per year businesses: 11 (=13 x 2 x 3)	Total quarts each year that are drained: 661 (=750+78)
Antifreeze (from vehicles)	Number of households that have vehicles that use antifreeze: 10	Average number of vehicles per household (boats, atvs snowmachines): 1.5	How often old oil is drained on purpose and new oil put in: 1 times each year for each vehicle	Average number of quarts that are drained per vehicle: 2	Number of quarts drained each year by houses: = 30 (=100 x 2.5 x 1 x 3)	Total number of vehicles for businesses = 13	Average number of times per year that old oil is drained per vehicle = 2	Average number of quarts that are drained per vehicle:1	Number of quarts drained per year for businesses: 1 (=13 x 2 x 3)	Total quarts each year that are drained: 31 (=750+78)

Recyclable Waste.

Recyclable	How Many pieces the stores and business order each year:	About how many households bring in or order their pop cans directly:	Average number of cans each households bring in each year:	Total posted or brought in from households each year	Number posted or directly shipped to businesses other than stores (e.g. school):	Total estimated number:	Total pounds per year:	Total potential revenue per year:
Aluminum Cans (<i>not cases</i>)	Store 1: 112,320 Store 2:122,400 (Note 24 cans per flat case. So if the store orders 200 cases per month on average, then that is 200 x 24 = 4,800 cans per month, or 57,600 per year)	None (Just estimate what you think)	None	None	(Example :) School: Cases for school year 200 cases for 4800 Tribal Office. 4,800 (54cases*24 cans = 1296)	244,320 (112,320+122,400+4,800)=239,520)	8,144 lbs (to get pound of cans, divide by 30)	\$1,628.80 (Multiply pounds by the price that Bethel Recycling pays. In the example, 20 cents per pound was used, so 7440 cans x 0.20 dollars = \$1488.
Plastic Bottles	Store 1: 7,200 School: 2,400	None	None	None	None	9,600	768 Multiply number of bottles by 0.08 to get approximate pounds	\$0
Styrofoam	Stores 1&2: 0 Stores 1 & 2 are not ordering Styrofoam cups plates anymore.	None	None	None	UPC one box of cups year:1,000 cups School 0 The school has stopped		20 (Multiply number of pieces (cups, plates, packing, etc	\$0

					ordering Styrofoam as cups and plates.		by 0.02 to get approximate pounds. With Styrofoam peanuts, 1 gal = 0.14 lb)	
Cardboard (Corrugated boxes)	Used at households and steambaths	None	None	None	None	None	0 (Multiply number of boxes by 2 to get approximate number of pounds)	\$0 (unless we get a baler and ship for free to Seattle, or until Bethel Recycling pays for cardboard)

7. RECYCLING AND REUSE PROGRAM

Elders have always recycled and their grandmothers and grandfathers did and their grandmothers and grandfathers did. This was something that everyone in the community did. Then around the 1960s and 1970s people starting making a lot of trash that came from the stores and Bethel. We did not have a way to recycle all the new wastes. Elders say we got lazy and wasted things because these things were new to us. Now there are ways to recycle some of these wastes and we have started following our Elders' advice about not wasting. We also know that many of these wastes are harmful to us, so we are trying to reduce our use and also to keep them out of our dump and our camps. Our first recycling waste was aluminum cans in 2003. Now we are collecting lead-acid batteries and household batteries and plastic bottles. We got a recycling shed in 2005 to store these recyclables. We are educating the community about why it is important to drop-off their batteries. We are trying to reduce the use of plastic bags, the stores here have stopped ordering plastic shopping bags and is now using paper shopping bags.

