

Protecting Communities from Open Dumps

Zender Environmental Services

In this talk we will briefly describe some health studies about open dumps.

Most of the talk will be about how your community can reduce the health problems.

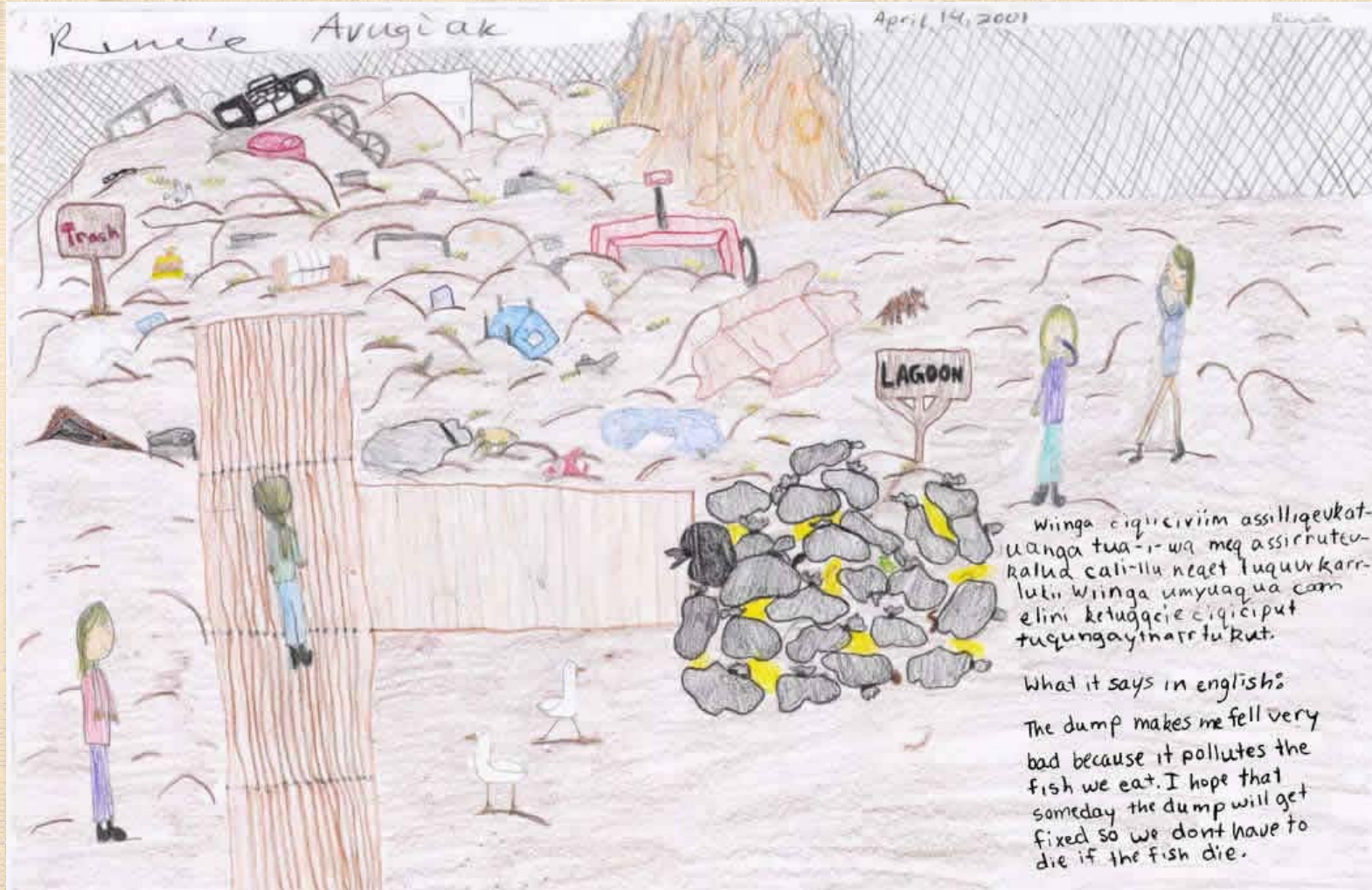
Acknowledgements

- ❖ Thank you to the people we have worked with in the Villages that have given us the information for this talk.
- ❖ Thank you to our families.
- ❖ Thank you to the Central Council of Tlingit and Haida Tribes and BIA for funding one of the health studies.

