



2024 Preliminary Yukon River Salmon Fisheries Review

Supplemental handout from the U.S. Fish and Wildlife Service Yukon Team
For the Fall Regional Advisory Council Meetings

This summary is considered preliminary as estimates of abundance may change post season. Fall season data for chum and coho salmon are still being compiled at time of submission, and therefore should be considered incomplete. This report is compiled by U.S. Fish and Wildlife Service (USFWS) in cooperation with the Alaska Department of Fish and Game (ADF&G).

Going into the 2024 fishing season, Yukon River fishers were provided preseason information on what to expect. The outlook and management strategy were discussed in depth during the spring of 2024 at the following meetings: the Yukon River Panel, the Yukon River Intertribal Fish Commission preseason meeting, and the Yukon River Drainage Fishermen's Association (YRDFA) preseason meeting, and Tribal Consultations. The colored Outlook flier with the pre-season management strategy was mailed to all Yukon River households in May. Below an outline was provided on how each run compared to their respective preseason forecast and historical run sizes.

2024 Summer Season

The drainage-wide Chinook salmon outlook was for a run size of 45,000 to 68,000 fish, and the Canadian-origin Chinook salmon outlook was for a run size of 19,000 to 28,000 fish. These run sizes are well below historical average, and no escapement goals were expected to be met this year in Alaska or Canada. Both would require full subsistence harvest closures for Chinook salmon. During the previous five seasons, nearly half of the Canadian-origin Chinook salmon (based on genetics) that passed Pilot Station arrived at the Eagle sonar. While the cause for the discrepancy is unknown, there are indications Chinook salmon may be dying during their migration in the upper river (known as en route mortality). See details of collaborative research in the "*Ichthyophonus*" section below. Taking into account these recent trends of fewer Canadian-origin Chinook salmon making it upriver, preseason border passage was projected to be as low as 9,000 to 19,000 fish.

As of September 7, the final day of operation for the mainstem Yukon River sonar project located near Pilot Station, the preliminary drainage-wide Chinook salmon run size estimate was

64,449 fish (Figure 1), which was within the preseason outlook. Of the drainage-wide estimate for Chinook salmon at Pilot Station sonar, approximately 28,000 (+/- 7,460) fish were determined to be of Canadian-origin by Genetic Mixed Stock Analysis (MSA). The preliminary Canadian-origin Chinook salmon escapement based on Eagle sonar near the U.S./Canada border was 24,112 fish (Figure 2). This year, there was not a large difference between the estimated U.S./Canada border passage obtained from Pilot Station sonar, and the U.S./Canada border escapement for Canadian-origin Chinook salmon at Eagle sonar that was observed since 2019. The agreement between these two locations that estimate the number of Canadian-origin Chinook salmon potentially means there was minimal en route mortality or undocumented harvest this season between Pilot Station and Eagle projects. Though the escapement seen at the Eagle sonar was an improvement over the record low escapements of 2022 and 2023, it is considerably lower than the Rebuilding Target of 71,000 Chinook salmon.

The drainage-wide summer chum salmon outlook was for a run size of 550,000 to 1,800,000 fish and the drainage-wide summer chum salmon goal was anticipated to be met. Subsistence fishing for summer chum salmon started the season with closures in place, and then selective gear types (dip nets and manned fish wheels) were allowed for most of the season. All Chinook salmon were required to be released alive. As of July 18, 2024, the preliminary drainage-wide summer chum salmon run based on Pilot Station sonar was 757,817 fish (Figure 3), which is within the preseason forecast and falls within the drainage-wide escapement goal of 500,000 to 1.2 million summer chum salmon.

