

What's Happening in Port Heiden

Volume 1, Issue 1

Newsletter Date

Special points of interest:

- Climate Change
 - Erosion
 - Weather
 - What changes
- Solid Waste
 - Recycling
 - Landfill
 - Back Haul
- Watershed
 - Villages
 - Stream A

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Where's the Snow?

Sick of the cold, head to Alaska! It seem that the whole United States had quite the winter; all except Alaska. The place where people still believe we have pet polar bears and live in igloos.

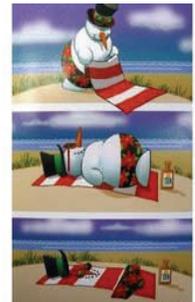
The average temperature for the Lower 48 states midmorning

Erosion

During our observation for erosion and weather condition, we came across the yellow fuel headers pipes for our bulk fuel farm. The city has had to take them out of commission due to the coastal erosion. It

Wednesday was a chilly 22 degrees. At the same time, the average temperature for the entire state of Alaska was 24 degrees.

Parts of Alaska were 30 degrees warmer than normal. Southeastern Alaska hit 57 earlier in the week, according to the Na-



Where'd the snow go?!

tional Weather Service. The state's record January high of 62 could be broken later this week. Jan. 23, 2014

for our bulk fuel farm. We're concerned for the lack sea ice which helps dissipate the coastal erosion that is occurring this winter along our shoreline.

Tiny fish could be to blame for crashing Alaska sea life populations

The itty-bitty sand lance could be the culprit behind drops in the populations of Western Alaska's Steller sea lions, sea otters and northern fur seals, and maybe offer a clue about king salmon declines. Courtesy Aleutian Pribilof Islands Association
A scientist who has spent much of his career studying paralytic shellfish poisoning has an all-

encompassing theory about what may have killed gobs of threatened and endangered marine mammal predators in Alaska, not to mention the vaunted king salmon that appears to be on the decline in some of the state's waterways. The hypothesis involves the tiny sand lance, a pencil-shaped fish found along Alaska's coasts that

gets gobbled up by animals seeking a fatty burst of energy, including Steller sea lions, sea otters and northern fur seals, species of concern that have seen stunning population drops in Western Alaska.

Full story on pg. 4



Spring Clean Up

**Volunteers
Needed!**

Pick up spots are en- bags and gloves and tirelessly up to you! Ask friends or tell the kids at your school. Please stop at rays to sign in, pick up your

prize drawing! Please return to take a picture of your final collection!

Dead Batteries?

Bounce batteries to see if their good or bad. Drop them on a table from about 6 inches. If they give one small bounce and fall right over, their good. If they bounce around around any more than that, they're dead or on the way out.



Got any dead/used up batteries and don't know what to do wit them? Send them to the tribal environmental office.

Environmental Office

Native Village of Port Heiden
 P.O. Box 49037
 Port Heiden, AK

Phone: (907)837-2441
 Fax: (907)8372440
 E-mail: meshik@starband.net



**Tribal
 Environmental Office**

A little triangle with numbers inside
 Tells you the plastic- a useful guide...
 Clear bottles are made from number 1
 Re-use, recycle when you're done
 HDPE bottles, you can't see through
 Bear the label number 2
 Clear packaging labeled number 3
 It's all made from PVC
 Plastic bags- they're hard to ignore
 They're all made from number 4
 Tubs and trays that you have seen
 Labeled '5' we try in vain!
 Seven is anything that is one to six!
 ABS. polycarbonate or simply a mix
 Re-use that bag, tray or pot
 Valuable resources are all we've got
 So "What can I recycle?" I hear you ask-
 Remember this rhyme to complete the
 task
 ONE and TWO you can do
 Keep five and SIX out the mix



Fun Ways to Recycle Common House Holds

Instead of throw-
 ing something away, think
 of what you can use it for.

and you now have
 something to
 catch those annoy-
 ing drips!

Instead of buy-
 ing them a night-
 light, make one
 by using card-
 board! It saves
 you money and
 it looks better
 than a store
 bought night-
 light.