Rene Arugiak

April 14, 2001

Rene



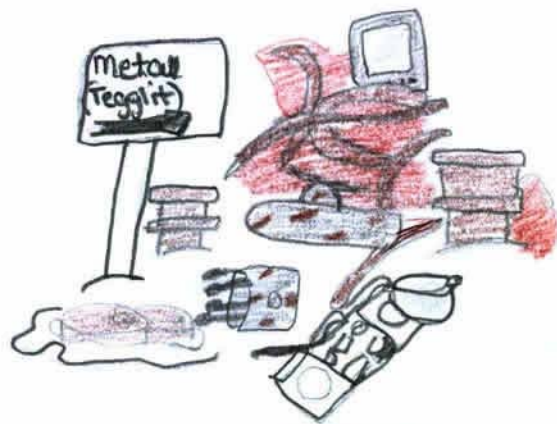
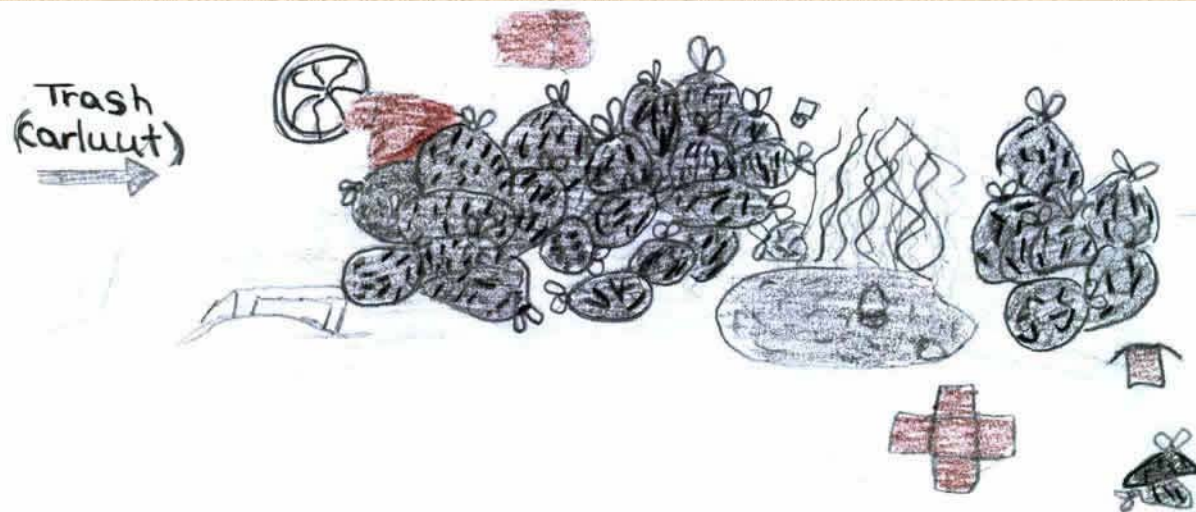
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What it says in english:

The dump makes me feel very
bad because it pollutes the
fish we eat. I hope that
someday the dump will get
fixed so we don't have to
die if the fish die.

**Some scientific health studies
have been performed about
open dumping.**

**They back up what many Village
residents have found out for
themselves.**



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This dump is bad, but sometimes
we clean it up. It's not supposed
to be like this, but it will get more
further. Sometimes if we
check it we get sick.

Study Results:

People who visit the dump or smell its smoke are much more likely to experience:

- ◇ Rash
- ◇ Faintness
- ◇ Fever
- ◇ Stomach pain
- ◇ Ear irritation
- ◇ Congestion
- ◇ Sore throat
- ◇ Headache
- ◇ Cough
- ◇ Vomiting
- ◇ Numbness

These studies are about being
"likely" or not.



If you live in a community with an open dump, these things might not happen to you or your family.

But they are more likely to happen than if you lived with a safe dump.

❖ What if you see people in your community that are coughing or have headaches?



❖ Do they often use the dump, or smell its smoke, or burn garbage at home?

❖ Then part (or most) of the reason might be your community's solid waste disposal.

Study Results: Birth Outcomes

How babies were affected was also studied recently.

For this study, we did not go out to the Villages. We looked at hospital records of birth information. And we compared them with dump information.



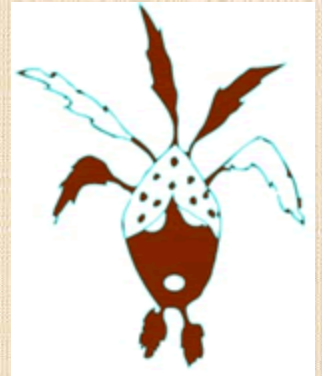
For Villages with dumpsites that were ranked as high hazard:

- o Higher number of birth defects
- o More babies diagnosed as Low Birth Weight
- o Slightly lower birth weights
- o Slightly shorter pregnancy

Economics, prenatal care, water hookup (or honeybucket), and other issues could be causing these problems.

These things were accounted for in the studies.


Negative birth outcomes still happened more in Villages with more hazardous dumps.




Studies in other communities near open dumps have shown similar effects as our studies - like negative birth outcomes and sicknesses.



Study Results: Subsistence Impacts

 Some people are changing their subsistence practices due to fear of pollution from the dump.

 But subsistence foods protect against poor health.

