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- Alaska's big salmon payoff
- Bookshelf: Herring history

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Freshly landed Pacific herring. James Mackovjak photo

Herring history

A forthcoming book chronicles the colorful story of Alaska's herring fishery

Editor's note: A new book is coming soon from James Mackovjak titled "Alaska Herring History: The Story of Alaska's Herring Fishery and Industry." The book is a highly detailed and entertaining review of an important Alaska commercial fishery, covering the early years of salted herring, the rise of highly competitive roe herring fisheries, the perilous use of spotter planes, the development of spawn-on-kelp fisheries, and much more. The University Press of Colorado is publishing the book, which is expected to be in print in April 2022. Mackovjak has been involved with Alaska fisheries since he first arrived in the state in 1969, working as a commercial fisherman and operating a small fish-processing business at Gustavus, in Southeast Alaska. In 2013, he received the Alaska Historical Society's Pathfinder Award of his previous books including "Alaska Salmon Traps" (2013). In 2019, the University of Alaska Press published his book "Alaska Codfish Chronicle: A History of the Pacific Cod Fishery in Alaska." Here are excerpts from Mackovjak's forthcoming "Alaska Herring History," including a look at the development of the roe herring fisheries and a review of the stormy 1976 herring season in Prince William Sound. Endnotes in the book are omitted here.

Alaska's roe herring fishery, its genesis and management

Salted herring roe – *kazunoko* in Japanese – is a delicacy in Japan that is traditionally served or given as gifts during the new year's celebration. Mature herring roe is bright yellow, with translucent eggs and few blood vessels. It has firm consistency and a sticky feel. For retail sale, kazunoko is packaged in decorative trays and sold in department stores and other gift outlets.

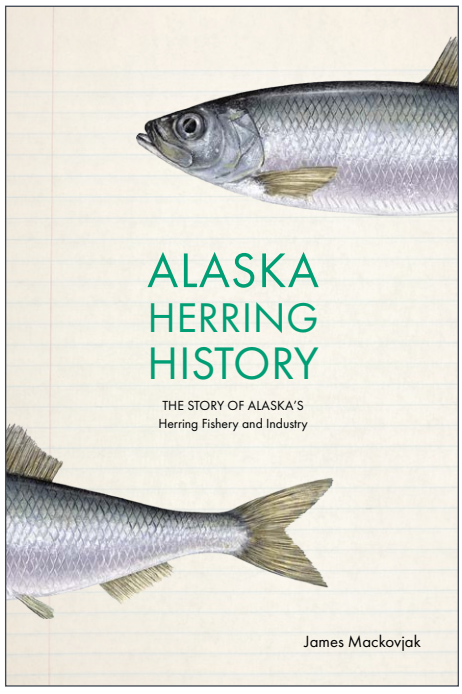
Before being served, kazunoko is soaked overnight in fresh water to remove most of the salt. When ready to be eaten, kazunoko is typically marinated in spices and soy sauce. When the egg skein is bitten into, each egg pops individually, providing a mildly crunchy sensation.

Among other benefits, eating herring roe, according to Japanese lore, increases fertility. Translated, the word kazunoko means "more sons and daughters."

Roe herring are caught in waters on or near herring spawning grounds in the spring, just prior to spawning, when the roe is fully mature and the roe content is highest. The market favors fish that weigh from 160 to 200 grams (5.6 to 7 ounces), which puts the egg skeins at the optimum size for gift packs.

Roe herring processors typically want fish with a minimum roe content – weight of the roe in relation to the weight of the entire catch (both females and males), as determined by on-the-grounds sampling – of 10 percent, which is an indicator that the roe is mature. The price paid for fish with a 10 percent roe content is usually the base price in a fishery. Processors typically pay more for catches with a higher roe content and less for catches with a lower roe content.