Although the drainage-wide escapement goal was achieved for summer chum salmon, the tributary escapement goals for summer chum salmon was not achieved at the East Fork Andreafsky River weir and the Anvik River sonar. The East Fork Andreafsky River weir counted 190 summer chum salmon, which was below the goal of 40,000 chum salmon. The count of 190 summer chum is considered a minimum count because high water prevented the weir from enumerating fish during their expected peak passage days. Aerial surveys conducted in July counted 3,825 summer chum salmon in the east and west forks of the Andreafsky River. The Anvik River sonar counted 99,648 summer chum salmon, which was below the goal of 350,000 to 700,000 chum salmon. This is important to note that although the drainage-wide goal was achieved, some of these key systems for summer chum salmon production did not meet respective escapement goals.

2024 Fall Season

The drainage-wide fall chum salmon preseason projection was for a run size of 263,000 to 474,000 fish. While the minimum run projection was near the drainage-wide escapement goal of 300,000–600,000 fall chum salmon, a conservative approach was warranted based on uncertainty about survival of all age classes. Approximately 246,152 chum salmon passed the sonar after July 18 through September 7 (Figure 4). Genetic MSA was applied to Pilot Station sonar counts

to provide a more accurate index of fall chum salmon abundance. The in river abundance estimate of fall chum salmon is approximately 200,375 and is below the 300,000 fish needed to meet escapement needs or provide any subsistence harvest. Fall chum salmon MSA estimates from Pilot Station sonar indicate Canadian border objectives for fall chum salmon will not be met this season, and the expected mainstem Canada/Eagle sonar proportion within the fall chum salmon run may be one of the weakest observed since MSA began in 2004. Upper Yukon River escapement projects for fall chum salmon are still ongoing at the time this document was submitted, therefore estimates are incomplete, but no escapement goals are expected to be met for fall chum salmon. Eagle sonar began counting fall chum salmon on August 27, as of September 23, 2024, the fall chum salmon count is 6,493 which is below the average of 69,956 for this date. As of September 22, 2024, the Fishing Brach weir/sonar count for fall chum salmon is 2,195 fish, which is below the average of 12,148 for this date. As of September 23, 2024, the passage estimate for fall chum salmon at Teedriinjik sonar is 45,584 fish, which is below the average of 150,023 fish for this date. The Sheenjek River sonar count for fall chum salmon is 10,592 fish, which is also below the average of 61,468 fish for the same date.

The coho salmon run outlook was projected to be below average compared to a historical average run index of 222,000 fish. As of September 7, 2024, the coho salmon run counted at Pilot Station sonar was 77,421 fish, which is below the average of 137,791 fish for this date (Figure 5). The coho salmon run size based on late run timing is projected to be 85,000 fish.

Management Actions

The Office of Subsistence Management (OSM) received special action request FSA24-01 asking the Federal Subsistence Board (Board) to close Federal public waters of the Yukon River drainage to the harvest of Chinook, chum, and coho salmon except by federally qualified subsistence users from June 1 through September 30, 2024, and to require that Federal subsistence fishing schedules, openings, closures, and methods be determined by the Federal Fisheries Manager. This request was passed by the Board. When any salmon fishing opportunity was provided, fishing was limited by the Federal manager to federally qualified subsistence users only in Federal public waters.

Unfortunately, due to the poor outlook and returns, directed subsistence salmon fishing for Chinook salmon was closed for the entire season. Selective gear fishing opportunities to target summer chum salmon were opened in areas where summer chum salmon are present and retention of pink, sockeye, and coho salmon was allowed as well.

The opportunity to harvest nonsalmon was provided throughout the salmon seasons with nonsalmon gear. Nonsalmon gear includes dip net, beach seine, manned fish wheel, hook and line gear, hand line, longline, fyke net, and spear. These gears allow fishers to target nonsalmon, sockeye, and pink salmon, and allow the safe release of any salmon that may not be retained due

to conservation concerns. The use of 4-inch or smaller mesh set gillnets of 60 feet or shorter length for nonsalmon was closed for a two-week period during the peak of the Chinook salmon run in each fishing district. This restriction was an effort to reduce incidental harvest of Chinook salmon.