Table for Wastes that are currently collected or dropped-off for recycling, backhaul, storage, or reuse programs

Waste	How collected or separated?	What for?	Where it is stored?	Is it shipped out? How often?	Who takes it?	Where does it go to?
Aluminum cans:	Dropped off at the Tribal office	To reduce the amount of garbage that goes into the dumpsite.	The Traditional Council holds the bags and the ship them on an availability of the flights.	About 2 or 3 times a month.	Grant Air. Or Hageland Air	Bethel Recycling Contact #: 543-7072 Contact: David Stovner
Plastic Bottles:	Dropped off at the Tribal Office.	To reduce the amount of garbage that goes into the dumpsite	The Tribal Office holds the bags and ships them out on a availability of the flights	2 or 3 times a month	Grant Air Or Hageland Air	Bethel Recycling Contact #: 543-7072 Contact: David Stovner
Newspapers:	Dropped off at the Tribal Office	To reduce the amount of garbage that goes into the dumpsite	The Tribal Office Holds the Newspapers and ships them on space availability of planes	Once every 2-3 months	Grant Air or Hageland Air	Bethel Recycling Contact #: 543-7072 Contact: David Stovner
Cardboard:	Reused by households a lot.	Cardboard logs, used by homes for cutting boards and tables.	N/A	N/A	N/A	N/A
Paper:	Not part of the program	N/A	N/A	N/A	N/A	N/A
Ink jet cartridges	Dropped of at Newtok	To reduce the	Tribal Office	Once every 2-	Grant Air or	Bethel

	Traditional Council	amount of garbage that goes into the dumpsite		3 months	Hageland Air	Recycling Contact #: 543-7072 Contact: David Stovner
Plastic Bags:	Not part of the program	N/A	N/A	N/A	N/A	N/A
Glass:	Not part of the program	N/A	N/A	N/A	N/A	N/A
Styrofoam:	Not part of the program	N/A	N/A	N/A	N/A	N/A
Food Wastes:	N/A	Fed to dogs	Residence	N/A	N/A	N/A
Furniture, Clothes, toys, other useful items	Not part of the program	N/A	N/A	N/A	N/A	N/A
Household (small) batteries	Dropped of at Newtok Traditional Council	To be recycled	The Tribal Office holds them.			
Lead-acid (Vehicle) batteries	Dropped of at the Newtok Traditional Council	To be shipped out in totes	The Traditional Council holds the Led-acid batteries.			
Used oil	Not yet					
Antifreeze	Nothing yet					
Vehicle fluids that are not oil	Nothing yet					
Computers	Store in shed, school stores theirs					
T.V.s	Dropped off at T.C.					
Other electronics	Dropped off at T.C.					
Fluorescent lights	Not part of the program yet					
55-gal drums	Not part of the program yet					
Scrap copper (e.g. pipes	Not part of the program yet					
Scrap Aluminum	Nothing yet					

(boats, etc.)						
Junk vehicles	Store at dump salvage area	Backhaul in future	Across the river			
Junk appliances	Store at dump salvage area	Backhaul in future				
Freon from appliances	Freon certified remover handles them.	Backhaul in the future	Shed outside Tribal Office			
Unused hazardous materials like paints, cleaners, degreasers, lube oil, disinfectants, sprays, mosquito repellents, insect killers, mold removal, weed killers	Dropped off at the Tribal Office					

Table for Recycling Equipment:

Item	Description	Own Now?	Will purchase in next year with existing funds	Want to have in next 5 years	Plan later than 5 years when we are ready or have the need for it.
Recycling Shed to store wastes for later backhaul?	We don't have a shed to store our products, but we ship them out as soon as we can.	Yes	N/A	N/A	N/A
Storage bags for Aluminum Cans	ALPAR green bags	Yes	N/A	N/A	N/A
Connex or Shed to store hazardous wastes for safety	To store hazardous wastes	yes	n/a	n/a	n/a

Recycling Management Program

Item	Where can people drop off their wastes?	Who is in charge of this program?	Where do we plan to have drop-offs?	What is the priority for increasing recycling or starting it? (1 = highest, 2 = medium concern, 3 = lower concern)
Newspapers	We don't recycle these anymore			1
Plastic bags	We don't recycle these yet			1
Used oil	UPC Shed			1
Household Batteries	Tribal Office			1
Aluminum can recycling	Over at the Tribal office.	IGAP Staff		2
Plastic Bottles	Tribal Office			2
Vehicle Batteries	Tribal Office			2
Computers, TV's	Tribal Office			2
Printer cartridges	Tribal Office			2
Cardboard	We encourage people to reuse for cutting boards and to roll as logs			3

Recycling Revenue and Payments

We make about \$75.00 from recycling cans in one year. We use this money to help pay for waste collection. We estimated that we can make almost \$1500, so we want to increase our education our aluminum can recycling.