 People who eat subsistence were less likely to suffer ill effects from the dumps.



What to do?

**We don't know exactly what is causing the health problems.
But we do know:**



Wastes with hazardous chemicals are harmful when touched or breathed.



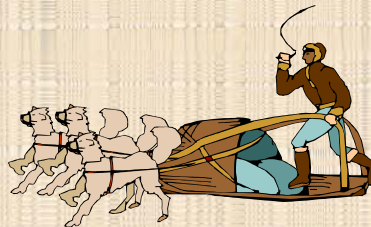
Honeybuckets, diapers, napkins, bandaids, etc. can transmit sickness and disease.

Dis-Connection and Connection

What are the connections like in big Cities?



What are the connections like in Villages?



Where does the garbage go in a City?

Does it connect back to the residents?



It goes to a lined landfill many, many miles away that residents never visit.

Hazardous wastes connect to us because they release harmful chemicals to the water, ground, and air (through smoke or vapors).



When these wastes are thrown in an open dump, the chemicals can end up in the environment. There is no liner to dis-connect. And the dumps are very close by.

The wash water goes down the drain to the tub, tank, or lagoon. The chemicals that were rinsed there end up in the sewage lagoon. For many Villages, the lagoons are **unlined, or flood**, or provide low treatment, or attract waterfowl that might be harmed.



So in Villages, the **chemicals can connect directly** to the local environment again, and our communities.

Sickness connects to us through the dump too. 📢 It can be carried from the dump by almost anything that contacts the wastes, like boots and tires. It can then be transmitted to homes, schools and people.



In open dumps, there is no barrier between people and garbage. And many of us visit the dump.

Good News !

The good news is that communities
can stop this harm.

The connections between the wastes
and environment can be broken.



Break the Connection.

Keep hazardous wastes out of the dump.

- ◆ Store them.
- ◆ Cover them.
- ◆ Swap them.
- ◆ Send them back.
- ◆ Don't buy them.



Break the Connection.

Stop dump germs from getting into the homes.

- ◆ Use the waste collection service and keep away from the dump.
- ◆ Keep “dump shoes” outside.
Or disinfect with bleach.
- ◆ Don't touch household trash when salvaging.
- ◆ Wash or sanitize hands.



Dump Germs

Break the Dump Germ Connection.

- ◆ At home, Band-aids, kleenex, diapers etc, should be covered before taking out the trash.
- ◆ Diapers and honeybucket wastes must be discarded at the dump with care. They should be placed where people won't walk on them. The area should be marked.



What we have learned:

Protecting Your Community Through

PASTE



PASTE



Stands for PLANTS.



- Plants remove waste chemicals.
- Have as many plants around the dump as possible.
- Make sure they are not trampled.
- Keep a lot of plants between the dump and river.
- Keep a lot of plants between the dump and good berries.

PASTE

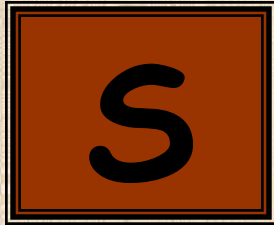


Stands for ACCESS

- With clear access, people are less likely to touch wastes and track diseases back home.
- They are more likely to dump wastes where they are supposed to.
- They are less likely to make their own paths across the tundra.
- Block other access paths if you need to.



PASTE



stands for **SEPARATE** and **SMOKE**

Separate Wastes: A separate salvage area keeps people away from dangerous wastes. Separating to burn only paper and cardboard greatly reduces smoke risks.

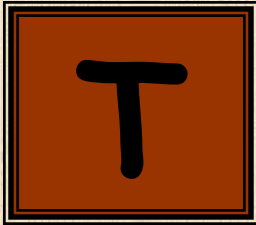


Limit Smoke:

- ❖ Never set fire to an open dump.
- ❖ Use a good burnbox or burncage.
- ❖ Set regular burn hours. Warn people to not visit the dump during burn hours.
- ❖ Only burn when the wind blows away from homes



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stands for TOXICS

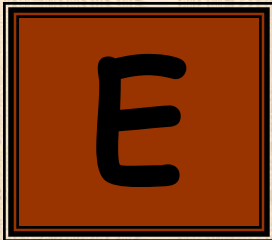
Keep toxics out of the dump. Start a free swap store.

For open dumps, if plastics and Styrofoam are burned, they become toxic wastes also.



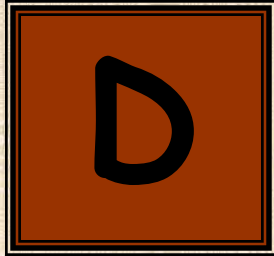
Lead-acid batteries from ATV's snowmachines, boats, and cars can be backhauled **free**. Many Villages do this. **Lead affects brain development.** It is especially bad for children.

PASTE



stands for EDUCATION

PASTED?