Once fall chum salmon were more abundant in the run, retention of fall chum salmon was closed in each district, but selective gears were still legal for retention of coho salmon. However, assessment indicated the coho salmon run was very weak and retention was no longer allowed. To protect the migrating fall chum and coho salmon, the use of 4-inch or smaller mesh set gillnets was placed on a fishing schedule which only allowed that gear on Fridays through Sundays. All management restrictions will be lifted once the majority of fall chum salmon have moved through each area of the river, based on migration timing however some spawning tributaries may remain closed for protection of eggs in the gravel.

The USFWS and the Yukon River Fishery Management team acknowledges the tremendous hardship, loss of cultural practices, and unprecedented sacrifice within Yukon River households and communities in these disheartening times of low salmon abundance. We recognize all of those who continue to be stewards of their surrounding lands and waters and would like to express a special thank you to those who have stayed involved at various public outreach meetings.

Tribal Consultation, Public Outreach, and Meetings

The USFWS has a core mission to consult with Federally Recognized Tribal Governments and the Yukon Fishery team has been working to expand and improve government-to-government consultation. This spring 2024, the USFWS held four district-wide formal Tribal Consultation teleconference meetings with Yukon River Tribal Governments. The Federal Subsistence Fishery Manager presented information on the outlook and management strategy for the 2024 salmon season, engaged in discussion among Tribal representatives and USFWS staff on the provided information as well as other topics such as the Federal special action request (FSA24-01), and other topics chosen by Tribal representatives. The Federal manager also hosted a public hearing to discuss fall season proposed temporary special actions, and this meeting generated very good discussion and feedback from Yukon River fishers.

This fall 2024, the USFWS will again offer one-to-one Tribal Consultations with any Tribal Government that requests one with the inseason manager. An invitation will be sent to each Yukon River Tribal Government and ANCSA corporation offering the opportunity to schedule a meeting. This approach allows each Tribal Government to tailor the consultation around their individual topics of concern, questions, or recommendations regarding Yukon River fisheries management. In spring, district-wide Tribal Government Consultations will be offered to share salmon outlooks prior to the 2025 fishing season.

Inseason assessment data and management actions were shared weekly on the Tuesday YRDFAs teleconferences. Management staff also responded to daily emails and phone calls from community members. The Federal emergency special actions were typically announced on the same day as ADF&G Advisory Announcements and were emailed to City and Tribal Government offices, posted online under Fisheries Special Actions on the Office of Subsistence Management website and Subsistence Facebook page, and distributed by email to anyone signed up to receive Federal announcements. **If you did not receive Federal announcements this fishing season, please contact the USFWS management staff (listed below) to get signed up for future notices. If you have feedback about federal management and how it went this season, we would love to hear it; please call or email the Federal team.**

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2024 *Ichthyophonus* Study

This was the final season for the drainage-wide project that monitored the amount of *Ichthyophonus* disease present in the Yukon River Chinook salmon population. The project is a collaborative effort between ADF&G, the USFWS, and multiple fish disease experts, affected communities, and local Yukon River fishers.

This year, sampling occurred at three sites: Pilot Station sonar test fishery in the lower river (operated by ADF&G), the Rapids test fishery contracted by the USFWS (in the middle river), and the Fort Yukon fishery contracted by the USFWS (in the upper river). Sampling goals were a maximum of 180 fish per site, but low catch rates contributed to the following sample sizes collected (n): Pilot Station (n = 176), Rapids (n = 180), and Fort Yukon (n = 144). All the sampled fish were handled with the highest care and respect. Each fish contributed to a variety of research projects addressing Yukon Chinook salmon health and life history, and were ultimately distributed to local elders, Tribal Governments, and individuals for subsistence use.

The overall goal of the project is to establish a new long-term *Ichthyophonus* disease monitoring platform in the lower Yukon River, build capacity and support for community based *Ichthyophonus* monitoring by Tribal Governments or local Yukon River fishers, and determine if *Ichthyophonus* is associated with en route mortality, allowing for appropriate management adjustments, if necessary. Preliminary results will be shared once data are analyzed, likely in winter of 2026.