8. HAZARDOUS WASTES

Table for Hazardous Wastes and Some Reasons Why They Harm Our Community

Waste	Where/how it is disposed now	Why it is harmful
Medical Wastes	Disposal needles and Expired medicine shipped to Bethel Y.K.H.C. Other medical waste is burned by the clinic operator.	Diseases from medical waste can be spread by contact with soiled bandages, sharps etc.
Disposable Diapers	It always ends up in the trash bag, into the dump site or along the sidewalks to be looked at.	Has a lot of germs from the poop that people can step on and track back to homes. If burned, there are many chemicals which are irritants if they are breathed and can cause illnesses if they are at a high level.
Plastic bottles, PVC pipes, and Styrofoam	Most of it is burned with the household trash.	Causes styrene, benzene, dioxins and furans and hurts to ozone which can cause climate change. Smelling a lot of the smoke or eating the settled ashes over a long time might cause illnesses and each chemical attacks different parts of the body within, including cancer. This is why operator must always wear a mask and burning should not be done if wind blows into town all the time.
Household (small) batteries	The Villagers bring them to NTC	
Lead-acid (Vehicle) batteries	The Villagers bring them to NTC	
Used oil	It is stored in a UPC's shed in 5 gallon. They burn the oil using oil burners when the wind is not blowing towards the village, only way from the village.	Petroleum can cause cancer to people as well as the animals.
Antifreeze	None yet	
Vehicle fluids that are not oil		Transmit ion oil, hydrologic
Computers	To the dump site	It has benzene
TV's	To the dump site	Benzene, mercury, and lead
Other electronics	Into the dump site	E-waste
Fluorescent lights	Sent to recycle center	It has mercury

Table for Hazardous Waste Recycling and Staging for future backhaul

Item/Task	Do we have this?	Who operates it? Who is in charge? Where is it?	Do we want this in the next five years? What are the details of what we want?	What is priority to get or improve? <i>(1 = highest, 2 = medium, 3 = lowest)</i>
Place for people to drop-off?	Yes	NTC, JJJr, Storage		2
Used Oil Burner? Who operates?	No	No, Might get one later		1
Totes for storage of lead-acid batteries?	Yes	DC, RC, By NTC	6 more totes	1
Antifreeze Recycler?	Yes		Not enough made. We are going to switch to propylene glycol instead. This is safer for the environment	1
Freon Removal?	Yes	Certified removal person in Newtok, with equipment. They are the least costly way to remove freon, and NI communities receive a discount. Joseph John Jr. is certified to do this.	We will see whether our own freon removal equipment will make sense later on. We don't make very much freon, so it is cheaper now to have Newtok remove it.	2
Connex for storage and eventual backhaul?	Yes	DC, PC, RC, JJJR, by the Bay where the land is eroding		2
HAZWOPER Certified Technicians	Yes	There are at least 10 people	To make a plan for the village	1
Spill Response Kit	no	This needs to be implemented into a plan	To make a plan for the village	1
Hazardous Waste Plan, including operational steps	no	This needs to be implemented into a plan	To make a plan for the village	1
Clinic Medical Waste Plan	No	This needs to be implemented into a plan	To make a plan for the village	1

Table of Entities in the Community and what Types of Hazardous Wastes They Produce

Annual hazardous waste generation, storage, and disposal in Newtok, estimated from a Summer 2006 waste survey.

