

**Integrated Solid Waste Plan
for the Community of Nightmute**

September 2006

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Compiled by:

**Noah Lawrence, NIC Rep
Christopher George, NTC Secretary**

Additional Yup'ik and English Translations:

Jimmy George
Christopher George
Noah Lawrence
Dick Anthony
Ella Tulik
John George
Ferdinand Matthias
Ignace Matthias

Additional Special Acknowledgements:

We would like to thank the Elders in our community for their valuable words of guidance. We would like to thank Jimmy George and Ferdinand Matthias and some time for Christopher with helping is workers. For their commitment in getting the community together and addressing the problem of the dumpsite getting out of control. Jimmy George and Ferdinand Matthias have been very helpful in their work and also in helping our youth with aluminum can recycle. The Elders, in our community has helped the community greatly by addressing the importance of keeping the environment contamination free and teaching the community to respect their land. Our Waste technicians, Jimmy George and Ferdinand Matthias, help protect the land subsistence by keeping our garbage organized at the dump.

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1. INTRODUCTION

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: http://www.commerce.state.ak.us/dca/commdb/CF_CIS.htm).

Demographics and Utilities: The number of residents is 350. There is a clinic, a school, a Tribal and City Office, three stores, an electrical generator plant, and a water treatment plant. Treated water can be obtained from 1 watering point. However, most residents obtain their drinking water from the East and West end watering points. The watering point at the East end of the village is treated. The watering point at the West end of the village is not treated and constantly flowing year round. There are 41 houses, with 41 connected to tank haul/flush units, and some people use honey bucket due to reasons related to maintenance and accessibility. The school and the teacher-housing unit have its own sewage lagoon and are piped. The community sewage lagoon is on the south part of town, which the water drains into the river. This creates a health hazardous situation both to the community and the natural resources we depend on, because we get four different species of salmon, pike, white fish, and lush fish.

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:

Long ago the people used to have trash box at the end of village for the other end of village and the other one for the other end of village and if the boxes are full the people work together to empty out the boxes, by dumping the trash to one area like the one call today a dumpsite. The bone/waste of food are also collected differently at the house(s) when there is enough they would bring them to where no man has stepped on in the pond or the lake, although it might be kind of far from the village. When the trash first start coming to village the trash was either burned right away and or buried to the ground.

The elders used to tell people to help each other and try not make too much trash all over the ground and respect the land and not to move anything out at tundra which belongs to someone because they will think about it when they go to that area. The elders still use and respect the traditional way of life, they never seem to be confused or felt lost of their environment. They teach us and want us to keep on using the cultures and values today. Over the years the elders have seen change and learned to accept the changes but one thing will never be taken away. That way is the Traditional way of living. This wisdom of knowledge is passed on through many generations. They teach us to respect the environment and the resources that we depend on so much. If we do not respect the environment we will lose the resources. What they mean is if we are not careful to keep the environment free from contaminants the fish plants and animals that we harvest for subsistence will no longer be plentiful, will gradually decrease and eventually be gone.

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**
- ◆ **Chefornak: August 3-5, 2005**
- ◆ **Toksook: January 11-14 2006**
- ◆ **Nightmute: ****

When we hosted the meeting here, we had 12 community members attend, including 5 Elders.

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.

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:

- Reducing health risks from the dumpsite when people visit or smell the smoke.
- Removing wastes from the dump that can be hazardous.
- Not allow construction project wastes at the dump unless it is approved by the community.
- Reducing subsistence risks from what comes out of the dumpsite when it floods or the wastes burn.
- 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.
- Reducing all our wastes and recycling and reusing all our wastes as much as we can. These are values that our Elders taught us.

The committee meets **about every 6 weeks**. The following people served on our committee:

- **Joe John, Council Member**
- **Henry Francis, IGAP Director**
- **Anna James, Nelson Island Consortium Representative**
- **Rose George, Elder**
- **Jimmy Wassile, Youth**
- **George John, Village Corporation and Store**
- **Joseph James, School Board**
- **Molly George, City Manager**

School Presentations: Our **Environmental Staff** met with the school classes and teachers. They educated the youth about:

- Hazardous wastes
- Recycling
- Being careful at the dump
- How the contaminants from the dump can get into our waters

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:

- Honeybucket dump is polluting our river and people are getting sick
- 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.
- People do not listen to Elders. If they listened to Elders, we would not have this trash all over.