DESIGN

Elders know how the water flows around the dump, in the ground, and in the river.

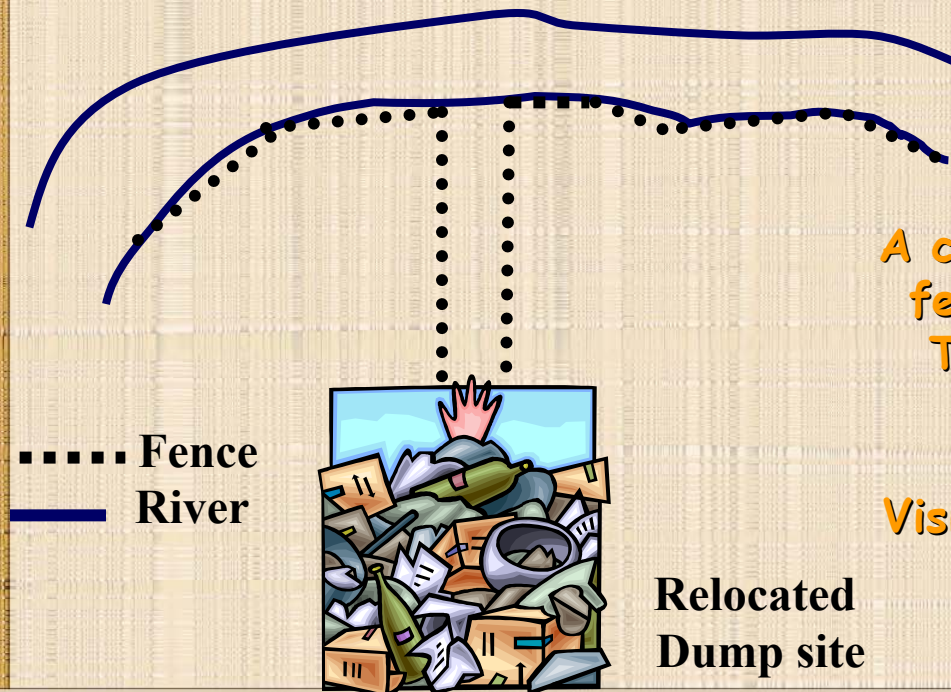


The community can design the growth of the dump to protect the river and town.

Use rope, flyers, tape to let people know where they should place their new wastes. Keep *less* toxic wastes in low-lying areas that flood. More toxic wastes should be on high ground and dry.

Village of Nightmute Example

Nightmute's dump is across the river from town. Due to increasing erosion problems, garbage was falling into the River each Breakup. To protect their subsistence, the entire community got together and moved their dumpsite back. They used donated fencing in a very thoughtful way. They did not have a lot of fence. They placed it along the river bank, and made a fenced corridor to the new site. This way, folks couldn't dump their wastes along the river bank. And residents would need to bring their wastes all the way to the site, instead of discarding wastes too close to the River.



A consultant would have used the fencing to close off the dump. The river wouldn't have been protected then!

Visitors would have dumped their wastes along the bank, or outside the dump fence.

Burnboxes are a waste management tool. If used wisely, they can be very helpful for Villages that have:

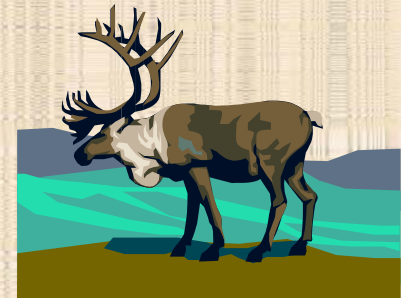
- ❖ **Very limited land**
- ❖ **No heavy equipment or cover**
- ❖ **No containment (trench, fence, etc.)**
- ❖ **No \$\$ to otherwise control waste**
- ❖ **Or a good location where people don't smell the smoke, and the smoke doesn't contaminate subsistence areas....**



But they also
have serious risks
if they are in a
poor location, or
not run right.

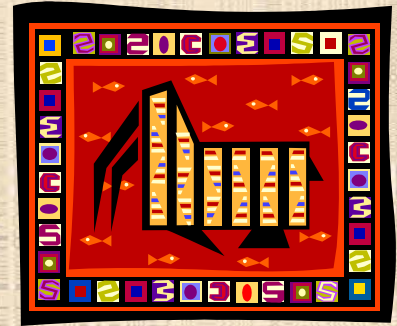


Smoke from
garbage is very
unhealthy.



*More on burning....the **smoke** connection: Where and how often.*

Garbage is garbage. It doesn't matter where you burn it. It only matters whether a "connection" to the smoke is made. **Are people coming in contact with the smoke? Are they being exposed?**



We found that people who home barrel-burned suffered ill effects. They didn't need to go to the dump to be harmed by wastes. And the **more often they burned their garbage -the worse they felt.**

People who burned garbage twice each week suffered faintness 17 times more, and nausea 10 times more, than people who didn't burn their garbage. People who burned only every couple of weeks cut those risks in half.