The following figures show inseason abundance indices for each species compared to previous seasons. These estimates should not be used to compare to escapement goals, as runs are reconstructed post season using methods that account for harvest, escapement, and genetic mixed stock analysis. All estimates for 2024 are preliminary.

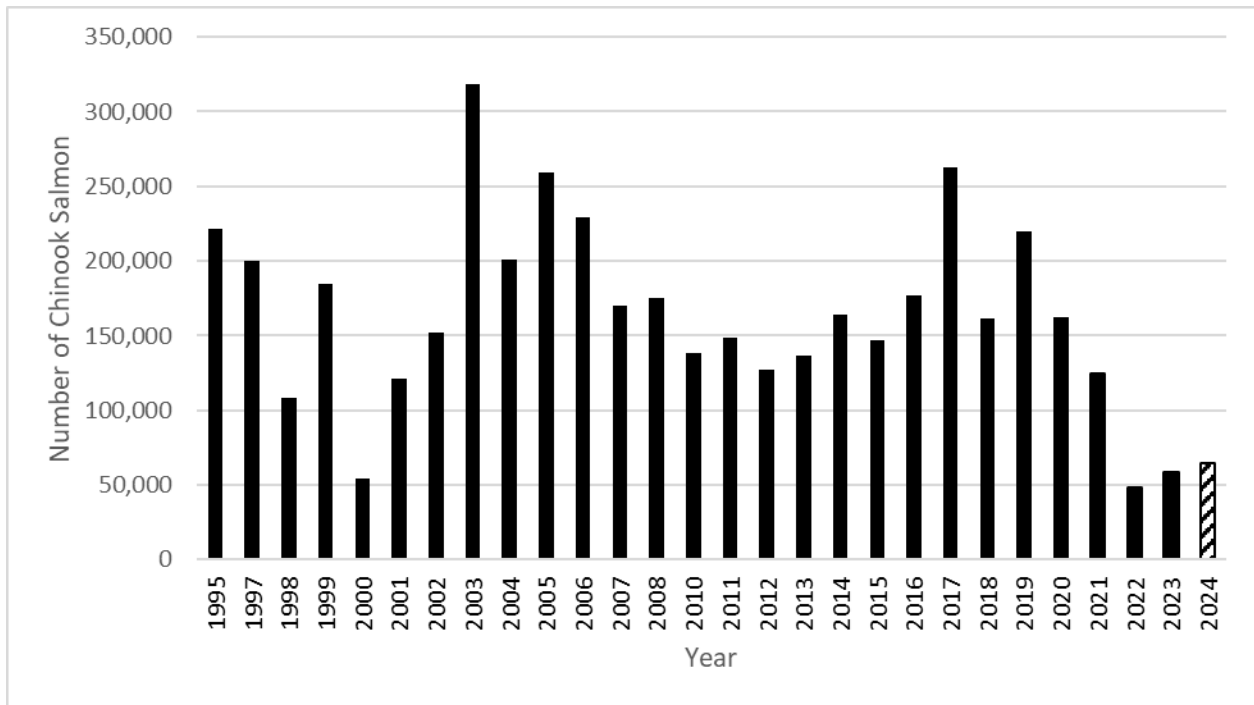


Figure 1. Cumulative passage of Chinook salmon at the Pilot Station sonar from 1995 through 2024, excluding 1996 and 2009.

