Ice all but disappeared from this Alaskan island. It changed everything.

A warming Bering Sea kept ice away from this Alaskan island — leading to the closure of a crab processing plant and fraying of the community.

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By Joshua Partlow and Carolyn Van Houten

Reporter Joshua Partlow and photojournalist Carolyn Van Houten traveled to Alaska to document how climate change has transformed a community.

ST. PAUL ISLAND, Alaska — This tiny island in the middle of the Bering Sea had recently completed its longest winter stretch in recorded history with above-freezing temperatures — 343 consecutive hours, or 14 days — when Aaron Lestenkof drove out to look at Sea Lion Neck.

It was another warm February day. He saw no sea ice; scant snow on the ground.

Lestenkof is one of the sentinels on the island, a small team with the Aleut tribe who monitors changes to the environment across these 43 square miles of windswept hills and tundra. He is also one of 338 residents who still manage to live on St. Paul, something that has become significantly more complicated as the Bering Sea warms around them.

Over the past decade, steadily warming waters have thrown the North Pacific into turmoil, wiping out populations of fish, birds, and crabs, and exposing coastlines to ever more battering from winter storms. The upheaval in the waters has brought so much change to this remote island, where residents still fill their freezers with reindeer and seals, it has forced many to consider how long they can last.

The warm waters killed off about 4 million common murres — the largest die-off of any bird species ever recorded in the modern era — including almost 80 percent of those that nested on St. Paul. They wiped out about 10 billion snow crabs; caused the collapse of the main Alaskan fishery that relied on them; and prompted the closing, three years ago, of St. Paul's largest source of tax revenue, a Trident Seafoods crab processing plant.

City funds fell by 60 percent. The number of city employees dropped from 43 to 18. The police force disbanded. People moved away. And prices, already high, rose further at the island's lone grocery store — where eggs were selling for $14.66 a carton.

The experience of St. Paul shows how changes to the climate, incremental until they become unmistakable, can ripple through the social fabric. Once a bustling winter hub for crab processing, with stately homes built in the 1920s and a historic Russian Orthodox church, St. Paul is quieter now. On many nights in the island's lone bar, where Lestenkof plays bass on Fridays, they don't bother to put out the chairs.

Lestenkof, 40, went to school alongside more than 100 classmates, he recalled. Enrollment is now 52 students. The Trident plant used to rumble at all hours and hiss out a boiled-crab-smelling steam. The harbor thronged with boats.

"It looked like a city around the whole island, just lit up orange," he recalled.

When he was young, he would crouch next to his father on the rocky promontory of Sea Lion Neck to hunt low-flying king eider ducks, or Steller sea lions as they swam past. Years later, he helped geologists from the mainland set up stakes to gauge the rate of erosion until eventually the stakes washed away.

The reason, he says, is planetary warming. The sea ice that used to encircle the island almost every winter rarely does anymore, exposing the land to more punishing winter storms that claw away bluffs and dunes, including huge chunks of a hillside beneath the island cemetery.

"We're not freezing in the winter like we used to be," he said.

He stood on the shore, looking out over the waves to the small spit of land, all that is left of the eroded promontory.

"We used to walk straight across," Lestenkof said. "It just took a couple good storms to wash this away."

The demise of Sea Lion Neck came gradually, then all at once.

A tragic history

In 1923, an official with the U.S. Department of Commerce, Dr. G. Dallas Hanna, completed a draft of his manuscript, "The Alaska Fur Seal Islands," after spending eight years on St. Paul, one of four volcanic islands known as the Pribilofs. He found the winter climate disagreeable. He wrote that incessant winds and raw marine air make it "as necessary to wear proper arctic clothing here as it would be in temperatures of 40°F below zero."

"Drift ice usually visits the islands every winter," Hanna wrote.

Each year, the sea ice would spread down from the Arctic and across the Bering Sea Shelf, often enveloping St. Paul in a sheet of white. The island's interplay with this ice and the cold, salty water it left behind, has been fundamental to the teeming web of marine life on the Pribilofs. And those bountiful resources — particularly the millions of northern fur seals that hauled themselves up onto shore each spring to breed — are what made the islands so attractive to the Russians who first arrived in the 1780s.

St. Paul was uninhabited then, but the Russians brought in Native Alaskans from the Aleutian chain as forced labor to kill the seals for their pelts. After the United States bought Alaska a century later, the federal government eventually took complete control of the Pribilof Islands and its fur trade. The native families who lived there were treated as wards of the state until 1983.

