

No-cost to medium-cost ways to reduce risks of solid waste disposal in Alaska villages.

Problem	Type of solution	Ways to reduce the risks associated with it
Honeybucket wastes mixed with regular garbage disposal	Education	Ask people why they dump their honeybucket wastes at dump site, or garbage at honeybucket site, and see if you can address that. Explain how these practices increase community health risks.
	Designated area	If people continue to dump honeybuckets at dump site, then mark off an area for them to dump at. Try to berm the area. If possible, mark a low area of the dump that is not prone to flooding.
	Make access clear	Make sure that people can dump their garbage without having to walk onto wastes. Keep access and turnaround clear. Build movable platform to dump wastes from.
	Collect wastes	Set up a mandatory honeybucket collection system and/or mandatory garbage collection to keep people away from disposal sites;
	Fencing & staffing	Fence disposal sites to keep pets out, or confine pets. Restrict dump open hours to times when it can be staffed.
People scavenging through dumpsite	Education	Let people know how high the risk of injury and illness is when they walk through and on top of wastes. If kids play there, work with the schools to educate them on the dangers. Get funding for creating an interesting place for them to play.
	Separate area	Make and maintain a separate area for reusable items. If you have a spare building, make that a reuse center to bring materials that will get ruined if they stay outside.
	Fencing & staffing	Fence off the area and restrict dump open hours to times when it can be staffed.
Swimming in or drinking from contaminated water	Education	Tell/show people that using untreated water that is mixed with dump runoff may make them sick or give them rashes.
	Test water	Test water to see if it is okay to drink or swim in.
	Restrict use	Try to keep people from swimming/wading/ or drinking water during and just after big rain events or flooding (e.g. Breakup)
	Site remediation	Start better dump management practices, like separating out wastes, picking out batteries. Take off all snow before melting. If heavy equipment is available – try to redesign slope of dump so water goes around, not through dump. Erect berms to redirect surface water.
Decreased subsistence activity	Education	Let people know that all studies have shown it is much healthier for them to continue subsistence diets.
	Sample Testing	Test waters or soils in areas where people are concerned. IGAP funds can cover this, or you may be able to get funding from other agencies. Call someone like Bill Stokes, Compliance Assistance, ADEC, 269- 7580, or Joe Sarcone, Rural Sanitation Coord., EPA, 271-1316, to figure out what to test, how to do it, and how to interpret results. Make sure you send them or us a copy of results so that the information can be used to help other tribes in similar situations.

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Problem	Type of solution	Ways to reduce the risks associated with it
Smoke and fires from open burning	Designated burner	Have a designated person who is the only one allowed to set dump on fire. Set fires only on non-windy days and/or when wind is away from village.
	Education	Tell/show people how dangerous smoke and flare-ups can be. Get them to stop lighting fires on their own, and ask the designated person instead. Post signs in-town say when the burn days are, and to stay away for 2 days.
	Separating wastes	Get people to separate out their plastics. If open burning is the only option for now, consider banning plastic bags at the stores ^a .
	Burnbox	Consider using a burnbox instead.
	Collection program	Mandatory collection program so people don't set dump on fire and so hazardous wastes can be better separated out.
	Protect boardwalk	Make boardwalk at dump fire-proof or fire-resistant, or secure funding for insulated gravel platform, so that good access is kept.
	Cover wastes	If possible, compact and cover wastes often instead of burning. Look for alternative cover material such as a tarp(s), wood chips, rock, shredded or weighted plastic, crushed glass.
Smoke from burnbox	Separating wastes	Get people to separate out their plastics. Consider banning plastic bags at the stores. Staff burnbox or do random visits and help people see what wastes they should be separating out..
	Restrict burning	Burn only on non-windy days and/or when wind is away from village.
	Maintain Relocation	Maintain burnbox for high draft, hot fire, and quick burn. If impossible to keep smoke away from village, relocate burnbox.
Smoke from home barrel burning	Education	Tell/show people how risky it is to breathe smoke from fires with plastics, used oil, or hazardous household product wastes.
	Ordinance	Ban household burning within village limits or confine it to certain days and allow only paper, food, and wood wastes to be burned.
	Burnbox	Find out if people would burn at home less if there were a burnbox. If so, get a burnbox and place it in a good, downwind location.
Out-of-town business and government agency dumping	Ordinance	Write an ordinance making it illegal for businesses to dump their wastes. Require backhaul. Or if you want the revenue, require them to pay for disposal. These businesses save a lot by not paying for waste disposal. But our villages end up paying in the end! Note it is illegal for federal agencies to dump at unpermitted dumps.
	Call ADEC	Take action against businesses that have dumped hazardous wastes and refuse to clean them up, or continue to dump other types of wastes against village wishes. First, write an official letter. Then try calling ADEC Spills and Prevention, 451-2121.