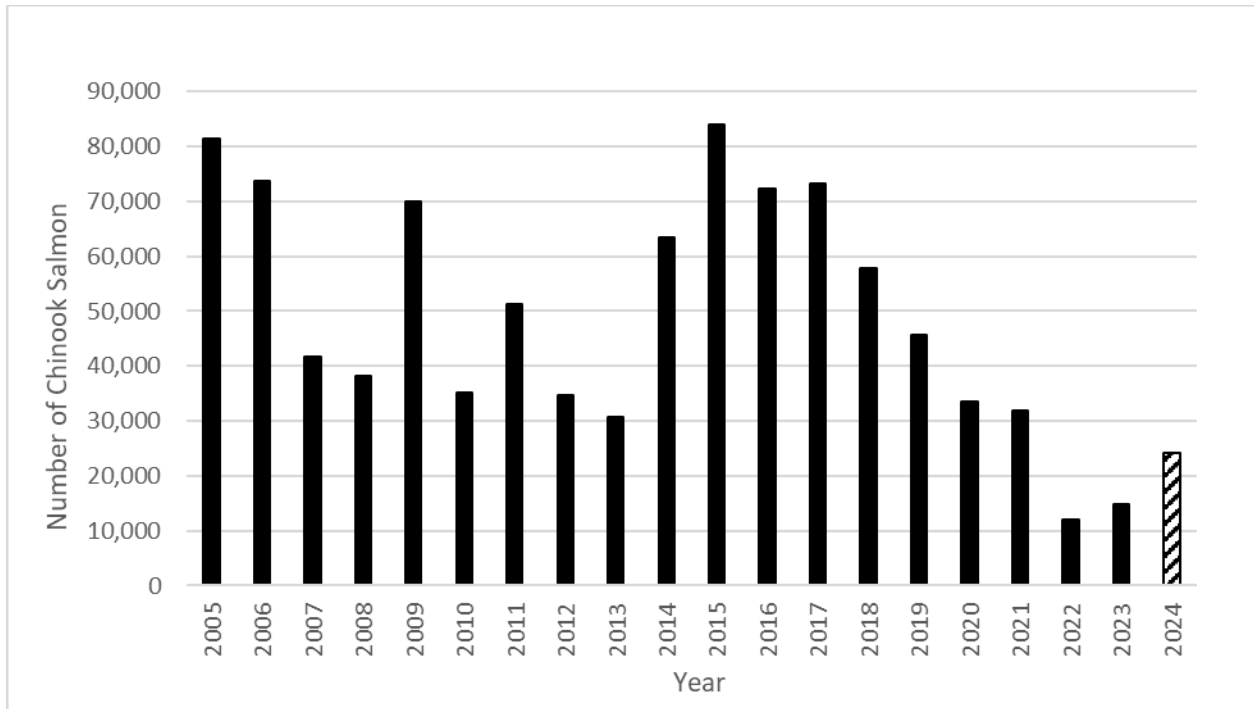


Figure 2. Cumulative passage estimates of Canadian-origin Chinook salmon at Eagle sonar from 2005 through 2024.