The Aleut workers at times were paid in government store credit, often not enough to feed their families, according to "Slaves of the Harvest," a history of the Aleut experience on the island by Barbara Boyle Torrey. Children caught speaking the traditional language would have their mouths taped.

The Commerce Department agents who ran the fur seal trade controlled where residents could live, when they could leave the island, and when they could hunt and fish. During World War II, the U.S. military forced residents off the islands for two years and made them live in an abandoned salmon cannery hundreds of miles away, where many died.

Elders who lived through the federal government's occupation of St. Paul recall the brutal conditions, doing hard labor for a pittance and having little control over their lives.

"We were slaves, actual slaves," said Gregory Fratis Sr., 85, one of the last remaining fluent speakers of Unangam Tunuu, the traditional language of the Aleut people. He recalled that his father was paid $300 as a bonus at the end of a year of seal killing, but earned no salary.

Fratis was in his car at the edge of the harbor as the temperature dropped in the afternoon, feeding raw hot dogs to arctic fox pups that lived in the rocks by the shore. No one else was around.

"Rowdy! Rocky! Come here baby!" he called to the foxes by name, who scampered up to his car. "*Qaqax̂! Qaqax̂!* [Kaka! Kaka!] — in Aleut, that means food."

Fratis had recently attended the Aleut tribe's annual meeting. He was worried about its finances. The declines of halibut, crab, and fur seals — whose numbers have steadily dropped for decades, long after the fur trade was outlawed. He complained about the neglected houses around town not being fixed up.

"The city is the one that's really hit hard. And they have to raise their utilities, I don't blame them," he said.

They do it, he said, “in order to exist.”

“Use that word,” he repeated: “Exist.”

He turned back to the foxes.

“Qaqax̂! Qaqax̂!”

A community unraveled

To St. Paul City Manager Phil Zavadil, the crab crash sounds like silence.

From his perch at city hall, he can see the Trident plant. During winter processing season, it would roughly double the island’s population. Its galley functioned as the island’s only restaurant. Although many of the workers were brought in from elsewhere, they injected money into the local economy, including at the grocery store, whose business has fallen by about 50 percent, according to its managers.

St. Paul’s four-person police department disbanded in 2021; the town struggled to recruit or pay replacements. Alaska flies in state troopers to make arrests from Anchorage, almost 800 miles away.

“It’s a logistical nightmare to get out there,” said Lt. Daniel Blizzard, a deputy commander for western Alaska.

Five years ago, 36 of the island’s roughly 200 homes stood vacant or uninhabitable. That number has crept up to 48. With no local police force, residents said they feel less safe. In recent months there have been assaults and the alleged attempted kidnapping of a minor, law enforcement officials said. Blizzard and another trooper flew to the island one day in late February to arrest a man who was charged with seven felonies, including sexual abuse of a minor and incest, according to the Division of Alaska State Troopers.

Zavadil picked them up at the airport, set amid fields of grass and wild celery where a herd of reindeer roam. Zavadil now also functions as St. Paul’s acting director of public safety, as well as its acting director of public works, harbormaster, volunteer fire chief, and whatever else comes up.

He is a former AmeriCorps Vista volunteer from Southern California who moved to the island in 1998, when its population surpassed 500 people. He worked for the Aleut tribe for 18 years — founding its Ecosystem Conservation Office — before becoming city manager.

“Knock on wood,” he said. “We haven’t had a public safety threat that threatens the whole community.”

Ethan Candyfire served for a couple years as a police officer here before taking a job as the DJ at the radio station. Candyfire coaches youth basketball, paints murals, and plays drums in one of the two island bands.

Candyfire, who moved to the island 14 years ago from Oklahoma, thinks about leaving. He also values the freedom of living here, so far from everyone else, and the bonds of their community. The island still feels wild and timeless. Whales spout offshore. His kids swim in pristine lakes near where woolly mammoth teeth have been found.

Anyone can hunt the reindeer at any time. They are one of the winners as the climate warms. With warmer summers, there is more vegetation, and they feast on wild celery root. The herd has grown to almost 1,000 strong, more than the Ecosystem Conservation Office would like.

With grocery prices so high, Candyfire wanted to stock his freezer with meat. Zavadil taught him how to hunt, skin, and butcher a reindeer. But Candyfire felt rusty. He crept across the tundra, staying low behind ridges until he got in position. When he fired, the herd broke into a run, assembling into a tight, spinning circle, the females and young in the protected center.