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Problem	Type of solution	Ways to reduce the risks associated with it
Clinic waste dumping	Make plan	Work with clinic to set up a strict plan of burning <i>all</i> clinic medical wastes daily.
Dump expanding/ people littering	Education	Explain how unconsolidated trash creates higher risks (people are exposed more and tundra and wetlands are destroyed).
	Better access	Find out why people are doing this – if it's because they don't like going to the place they should be dumping, make a better access (funding for small site improvements may be available from ANTHC).
	Collection program	Start a mandatory waste collection program so all wastes can be placed correctly by waste collector.
	Recycle	Start a recycling program to reduce volume of wastes. See Chapter 8 and Appendix C.
	Bale	Bale wastes to keep dump neat
	Clean up	Try paying community groups to clean up litter, or make it part of a school program to award "points" to students.
	Ban plastics Burnbox	Ban plastic bags from your village. Because they are light-weight and don't degrade, plastic bags contribute highly to unsightliness. Purchase a good burnbox, or construct one yourself using a good design and materials.
Tundra destroyed	Education	Let people know about the degradation process they are producing. Mark off the area of "bad" tundra around the dump and let people see how the area increases over time.
	Consolidate waste area	Practice waste consolidation measures – start a collection program, or pay someone to consolidate wastes 1 or 2 days per week. Bale, compact and/or trench wastes if possible. Burn paper wastes. When ground is frozen, bring out or rent heavy equipment to work over landfill (ask project managers of village construction projects to borrow theirs)– at least once just after summer, and once before summer.
	Improve access	Improve and maintain a single access route to the dump, making it by far the most convenient path to take. Make boardwalk at the dump fire-resistant or fire proof so it doesn't burn away. Try for funding to make an insulated gravel platform at dump.
	Erect barriers	Erect barriers so people only go to dump along a single route and only to the "active face" – the small part of the dump where people should be bringing their wastes currently.
	Backhaul antifreeze	Make certain that antifreeze (ethylene or propylene glycol) is not dumped – make sure that construction, housing, electrical, fuel projects and businesses backhaul or recycle their antifreeze.

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Problem	Type of solution	Ways to reduce the risks associated with it
Foxes, rodents	Fencing	Erect fencing.
	Control dogs	Restrict dogs from entering dump.
Birds, insects	Cover wastes	If possible, compact and cover wastes. Look for alternative cover such as a tarp(s), wood chips, rock, shredded or weighted plastic, crushed glass. Reduce water ponding to reduce insect breeding.
	Burnbox	Purchase/construct a well-designed burnbox. Burn food wastes.
	Compost	Start a covered worm compost operation like the Village of Iguigig, or compost food wastes in an area away from dump and houses. Call Can-O-Worms 1(888) , 422-2129.
Plant life changed	Education	Show people the difference in plant diversity and abundance at dump and away from dump.
	Consolidate	Reduce impacted area by consolidating wastes.
	Barricade	Block off area and revegetate.
	Test water	If area is not at dump, but downstream, test water to make certain it is not too contaminated for fish, wildlife, and human use.
	Stop runoff	See runoff and flooding suggestions.
Leachate from dump	Prevent formation	Prevent water from passing through. See runoff and flooding suggestions.
	Recycle - reduce toxicity	Prevent hazardous wastes from entering dump. Start recycling batteries immediately. Find out if used oil is dumped. Ensure machinery and vehicles are drained of oil and fluids before dumping. Make certain antifreeze is backhauled, recycled, or treated.
Odor from dump	Move fish	Bring fish wastes to another area. Burn/compost food wastes.
	Quick burn	Burn or bury dead animals immediately.
	Check odor	If odor is not from food/animal waste, make certain its not a chemical.
Bears	Separate	Separate fish wastes and discard away from dump and human traffic.
	Grind	If available, use grinder for fish wastes and compost with wood, paper, etc. Call Jeff Benson, Metlakatla Compost Project, 886-4200.
	Compost	Compost food wastes – you may need to store compost barrels inside a building.
	Accept bears	Accept bears presence. Most dominant bears tend to avoid human traffic. Get people to visit dump only at certain hours so that bears may avoid them.
	Buffer zone	Maintain a clear buffer zone free of trees, heavy brush, and wastes so that bears do not emerge next to humans unawares.
	Burnbox	Use a burnbox.