Generator	Hazardous materials reported	Maximum amount used or stored yearly	Comments
Newtok Native Corp. Tom's Store	Motor oil	Motor oil: 1055 gal/yr Motor oil: 120 gal/yr	
Clinic	Medical waste		Needles and expired medicines sent to Bethel.
School	Oil, antifreeze	Motor oil: 275 gal/yr Antifreeze: 108 gal/yr	
Ungisraq Power Company	Oil	Oil: 110 gal 55 gal. used	Oil is ordered semi-annually.
Tank Owners (Number of tanks and capacity of each):		School 7 @ 81,500 gals.; Newtok Native Corp 7 @ 45,000. National Guard 2 @ 3000; Tom's Store 4 @ 27,000 gal UPC 6 @ 60,000, Traditional Council @ 410 gal.	
Observed hazardous material drums (55-gal)		<i>By School:</i> 410 gal. waste oil, propylene glycol 165 gal., chlorine 28 gal., perma-treat (resin cleaner) 10 gal., Propane 11 cylinders, 11 drums unknown	
Other Hazardous materials	Blazo (white gas) Polymer Chlorine	Newtok Native Corp: 180 gallons Toms Store: 60 gallons School: 10 gallons Newtok T.C: 15 gallons School: 28 gallons Newtok T.C.: 30 gallons	

9. NELSON ISLAND CONSORTIUM DEMONSTRATION PROJECT

What was the demonstration project (or projects) carried out?

To clean up around and inside the dumpsite to make room and organize the area (Volunteers by men with snow machines with sleds) before the spring clean up by the youth. We only paid for the gas and motor oil. Two men started on this and at the end there were about men working together. Summer youth clean up 2 supervisors and youths to pick up trash in the village.

Here's our numbers for amount of trash cleaned up: Youth clean up, outside waste for one year: 1,181 bags from youth clean up on June 8-26 of 2006 at 10 lbs per bag $1,181 \times 10 \text{ lbs} = 11,810 \text{ lbs}$ / by 2000 = 5.905 tons from the outside youth clean up.

Why was the project chosen? What were the concerns that were being addressed?

To make room for trash that is coming. To messy and it was easier to clean up before the hard snow melted, plus access to the dumpsite before the river melted. When the snow melts, trash is visible, makes the village look messy.

What was the specific situation before the project was carried out? There was a lot that was trash that was drifted way from the seasonal flood which spread all over the tundra and along the river side. You could see trash along the side of the river with you naked eyes lined up. The youth clean up pick up approximately 600 ALPAR bags of trash for the Village of Newtok

What was learned from the project?

Be responsible of our own land. Let others know we do appreciate and do care for our land. The big factor was to keep stream water clean of any contaminates.

What could be done differently the next time it's carried out?

Haul the trash at the drop off site, which is along the river bank, across the river right way and not leave it laying there.

What was learned about how to sustain our situation, so we don't have to spend as much money next time?

Not to leave the trash along the river, bring in residences own trash up to the dumpsite and dispose it properly.

If there are photos of the demonstration project being carried out (or before or after photos) include them here.

Photos of the youth clean up. Figures 1 and 2. (No photos for across the river clean up. Photos lost)



Figure 1

Figure 2



10. OLD/CLOSED DUMPSITES

The old dump site was eroded way by the erosion from the Ningliq River. As you can see on page 17 photo, you can see how much land has eroded ways. Pages 15 and 16 shows photos where the old dumpsite was located, and the current dumpsite where it is currently located.

11. ADDITIONAL SOLID WASTE CONCERNS FOR SUBSISTENCE

Table 1 Prioritization Of Our Action Items

Activity/Waste to handle	How do we want to handle? What to do? Any comments	Values (1-5)	Reduce Health Risk (Direct) (1-5)	Reduce Environmental Risk (1-5)	Reduce Specific Subsistence Activity Risk (1-5)	Reduce Dump size/volume (1-5)	Low Cost (1-5)	Ease of doing (\$, effort etc.) (1-5)	Total
Get rid of cardboard to because dump gets filled up	Burn box	1	2	1	1	1	4 (depends)	4	14
Clean up the dumpsite	Hire staff, get equipment	1	1	2	2	1	5	4	16
Re-organize dumpsite to separate wastes	Cleanup project to have salvage yard and separate pet carcasses and clear access	2	1	2	3	3	4	4	19
Recycle cans	Alpar	4	0	0	5	4	4	4	21
Ban Plastic Bags	Education, working with stores	4	5	5	4	4 (windblown outer area only)	1	2	25
Backhaul junk old snow machines and 4 wheelers scrap metal	Backhaul on summer barge	2	1	1	1	2	5	5	17
Make a good access	Rebuild access and turnaround so people don't contact wastes	2	2	3	2	3	3	2	17
Get people to stop littering at camps	education	4	3	3	3	0	5	4	22