The Japanese traditionally sourced roe herring in their coastal waters, but in the mid-1950s, herring stocks there began declining, and the Japanese began looking internationally for a replacement source of



Roe herring in Alaska are caught primarily using purse seines. ADF&G, Beaver Nelson photo

Stripping roe herring, Seward, circa 1972. James Mackovjak photo

herring roe. Sources eventually included Alaska, California, and British Columbia, as well as eastern Canada, Russia, Korea, China, and several northern European countries, such as the United Kingdom (Scotland), Ireland, the Netherlands, and Germany. Generally, the most valuable roe came from British Columbia, followed by San Francisco and then Alaska.

Roe herring in Alaska are primarily caught using purse seines, but in some fisheries gillnets and beach seines are also employed. While seines catch both large and small fish, the mesh on gillnets can be sized to select for large fish.

In Alaska, the relatively high prices paid to fishermen caused a rapid expansion of the roe-herring fishery. Officially referred to by the Alaska Department of Fish and Game as the herring sac roe fishery, by the early 1970s it had become the largest herring fishery in Alaska. Because it occurred in the spring, before Alaska's salmon seine and gillnet fisheries opened, the roe herring fishery provided an important economic boost to fishermen, fish-processing plant workers, and local economies during what was usually a lean time of year.

The market for kazunoko, however, has declined. By 1990, Japanese buyers were warning of a falling demand for the product. Two factors accounted for the decline: The Japanese were becoming more health conscious and eschewed the salted product, and the younger generation had acquired Western eating preferences. Nevertheless, it was a few years later, 1995, that the value to fishermen of Alaska's roe herring fishery – a function of the volume of fish caught and the ex-vessel price – peaked. That year, the statewide ex-vessel value totaled nearly $100 million. By 2020, the market for kazunoko made from Alaska herring was a shadow of its former self. However, kazunoko produced from British Columbia herring is considered a premium product, and has retained a solid, if limited, market.

Alaska's three largest roe herring fisheries were, in chronological order based on their inception as major fisheries: in Prince William Sound, in Sitka Sound, and at Togiak, in Bristol Bay. Somewhat smaller roe herring fisheries occurred at Kodiak Island, in Lower

Cook Inlet, and in Norton Sound.

Unfortunately, there is not space in this book to discuss the many small or short-lived roe herring fisheries that have occurred along Alaska's coasts.

Roe stripping: The process of extracting herring roe – which was commonly employed in Alaska until the mid-1970s – was crude. It was generally known as "roe stripping," but in polite circles, the process was referred to as the "decomposition method." In less polite circles, it was "pop and dump."

In the process, herring, with several shovelfuls of salt, were loaded into totes (in the early years plywood boxes lined with plastic bags, each holding about a ton of herring). Water was added to fill the tote, and the fish was then allowed to "age" – a polite word for rot – in the brine for about four days. But it was the flesh, not the eggs, that rotted; the egg skeins actually hardened a bit. Removing the skeins was simply a matter of squeezing the herring just above the visceral cavity, and the egg skeins would push through the rotted belly flesh and "pop" out. The skeins were then graded by Japanese technicians and packed in brine in 5- or 6-gallon plastic buckets. The filled buckets were kept under refrigeration.

Squeezing roe herring aboard a power scow, Prince William Sound, 1974. James Mackovjak photo

Squeezing herring was low-skill, piecework employment. And it was stinky: A sign on the door of the laundromat in Seward in 1973 read "No Herring Squeezers." Little was required in the way of facilities or equipment: a table, running water (even saltwater), a scale, and some baskets were all that was necessary. Some processing facilities were makeshift, with tarps for roofs or no roof at all. Roe herring were also processed aboard vessels. Popular for this sort of operation were power scows – World War II-era wooden boats that were cheap and had considerable deck space and crew accommodations.

Kazunoko, packaged. Gunnar Knapp photo

Roe-stripped carcasses (and male herring) were typically discarded overboard on site.

By 1970, Juneau Cold Storage, and perhaps other firms as well, was freezing whole roe herring in boxes and shipping the product to Japan. By the mid-1970s, freezing whole herring had become the mostly standard practice in Alaska. In 1977, Alaska's legislature outlawed roe stripping, though it provided a temporary exemption for Bering Sea operations.