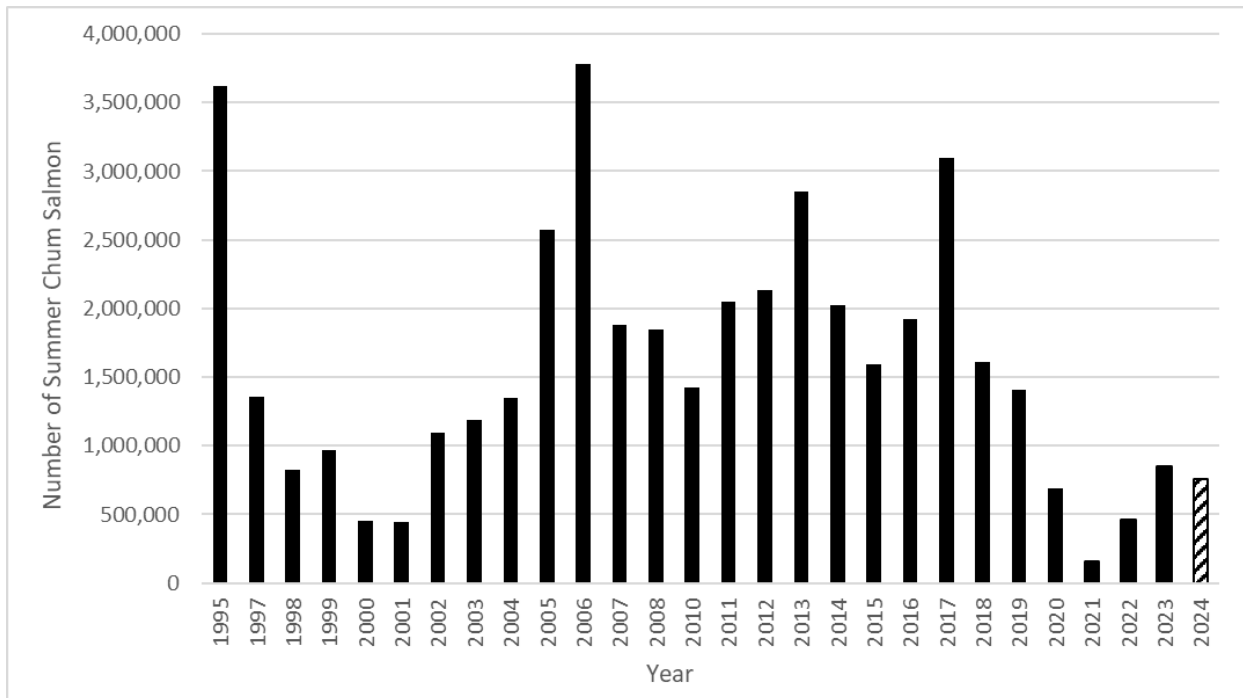


Figure 3. Cumulative passage of summer chum salmon at the Pilot Station sonar project (through July 18) from 1995 through 2024, excluding 1996 and 2009.