He aimed and fired a second time, and missed again.

When he got back to the van he packed up his rifle.

“I guess hamburger helper tonight, not backstrap,” he said.

The collapse of a species

The sea ice that used to envelop St. Paul has done so only once since 2013, and then only fleetingly.

“Now, most years it doesn’t come at all,” said Brian Brettschneider, Alaska region climatologist for the National Weather Service. “And it’s not coming this year.”

Since 1940, the average surface temperature of the central Bering Sea around St. Paul has risen 2.4 degrees Fahrenheit — with a particularly elevated period between 2014 and 2021, according to National Oceanic and Atmospheric Administration data.

The 2 million metric tons of groundfish harvested there each year are a crucial part of the nation's food supply. Decades of fisheries research here had developed such a finely grained picture of the marine ecosystem that scientists used to be able to predict with startling accuracy the performance of fish and crab stocks even years out, said Bill Tweit, vice-chair of the North Pacific Fishery Management Council, which manages Alaskan fisheries including in the Bering Sea.

Climate change has blown up that confidence, an impact Tweit likened to someone pushing down the plunger on a "big box of TNT."

The Bering Sea's record-breaking heat wave started in 2018. Erin Fedewa, a fisheries biologist, saw firsthand the carnage wrought by this explosion during NOAA's annual survey of crab and fish populations as the waters warmed. In 2021, she spent two months on a bottom trawl boat. Three years earlier, her nets teemed with young snow crab. Now they were coming up empty.

Between hauls, she would study the historical numbers and send messages to colleagues onshore trying to express the gravity of what she was discovering.

"Something crazy is going on here," she recalled thinking.

The subsequent research by Fedewa and others on the disappearance of more than 90 percent of the population found that warmer water sped up the crabs' metabolism and led to a mass starvation event.

The past few years have seen cooler waters in the Bering Sea. Snow crab started to recover and the Bering Sea fishery reopened last year with a small quota, although St. Paul's processing plant stayed closed. Federal disaster funds and a share of tax revenue from crab delivered to other ports have helped stabilize city finances.

This winter, however, ice in the Bering Sea has again been disappointing, part of a record low across the Arctic. And for the past three months, a warm trend has reemerged.

"The southern Bering Sea is in heat wave status again right now," said Elizabeth Siddon, a NOAA Fisheries biologist in Juneau who leads the Bering Sea ecosystem status report.

'Where did they all go?'

What is happening in those waters will, one way or another, be felt on St. Paul. There is the possibility we may soon know less about why.

The accumulated knowledge of the ecosystem and the sea around it comes from years of work by residents and U.S. government scientists who have been studying it for decades. The Ecosystem Conservation Office has heard from colleagues in federal agencies that funding and staff cuts might prevent their field visits this year.

“All of that work is on the chopping block,” said Lauren Divine, director of the ecosystem office.

NOAA and the U.S. Fish and Wildlife Service declined to comment on whether research would be interrupted.

The decline of the fur seals that once attracted fortune-hunters to this island from around the world remains a mystery.

Rodney Towell, a NOAA statistician, has been visiting St. Paul to count those seals for the past 37 years. There were about 182,000 fur seals born his first year and 67,000 in his most recent estimate. Whether the driving force is an inability to find food, disease, overfishing, warming waters or some combination of other factors is still largely unknown, he said.

In August, 10 dead sea lions washed up on a beach near Sea Lion Neck, a baffling discovery that confounded the ecosystem office. Its analysis now suggests they died from a toxin in an algal bloom — possibly connected to warmer waters.

Another small erosion in a long decline.

“When I first started working there, it was phenomenal,” Towell recalled. “You look across the rookery, the cacophony of noise coming up out of that — I mean, it was just stunning.”

That carpet of fur seals now appears as clumps and patches.

“And it’s just like, where did they all go?” he wondered. “It’s really disappointing. Almost painful.”

Paul Melovidov, 64, who leads the indigenous sentinel program with the tribe’s ecosystem office, described the same experience watching seabirds thin out. The magnificent, uncountable flocks that would descend each spring is something his younger colleagues will not get to see.

“It was paradise,” he said.

What readers are saying

The comments reflect concerns about the impact of climate change on St. Paul Island, particularly the warming of the Bering Sea. There is a sense of urgency and frustration with political inaction, especially from the Trump administration, regarding climate change policies. Some... Show more

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