Prince William Sound roe herring fisheries

The Prince William Sound herring fleet grew in 1976. In early April, before fishing started, ADF&G counted 103 seiners and 53 tenders in the Valdez Arm area. At that time, the Alaska Commercial Fisheries Entry Commission was contemplating limiting entry into several herring fisheries, and some of the boats may have been in the Sound mainly to establish a record of participation in the herring fishery there.

Given the large number of boats and the need to keep within the Sound's 5,000-ton quota, ADF&G elected to manage the fishery by shortening the amount of time that fishing would be allowed.

While they were waiting for the herring to show – and negotiating with processors over the price they would be paid for the fish – fishermen were entertained each evening by the marine VHF radio broadcasts by "Herring Rose," a play on "Tokyo Rose," of World War II infamy. Tokyo Rose had tried to demoralize American soldiers and persuade them to give up the fight; Herring Rose, with her seductive voice, tried to persuade herring fishermen to go home to their wives and girlfriends. This would leave more fish for the boat she was on.

A typical broadcast began with "Hello again, you darling fisher-

men out there waiting in vain for the elusive herring to show, while your girlfriends and wives are having the time of their lives partying it up with the other guys back in town." This was followed by a sigh and a deep, sexy moan. Sometimes her taunts were directed at individual fishermen: "You know who I mean, don't you, Joey. I wonder who's sleeping in your nice big bed at home tonight while you toss and turn all night out here in your tiny little rock-hard bunk."

Prince William Sound fishermen were still waiting for the herring to arrive and were still negotiating a price for herring when, on the night of April 25, a huge, unexpected storm struck. Much of the seine fleet and its tenders were anchored in Gibbon Anchorage, a shallow, rock-strewn bay on the north shore of Green Island. Some seiners were tied to tenders, and others had spotter planes tied to their sterns.

Normally, Gibbon Anchorage was a fairly safe place to anchor, but the tide was exceptionally high that night and rose over the spit that protected the bay on its east side. The strong winds and large seas that suddenly developed that evening caused boats to drag anchor and crash against one another. Planes began to break loose. Basically, it was a frantic maritime traffic jam on foul grounds, as boats hauled anchor or cut loose from their tenders and sought shelter behind rockpiles and small islands. The wind blew a steady 50 knots, with gusts estimated to be twice that. And the seas were huge.

The storm blew itself out that night, and by morning the sea was like glass. But there was considerable damage: Several boats and airplanes were damaged, and one boat was lost. The boat lost was a tender, the GW King, a 105-foot power scow, which struck a rock pinnacle and broke into pieces. Fortunately, no one was killed or seriously injured.

Fishermen and processors were still negotiating a price when marketable herring showed up in the northeast reaches of the Sound a few days after the storm – and a couple of weeks later than usual. ADF&G opened the fishery for one hour on April 30, but the seiners and processors hadn't yet agreed on a price, so the seine fleet remained at anchor, as it did during a pair of successive one-hour openings over the following two days.

On May 5 – after the schools of fish that might have been caught during the three nonevent openings had spawned – fishermen and processors finally settled on a price of $175 per ton. Herring showed up at Green Island two days later, and ADF&G scheduled a one-hour opening on May 9.

By then, however, much of the fleet had left, discouraged by the self-imposed strike, the late show of herring, or the need to repair damage caused by the storm. ADF&G was unsure of the number of seiners that fished at Green Island, but only 66 made deliveries. Others made sets but did not catch fish or had their seines torn on rocks and lost their catches. And, in some cases, gear congestion prevented boats from even making sets.

Some fishermen and processors elected to persist, and on June 6 a dozen seiners landed 417 tons of herring during a 12-hour opening in eastern Prince William Sound. And, perhaps mercifully, the season was over. The fleet's total catch was only 2,584 tons, a little more than half the quota.

Significantly, the 1976 herring year-class in Prince William Sound was a strong one and would support large catches in 1980-82.

Seward Fisheries (Icicle Seafoods) had been one of the main buyers of Prince William Sound herring, and in 1976 the company began operating a reduction plant. Previously, herring carcasses (and other offal) were ground up and pumped overboard. Now they were used to make fishmeal and fish oil. ⚓