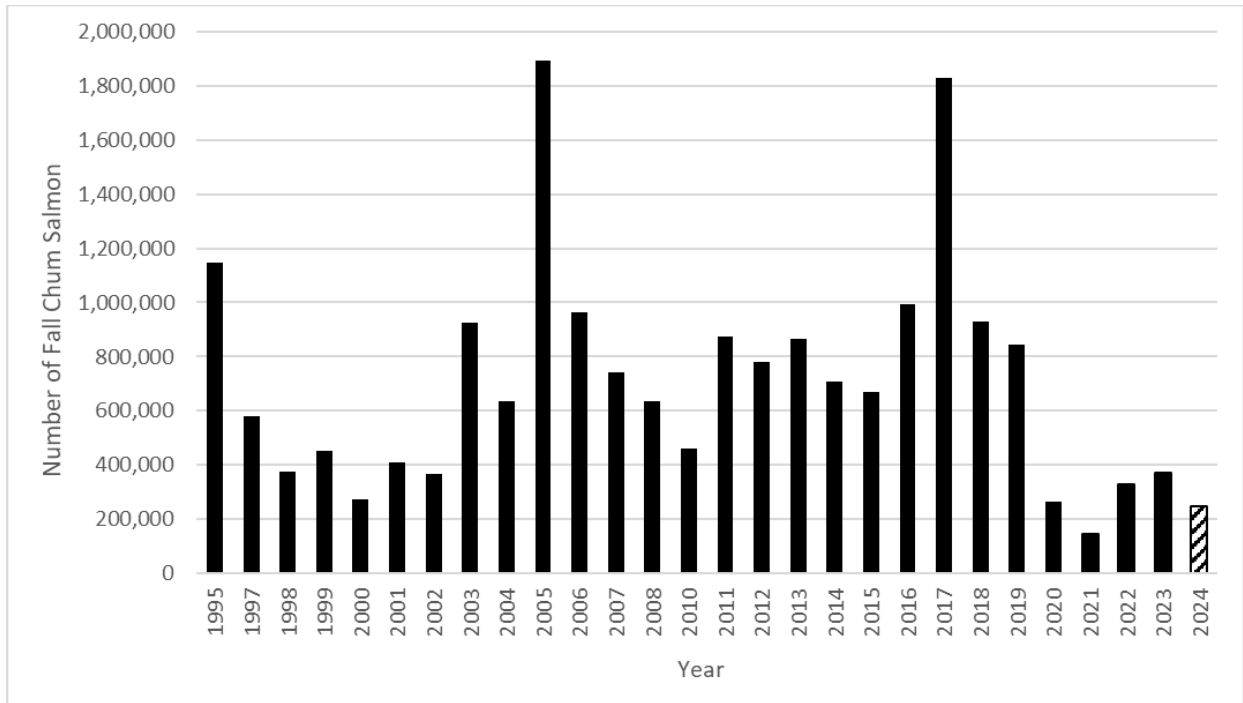


Figure 4. Cumulative passage of fall chum salmon (after July 18) at the Pilot Station sonar project from 1995 through 2024, excluding 1996 and 2009.

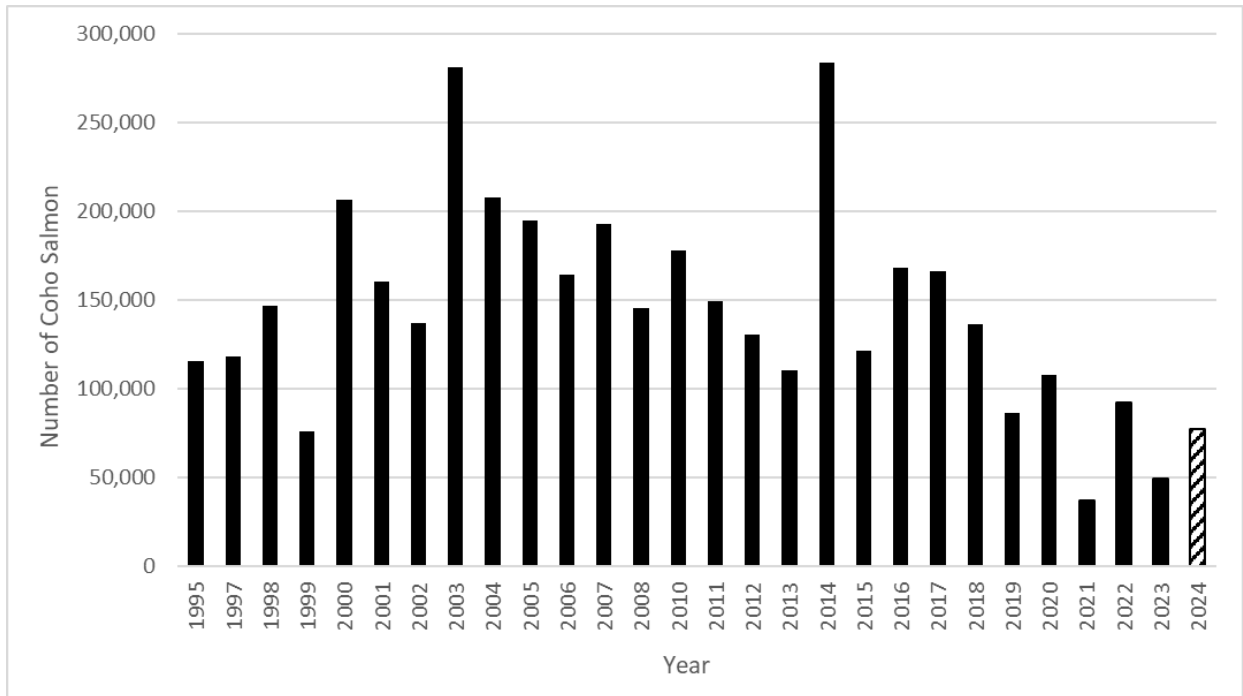


Figure 5. Cumulative passage of coho salmon at the Pilot Station sonar project from 1995 through 2024, excluding 1996 and 2009. The sonar ceases operation before the coho salmon run is complete, so estimates are considered minimum.