Table 1 Prioritization Of Our Action Items

Activity/Waste to handle	How do we want to handle? What to do? Any comments	Values (1-5)	Reduce Health Risk (Direct) (1-5)	Reduce Environmental Risk (1-5)	Reduce Specific Subsistence Activity Risk (1-5)	Reduce Dump size/volume (1-5)	Low Cost (1-5)	Ease of doing (\$, effort etc.) (1-5)	Total
Have people stop changing oil, batteries, being careful with chainsaws at ice holes	Education	3	2	0	5	2	5	5	21
Relocate dumpsite	Transfer all items to the new site where the village is locating	1	2	2	2	1	5	5	18

12. REVENUE AND COSTS FOR SHORT TERM AND LONG TERM SOLID WASTE PRACTICES

Future and Current Annual Operation and Maintenance (O&M) Costs for Solid Waste

Annual cost in the future: Annual cost now

Item	Unit Cost	Units	Quantity	Annual Cost
Solid Waste Operator 15 hr/week, \$16/hr, inc. fringe, insurance etc.	\$16.00	hour	780 (15x52=780)	\$11,700 (16x780=11,700)
Fuel for boat, atv, snow machine, equipment operation at site, 5 gallons per week	\$4.86	gallon	260 (5x52=260)	\$1263.60 (4.86x260=1263.60)
Equipment repair and replacement expense (running equipment 2 hrs/week)	\$20	hour	104 (2*52=104)	\$2080 (20x104=2080)
Training (optional – depends on need and experience of operator)	\$1,500	Lump sum	2	\$3,000
Supplies (safety gear, office supplies)	\$500	Lump sum	1	\$500
Total annual O & M expense				\$18,543.60

Item	Unit Cost	Units	Quantity	Annual Cost
Solid Waste Operator 6 hr/week, \$12/hr, inc. fringe, insurance etc.	\$12	hour	72 (6x12=72)	\$864 (12x72=864)
Fuel for boat, atv, snow machine, equipment operation at site, 5 gallons per	\$4.86	gallon	260 (5x52=260)	\$1,263.60 (6x208=1248)
Equipment repair and replacement expense (running equipment 2 hrs/week)	\$20	hour	104 (2*52=104)	\$2080 (20x104=2080)
Training	\$1,500	Lump sum	1	\$1,500
Supplies (safety gear, office supplies)	\$500	Lump sum	1	\$500
Total annual O & M expense				\$6207.60

Current Annual Revenues for Solid Waste

Item	Annual Revenue
EPA IGAP funds	\$6,501.00
Revenues from recycling aluminum cans	\$75
OTHER REVENUES???	
Total annual revenues for solid waste	\$6,576.00

Future Annual Revenues for Solid Waste

Item	Annual Revenue
Household fee 65 households @ \$10 per month	\$7,800 (54*10*12=7,800)
EPA IGAP funds	\$12,501
Revenues from recycling aluminum cans	\$75.00
Total annual revenues for solid waste	\$20,376

13 NEEDS FOR SOLID WASTE IMPROVEMENT

Table of Needs for Solid/Hazardous Waste Improvement

Item	What it would be used for	Why it's important for the community	Approximate Cost	Ideas for how to obtain it (grants, funding sources etc.)	Realistic timeframe for obtaining it	What is the priority for this item? (1 = critical, 2 = high, 3 = medium)
Burnbox	To burn trash to reduce waste volume	The burn box will help improve our dumpsite and reduce risks to people visiting the dump	\$20,000 plus \$12,000 for shipping for a Tok Welding Burn box	Denali Commission 2007/08 grant. Open dump grant.	Within 1 year	1
Safety gear	To protect the dump operator when working with wastes	Will keep our worker healthy and keep working				2
Dozer	To improve dump maintenance	The dozer will help us improve our dumpsite and reduce contact of wastes at the dump	We want to buy a good used dozer so the costs are less.	Open dump grant	2008	2
Fencing	To prevent trash from being blown away by the wind, and the public to enter the dumpsite from one area.	Trash has been blown into the village when the wind blows towards the village. And the fence will prevent the from happening		Solid waste grant	2008	2
Freon removal equipment	To safely remove Freon from appliances and ship it out for recycling	Reduce the amount of Freon that will hurt the ozone		Hazardous waste grant		2
Vehicle fluid draining pumps	To drain fluids (brake, fuel, antifreeze etc.) from vehicles so the vehicles can be shipped out and recycled as scrap metal	To reduce the amount of used vehicles in the dumpsite		Solid Waste Grant		2