Here are three fun and
 easy ways to reuse house-
 hold items:

**Clorox Wipes Con-
 tainer:** you can

Old Bottles: wash
 then cut the bottle
 in half (leave the
 bottom) then cut a
 hole in the side

use it as a yarn
 holder
Cardboard Boxes:
 have kids that are
 afraid of the dark?



Tiny fish could be to blame for crashing Alaska sea life populations

Also chowing down on the fatty forage fish, which takes shelter in the sand up and down Alaska's coasts, are salmon and birds, said Bruce Wright, a senior scientist with the Aleutian Pribilof Islands Association, which provides social services to tribal communities in the Aleutians region.

"They're a super important part of the ecosystem out there," said Wright, 61, who started in Alaska in 1978 working for Fish and Game and sampling for PSP at the commercial geoduck fishery in Ketchikan.

If Wright's theory is correct, the sand lance might also have caused some big problems in the region as the climate has warmed. Sand lance eat tiny organisms contaminated by the toxins associated with paralytic shellfish poisoning. And those toxins, as humans know, move up the food chain.

When most Alaskans think of paralytic shellfish poisoning, they think of mussels and clams and [state alerts](#) warning subsistence users of potential sickness or death when shellfish have high levels of the toxins. PSP in humans has been an increasing problem: Since 1973, the state has experienced a sevenfold increase in such outbreaks, said Wright, citing information from the state Department of Epidemiology.

The idea that sand lance might also be harboring high levels of PSP toxins is new to her, said Catie Bursch, a state Fish and Game employee from Homer who works with volunteers to monitor Kachemak Bay for PSP, where levels are typically low.

"Most of the time we have thought of PSP as a problem with animals living on the bottom of the oceans that filter feed," Bursch said. "It hasn't been documented as much going up the food chain."

Filter feeders such as clams ingest a tiny phytoplankton called alexandrium that can harbor the toxins. Sand lance ingest the toxins in a more roundabout way, after eating zooplankton that eat the alexandrium.

Outbreaks of paralytic shellfish poisoning seem to reach across more of the state than they once did, and to occur more often in winter, said Wright.

Climate change may be a factor in the growth of PSP, with more winter rains creating more opportunity for the creation of algal blooms as freshwater runoff spills into the sea. When the freshwater nutrients sit atop saltwater without being disturbed by, say, strong winds, the area where the two waters meet can form the perfect nursery for the toxic organisms, Wright said.

Those toxins have been found in sand lance and the animals that eat them, he said. In 2012, several Kittlitz's murrelets on Kodiak Island were found dead after [eating PSP-contaminated sand lance](#), Wright said. The combination also led to a die-off of terns in 1978 on the East Coast, Wright said.

Wright, who has annually monitored PSP in clams and mussels in the Aleutians since 2006, said it's possible that PSP-contaminated sand lance could have caused huge drops in populations of threatened fur seals and sea otters, as well as endangered Steller sea lions, if they'd eaten large batches of contaminated fish.

He even suggests that a lot of juvenile king salmon could have been wiped out after eating contaminated sand lance along the remote and barely populated Aleutian Islands, where large numbers of salmon could disappear and never be noticed, he said.

"You can take out a whole year class of king salmon and everyone would blame it on bycatch," Wright said, referring to the accidental take of king salmon by the pollock trawlers. "Bycatch is certainly an issue, but sand lance could be too."

Wright recently won funding from the Environmental Protection Agency to [study PSP in sand lance](#). Part of the project will involve working with local technicians in communities along the Alaska Peninsula and Aleutian Islands.

Those technicians already scout for PSP in clams and mussels at 10 sites in the Aleutian and Pribilof islands. If levels of toxins spike in those locations, such as in Unalaska, Wright said he'll travel to the area to capture the sand lance so they can be tested as well.

With help from local observers, he'll also be looking for birds or animals that may have died after ingesting toxic sand lance, so the animals can be tested for paralytic shellfish poisoning as well.

"If PSP is a big player, we should have a discussion about that, and not just about the bycatch and other problems that might be causing these declines," he said.

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