There have not been any more detailed studies on Alaska burnbox or Village open dump smoke yet. But very high breathing of smoke particulates and gaseous toxics has been shown to be connected with...

- o Increased deaths
- o Cancer
- o Hospitalization
- o Functional Limitation, and
- o Physiological impairment (like asthma).



Burning must be stopped *as soon as possible if:*

❖ Residents smell dump smoke **in-town** every day.



❖ People burn unseparated garbage **in-town** in their home barrels (where homes are next door to each other).



Both of these situations mean that the connection to smoke is there for **everyone, all the time**. When the connection is longer, more regular, and closer, the bad effects are more likely to happen, and the size of the effect can be worse.

Some situations where Villages might need to burn?



Is this your Village?

Without burning, the dump would expand right into the town, river, or drinking water source within the next couple of years. There is no money or equipment to consolidate wastes. If the dump moves to the town or river or drinking water, the connection to the dump would be present all the time to everyone. Do you know how fast your dump moves? Can you make it expand in another direction?

Another possible case : Is this your Village?

Without burning, you might lose good access to the dump. People will then start dumping trash in worse places, or they will home barrel-burn. Or they step on wastes like honeybuckets and diapers. When the dump path also goes to the honeybucket dump, residents might start dumping their honeybuckets in town, in the river, or on the access path.

And there is no money for heavy equipment to consolidate wastes so the access can be kept clear. Can a waste collection program be run in this case? Can people pay if they find out about the health risks?



Honeybucket and waste dump
with same path



In-town garbage storage

Another possible case your Village might fit:

If you don't use a burnbox, a resident will light an open dump fire, and that is much worse. And there is no money for fencing or staffing to keep residents out.



Is this your Village?

Can you educate and use traditional community encouragement and opinion?



Some other reasons that are difficult decisions for a community to make?

If a Village doesn't use a burnbox, the dump gets **out of control** and they are unable to staff enough hours to control it. Visiting the dumpsite can become very hazardous. Residents might choose to dump elsewhere, or store their garbage in town for too long.

If a burnbox isn't used, aggressive **bears** frequent the dump, and there is no money for bear-proof fencing or heavy equipment for adequate cover.



If a burnbox isn't used, the **flies** become very bad in town because no cover material is available. At some point, the number of flies could be a worse health hazard than burning.

Burning stops **plastic bags** and animal-strewn garbage from polluting the surrounding area. Plastic bags can also kill plants by shading, and suffocate animals who eat them.

Burning in some Villages makes people prouder of their community because the dump is **organized**, and the dump is more pleasant to use.

In some Villages, it is far to the landfill and people cannot **afford** the gas and oil, or they might not have ATV's for **summer access**. So they have to burn at home in their burn barrels.

If we can't stop burning, Stop the smoke connections:

- ❖ Breathing it
- ❖ Absorbing chemicals through skin
- ❖ Eating it (by eating settled ash on hanging fish, or children ingesting dirt, etc.)
- ❖ Drinking it (by drinking settled ash/smoke in water)

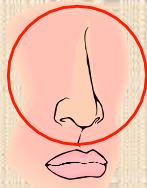


If these connections don't happen, your community won't suffer the health effects.

Break the Connection - Smoke

Breathing Smoke:

Decide what community practices will lead to:



The Nose

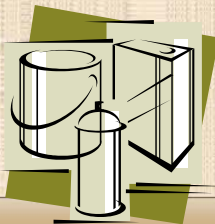
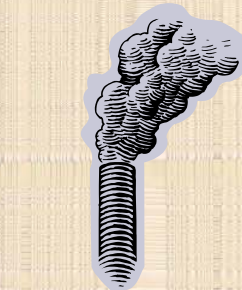
The **lowest number of noses** connecting to the smoke.

And

The smoke occurring for the **shortest period** of time.

And

The **lowest number of chemicals** in the smoke



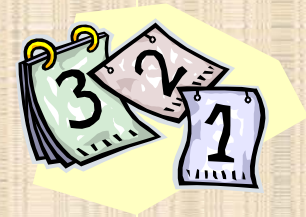
Breathing connections to break.

Each of these reduces the number of smoke-nose connections:

Keep the burning out of the Village. Don't allow (or limit) home barrel burning.



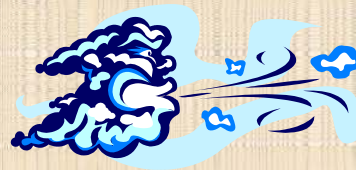
Keep burn hours at the dump when the public won't come.



Consider burning during low-activity hours when children are not playing outside, such as night.