Item	What it would be used for	Why it's important for the community	Approximate Cost	Ideas for how to obtain it (grants, funding sources etc.)	Realistic timeframe for obtaining it	What is the priority for this item? (1 = critical, 2 = high, 3 = medium)
Drum crusher	To reduce the volume of empty 55-gal drums	To make more space in the dumpsite		Solid Waste Grant		2
Oil filter crusher	To crush and drain oil filters for recycling	Now that 4 strokes are getting abundant, this project will help reduce the amount of oil filters that are in the village.		IGAP Gant	2008	2
Parts for fixing heavy	To get the equipment up and running again	Will keep the momentum running for cleaning up		IGAP Grant		3
WOTEC (used oil blender)	To filter used oil into new oil that can be used by our community	Hi prices on stove oil, and used oil can reuse to replace stove oil		IGAP Grants		3
Used oil burner	To burn used oil for heat	Reduce the amount of oil in the village		IGAP Grants		3
ALPAR bags for community litter cleanup	Free bags (shipping not included) for community cleanups	To help reduce the amount of garbage that goes into the dumpsite, and little bit of income.	Just the shipping and handling, which is about 10.00	n/a		3
Totes	To store and ship batteries	Will help reduce the amount of lead from entering our water and land		IGAP funds		Received

Item	What it would be used for	Why it's important for the community	Approximate Cost	Ideas for how to obtain it (grants, funding sources etc.)	Realistic timeframe for obtaining it	What is the priority for this item? (1 = critical, 2 = high, 3 = medium)
Connex	To store hazardous wastes and recyclables	Will help reduce the amount of hazardous chemicals getting into our land and water and protect subsistence		IGAP funds		Received
Trash cart	For operator to collect trash from households	To haul trash over to the dumpsite	Estimate 700.00	IGAP grant		Received
Engineering design for new landfill	A layout for the new dumpsite in the new village site	To have an idea to where the dumpsite will be located.				3
Dumpsters	To put around the community to store trash			Using an old wooden boat cut into pieces and scattered around the village		Received

14. NEW COMMUNITY SOLID WASTE GUIDANCE FOR PROTECTING HEALTH AND SUBSISTENCE

These rules are based on the Elders' Guidance on protecting our subsistence and respecting each other and keeping healthy. Please see Section 2 for a full list of Elders' guidance.

Using our Elder's wisdom about what we should do, we researched the best ways to change community practices so that we can follow Elders' words. We used our own experiences in the past two years to see what will work best for our community. We worked with other Nelson Island communities, and learned from them what works well too.

In Town

Set up dump drop off sites and have them collected by a trash hauler

At Dump

Have a responsible person bring their trash over to the dumpsite and put them inside the dumping area.

Subsistence Camps

Bring home the trash, and throw the garbage in the dumpsite.

All Places:

The school will no longer order Styrofoam. They will be ordering all paper and plastic products instead for breakfast and lunch. They are now using plastic plates for breakfast and lunch. The stores don't order Styrofoam at all. They've been doing that for a year now. Plastic shopping bags aren't used as well. Paper bags are now used instead.

“DEMONSTRATION OF APPROVAL LETTER”



Newtok Traditional Council
IGAP Environmental
Box 5545
Newtok Alaska 99559
Work: 907-237-2320 Fax: 907-237-2321



Date April 09, 2007

The Solid Waste Management Plan developed by the Native Village of Newtok Environmental Department in April 2007 has been reviewed by the community and approved by the Native Village of Newtok Tribal Council.

Council President

Date

Tribal Administrator

Date