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 the native allotment owned by Ms. Ella Tulik one of the elders in the village of Nightmute.
Dumpsite Location	The dumpsite is located across the river about a half a mile south from the village.
Summer Dumpsite Access	<i>The people of Nightmute travel to the dumpsite by boat, once they get there they then haul the trash along the boardwalk. The trash that they take to the dumpsite should be thrown at least twenty or thirty feet inland. And in the winter it is accessed by snow machine.</i>
Winter Site Access	<i>The winter site closed for health and safety reasons. Sometime ago the community of Nightmute got together and discussed the winter dumpsite, after some research the dumpsite was considered hazardous. The research of the winter site showed that, through time it has become hazardous. The hazardous substance was leachiating into the river.</i>
Wind Direction	<i>The wind mainly blows from the north during the winter months, therefore blowing the trash down southward away from the village. During the summer months the wind is blowing generally blowing from the northwest and west, occasionally from the south sometime from the east during the springtime.</i>

Dumpsite Features

Feature	Description
Site Size	<i>The dumpsite is about 150 feet wide and 200 feet long. The windblown litter scatters generally in every direction. Some trash blows approximately five miles out south. This is because during the winter the wind blows mainly from the north. By summer the wind blown litter ends up at least five miles down south.</i>
Site Shape	<i>The dumpsite is shape like rectangle the length is about 200 feet and the width is about 150. The half of the dump is covered with the trash and the other half is for non-burnable some area that is covered with trash is ground and scattered trash where there is mostly trash is about 4-5 feet high and about 20-40 feet the path that is used for dumping the trash from the river bank is no longer accessible due to trash being dumped to the path, the trash now is nearly to the end of the river bank.</i>
Estimated Waste Volume (± 20%)	69750 ft ³ or 2583 cubic yards.
Estimated Waste Weight (± 30%)	516.6 tons
Type of site management	<i>The dumpsite is not managed at this moment. Since the dumpsite is not managed the people dump their own trash at their own discretion.</i>
Heavy Equipment used at Dump	<i>Since the dumpsite is accessed by boat in the summer and snow machine in the wintertime the heavy equipment is kind of hard to be used at the dumpsite.</i>
How often wastes are consolidated or compacted	<i>No consolidation</i>
How often wastes are covered	Zero times each year.
Operator/Technician Staff	<i>At this moment we have no waste technician.</i>
Burning wastes	<i>Just recently Nightmute received a brand new burn barrel, the burn barrel is located near the store. It has a trailer</i>
Salvage Pad/Area	<i>(Example:) An area of about 30 feet wide by 70 feet long is used by people to find usable items. It is located in the north corner of the dump. The type of wastes here are vehicle parts,</i>

Dumpsite Features

Feature	Description
	appliances, scrap metal, lumber, other wastes that people can use.
Additional Waste Segregation at Site	<i>(Example:)</i> There is a place for people to drop off their vehicle batteries . It is located near the dump entrance . People put their batteries in a tote and the staff collects them when it is full .
Recycling Shed/Area	<i>(Example:)</i> A recycling shed is located in town, near the tribal office . People drop off the following items: <i>(List wastes that are taken. Note a separate section on recycling is included below. This is just a summary.)</i>
Dumpsite Age	<i>(About how many years ago was the site started?)</i>
Fencing	A wind fence only on one side. This is mostly broken down. We need new fencing or another type of barrier such as bushes or big junk metal.
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
Construction Project Wastes:	Pipes, demolition, insulation, asbestos from old torn-down buildings, drywall, cardboard, electrical wires and electrical equipment, old plumbing, broken-down heavy equipment, fluorescent lights, concrete
Honeybucket Wastes	The lagoon is next to the dump. There are some honeybucket wastes that get thrown out at the dump. Some garbage gets thrown out at the honeybucket lagoon.

Dumpsite Features

Feature	Description
What goes into the burnbox that shouldn't:	Plastics, 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 picture show the family of the late Moses Angallgaq

5. CURRENT SOLID WASTE MANAGEMENT PROGRAM

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? (e.g. if 5 businesses have atvs, then write 5)	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: 24	1.5	2	24 (=50 x 1 ÷ 2)	1	0.5 (=1 ÷ 2)	26 (=25+1)	40 lbs	800 (=25 x 40)	800
	Atv's: 18		3	10 (=30 x 1 ÷ 3)	5	1.67 (=5 ÷ 3)	12	12 lbs	120 (=10 x 12)	120
	Sno-gos: 39		3	50 (=100 x 1.5 ÷ 3)	6	2	51	12 lbs	600 (=10*12)	600
	Car or Truck: 4	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
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

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? (e.g. if 5 businesses have atvs, then write 5)	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
Stoves, Washers, Dryers	100	1.25 (e.g. 1.25 could mean that all 100 households had a stove and $\frac{1}{4}$ (=0.25) of households had a dryer or washer)	20	6.25	3	0.15	6.4	200 lb	1280 lb	1280 lb
Office fluorescent lights	N/A	N/A	1.5	N/A		130 4 ft tubes (count 8 ft tubes as 2 4 ft tubes)	87 (130 ÷ 1.5)	4 ft tube=0.7 lb	61 lb	61 lb

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? (1 = highest, 2 = medium, 3 = lowest)
Place for people to drop-off?				
Used Oil Burner? Who operates?	No			
Totes for storage of lead-acid batteries?			6 more totes	
Antifreeze Recycler?			Not enough made. We are going to switch to propylene glycol instead. This is safer for the environment	
Freon Removal?		Certified removal person in Newtok, with equipment. They are the least costly way to remove freon, and NI communities receive a discount.	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.	
Fluid Pumps for Draining Cars?				
Connex for storage and eventual backhaul?				
HAZWOPER Certified Technicians	Yes			
Spill Response Kit				
Hazardous Waste Plan, including operational steps				
Clinic Medical Waste Plan				