**Burn downwind of the Village
always.**



More ways to break the breathing connection

What makes the smoke-connection **shorter?**

And makes smoke **Less toxic?**

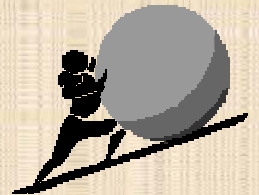
Instead of open burning, Use the best
burnbox to quick-burn.



And more ways to break the breathing connection:

What makes the lowest number of chemicals?:

Move the burnbox further away.
This will dilute the smoke by the time it reaches people's noses.



Separate out hazardous wastes.
Remember every waste separated is less chemicals to the environment.



Breaking the smoke - skin connection.

The goal is to:

Make less chemicals in the smoke

Separate out everything but paper, cardboard, food -- as much as possible. Burn at a high temperature.



Styrofoam

And

Make less smoke contact with skin

Wear long sleeves and pants if there is a chance you will be exposed to smoke. Wearing protective clothing when out at the dump is always a good idea anyway.



Breaking the smoke - eating connection.

The goal is to stop the settlement of ash and smoke onto drying food.



Check in town for each place where the barrel burning is - can you **relocate these barrels** somewhere else?

Where are the hanging racks for foods? Can they be located for less smoke from the dump or town barrels?

Think about how ash can settle and how smoke travels. If you **block the wind**, ash will settle there. Are there racks that can be sheltered from smoke and ash with tarps? Will locating them on the other side of the home help?



Where is the **dump smell less noticeable** in town? That might be a good place for drying foods.

Can the burning be done during **regular hours** when people can cover their racks temporarily?

Breaking the smoke - eating connection.

Washing hands. This is especially important for little children, who can end up playing in areas where the smoke has settled.



Breaking the smoke-water connection.

A smoke-absorbing and ash-settling problem again.

Do people obtain **traditional water** in the path of the smoke (even roof water)?

Can they **taste the difference** when the dump burns? If they can, there is a connection that must be broken.

The **burnbox must be moved**, or people must **change their collection** practices.

If they do not want to change **where**, can they change **when** they collect the water?

If **regular burn hours** are set, they can wait right before the burning. That gives the **most time for the smoke chemicals to settle** or disperse.



Making decisions, changing the connections

Observing connections is what Native peoples have done successfully for thousands of years.

Elders are expert environmental observers.

By observing exactly where the connections are between wastes and people and the river, communities can protect themselves by breaking or reducing the connections they see.

Some of these connections are hard to fully break without financial assistance. For these connections, the process will be longer.

But each community has many connections that they can break on their own too. And each break, large or small, helps the community's health.



Break the waste connections through:

Plants

Access

Smoke and Separation

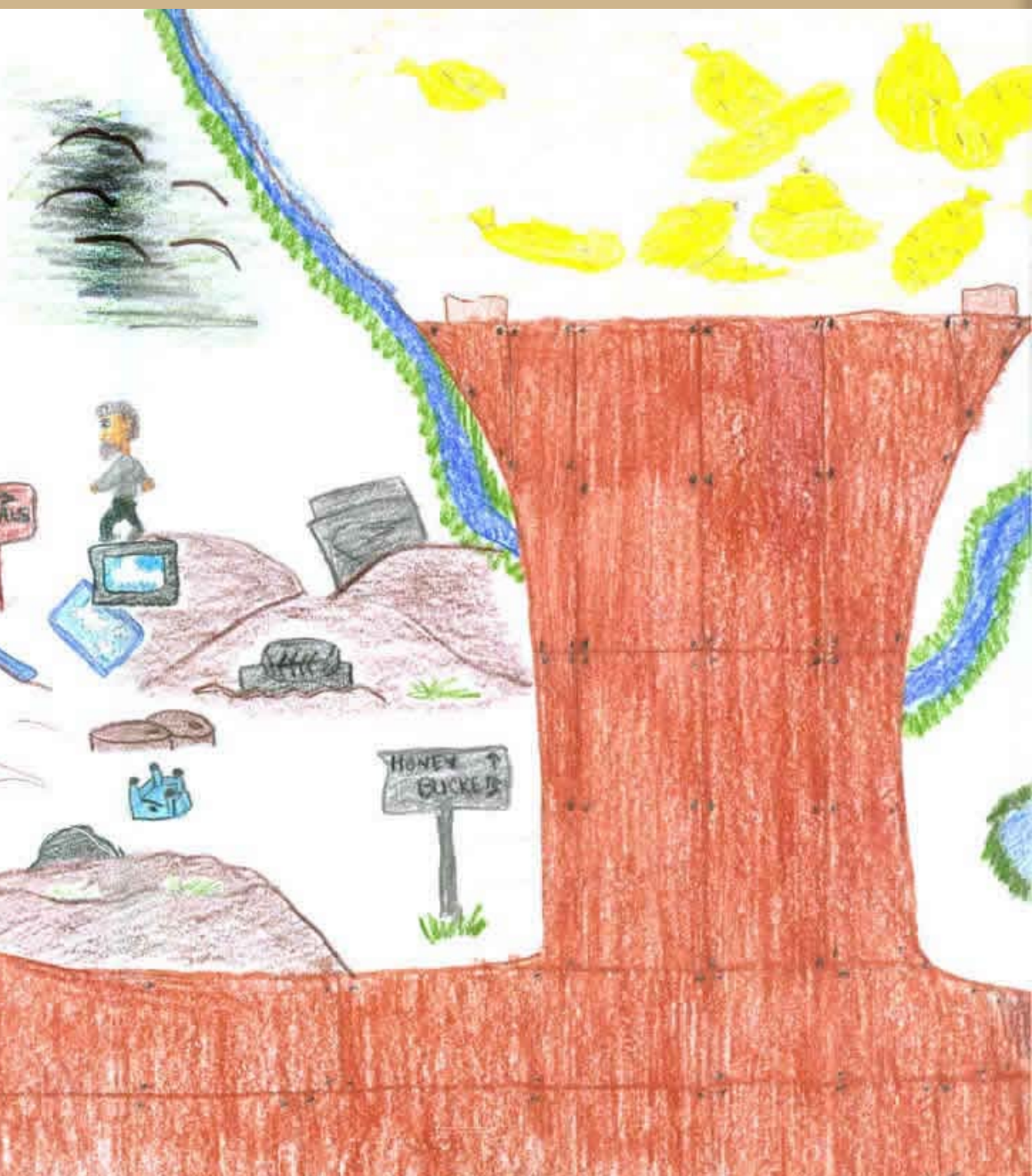
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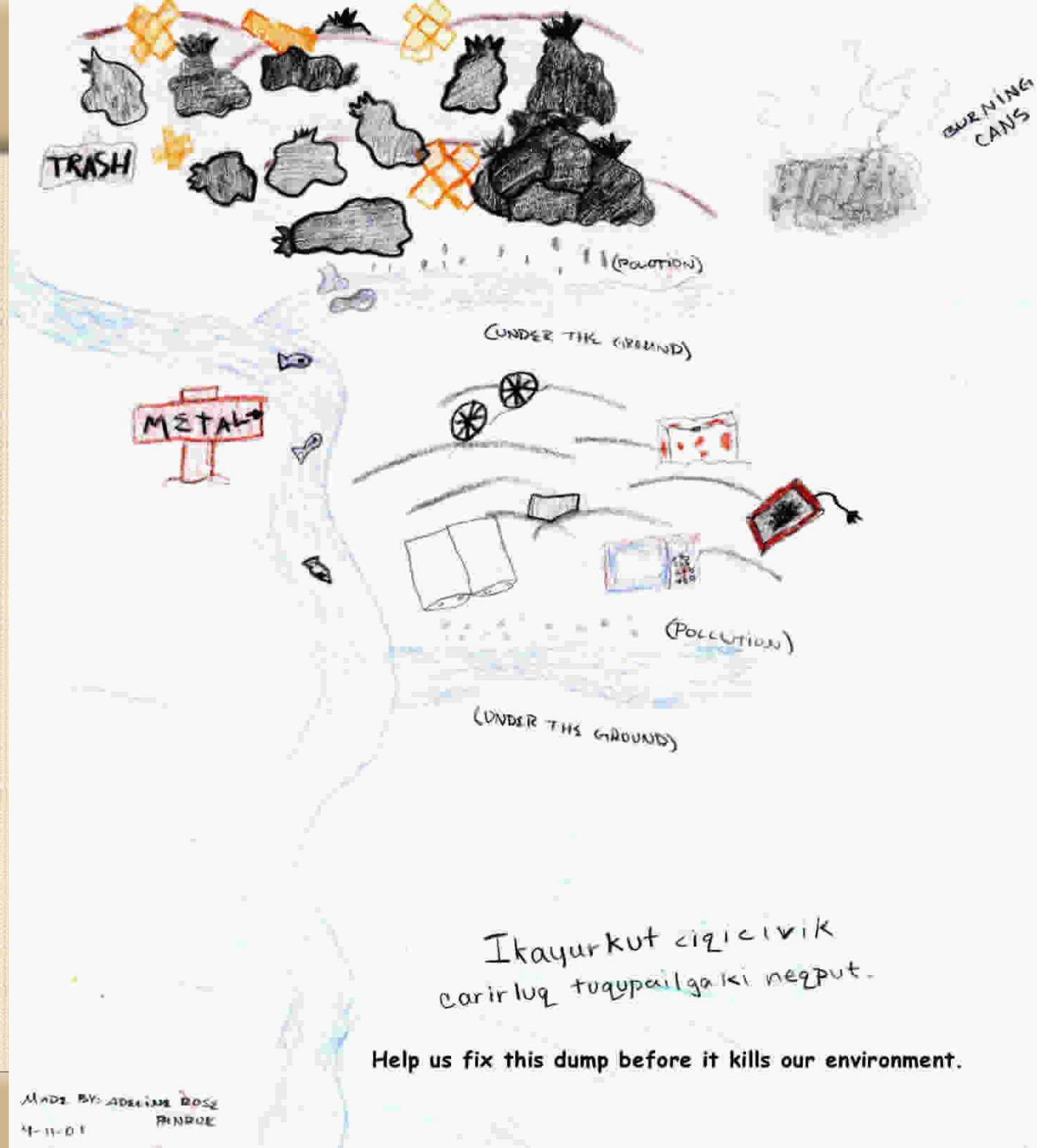
Education

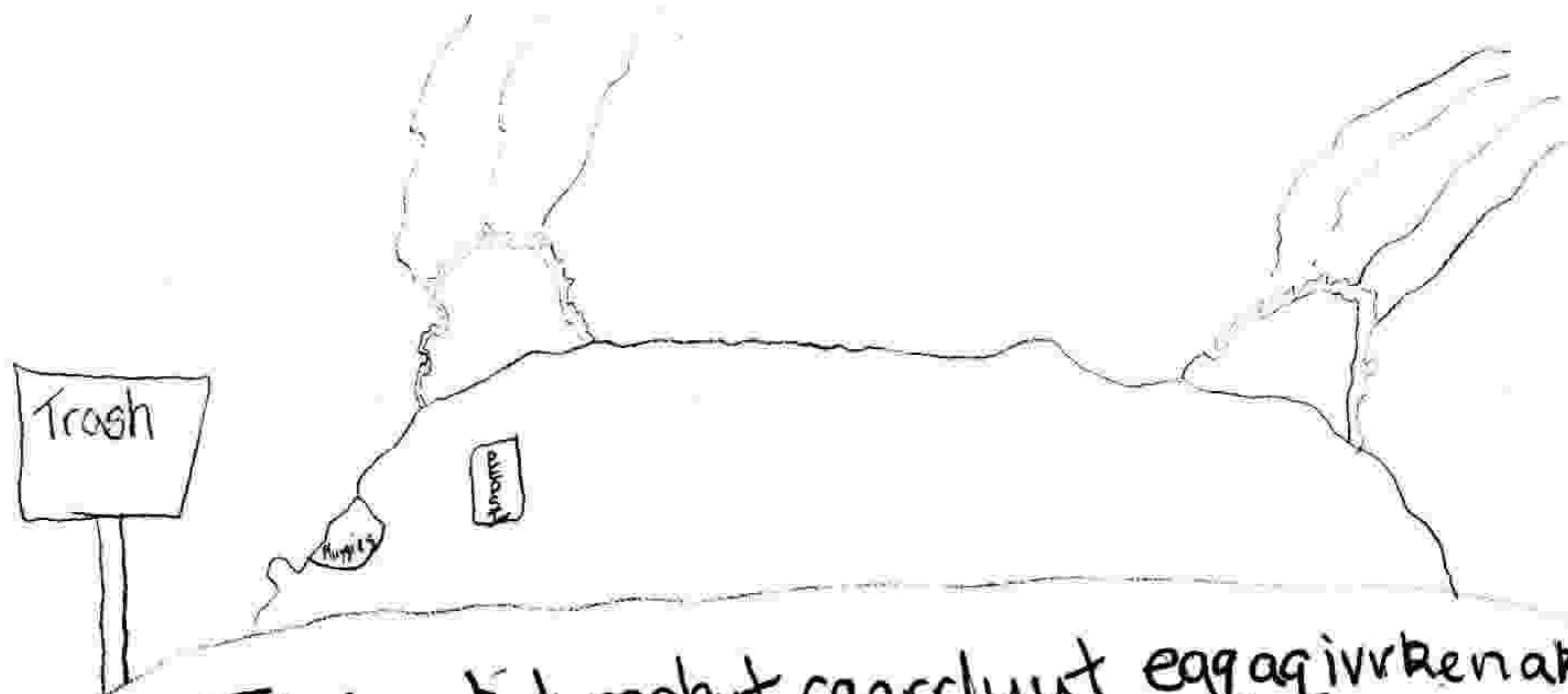


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assiiliqartua ciqiciviim avatii
ayuqeltra. Cimiryugyaqaput tamamta
tua-i-wa caggan.

My name is Dana Jimmy, I feel uncomfortable about
the dump site by the way it looks.
We want to change the dump because the trash
is going all over the village and the tundra.







I kaiyurkut makut caarluut eggagivrenaki

nunamterii.

Help us not to dump trash at our tundra.

Thank you for your time.

This presentation, handouts, and other helpful how-to materials are available on SWAN at
www.ccthita-SWAN.org

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