

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

2024 Strawberry Creek Weir Summary

The Wisconsin Department of Natural Resources (DNR) operates three salmon and trout egg collection facilities on Lake Michigan tributaries, including the Strawberry Creek Salmon Spawning Facility, or Strawberry Creek Weir (SCW) discussed herein. SCW is in Sturgeon Bay, Wisconsin in Door County and has been in operation since the early 1970s. SCW is the DNR's primary egg collection facility for Chinook salmon *Oncorhynchus tshawytscha* and typically provides the entire egg quota needed by the DNR to produce Chinook salmon for stocking into Lake Michigan.

This basic report summarizes the number of fish processed at SCW during 2024. Please note that these numbers cannot be interpreted as absolute numbers of fish returned. Many variables impact these spawning runs, including stream flow, lake level, water temperature, stocking numbers, survival, harvest, dates of operation for each weir, etc. These factors vary from year to year and can impact the number of fish available and processed at each egg collection facility. Egg collection goals also vary from year to year, depending on projected stocking quotas, DNR production needs, and egg requests from other states or agencies.

SPRING 2024

Approximately 111,910 Chinook salmon fingerlings from the Wild Rose State Fish Hatchery were stocked into a rearing pond at SCW over April 15 and 16, 2024. These Chinooks were reared in the pond for about five weeks and released on May 21, 2024. Rearing activities included feeding twice daily, monitoring water conditions (i.e., temperature, dissolved oxygen) and routine maintenance. Screens were pulled on the downstream end of the pond on May 21 and on the upstream end on May 26. The Chinooks worked their way out of the pond over the coming weeks. All Chinooks stocked at SCW in 2024 had adipose fin clips. Additionally, the right ventral fin was clipped on about 30,000 Chinooks stocked at SCW in 2024 for future age assignments.

FALL 2024

SCW was operated for Chinook Salmon spawning from Sept. 26 to Oct. 21, 2024. The weir was open and fishing for 25 nights. Specific processing dates for egg and data collections were Sept. 30, Oct. 3, 7, 10, 14, 17 and 21. The number of Chinook Salmon processed for data each day, were 476, 161, 1,086, 836, 1,143, 673 and 205, respectively (a total of 4,580). In addition to the 4,580 spawning Chinook Salmon processed for data, another 141 mortalities were removed from the pond and tallied at SCW during 2024 (a total of 4,721). This number of Chinook (4,721) is near the long-term average of 4,612 (Figure 1). Overall, 598 female Chinooks were spawned, and nearly 3.5 million eggs were collected (Table 1). The Chinook eggs were transferred to Wild Rose State Fish Hatchery, where they were incubated, hatched and raised until the following spring for stocking into several Lake Michigan tributaries.

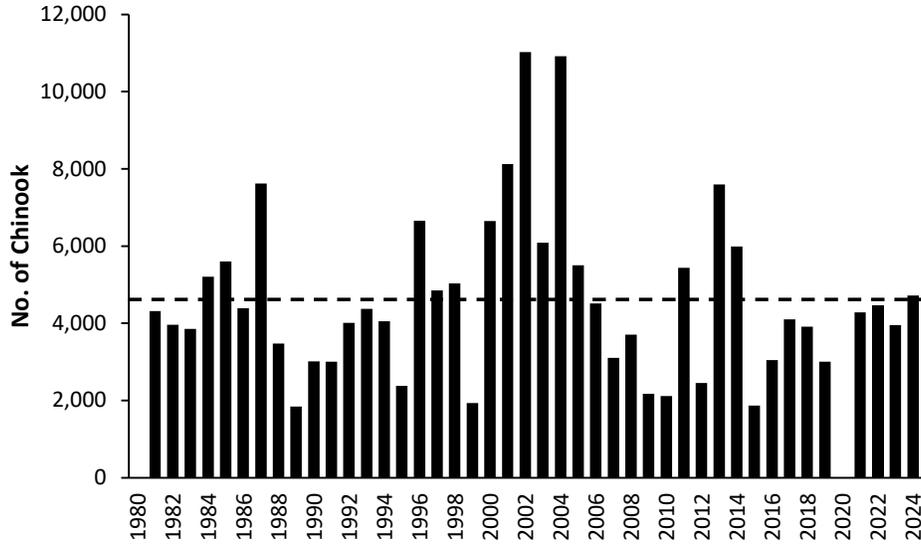


Figure 1. Numbers of Chinook Salmon handled during autumn spawning operations at the Strawberry Creek Weir per year from 1981-2024 (2020 data not available). The long-term average is 4,612 (dashed line). Several factors impact these numbers including stream flow from rainfall and supplemental water pumping, lake level, water temperature, stocking numbers, survival rates, dates of operation for the weir, etc.

Table 1. Numbers of Chinook Salmon processed for data, females spawned, eggs collected and average number of eggs per female at Strawberry Creek Weir during autumn 2024. (Note: All fish were not always removed from the pond each day, and instead fish were sometimes processed at a later date).

Date	Chinooks Processed	Females Spawned	Eggs Collected	Avg. Eggs Per Female
9/30/2024	476	0	0	-
10/3/2024	161	0	0	-
10/7/2024	1,086	144	676,471	4,698
10/10/2024	836	200	1,166,359	5,832
10/14/2024	1,143	120	755,227	6,294
10/17/2024	673	134	865,739	6,461
10/21/2024	205	0	0	-
Total	4,580*	598	3,463,796	5,821

*An additional 141 Chinooks were removed from the pond and stream and were just tallied from Sept. 29 to Oct. 21 (4,580 processed + 141 tallied = 4,721 total).

Nearly all Chinook Salmon at SCW were processed for data, including total length (mm), weight (kg), sex, lamprey scars and fin clips. Fish health veterinarians also collected samples from a subsample of fish. The total length for all Chinooks ranged from 11.1 to 43.4 inches (average = 32.4 inches) and ranged in weight from 0.4 to 28.4 pounds (averaged 12.6 pounds). A total of 2,985 males were sampled and ranged in total length from 11.1 to 43.4 inches (average = 32.2 inches) and in weight from 0.4 to

28.3 pounds (average = 10.7 pounds). A total of 1,595 females were sampled and ranged in total length from 25.0 to 42.1 inches (average = 35.1 inches) and in weight from 4.8 to 28.4 pounds (average = 16.1 pounds). The average weight of age-3 female Chinooks in 2024 was 16.96 pounds (N=266) based on known age-3 fish from fin clips at Strawberry Creek (Figure 2).

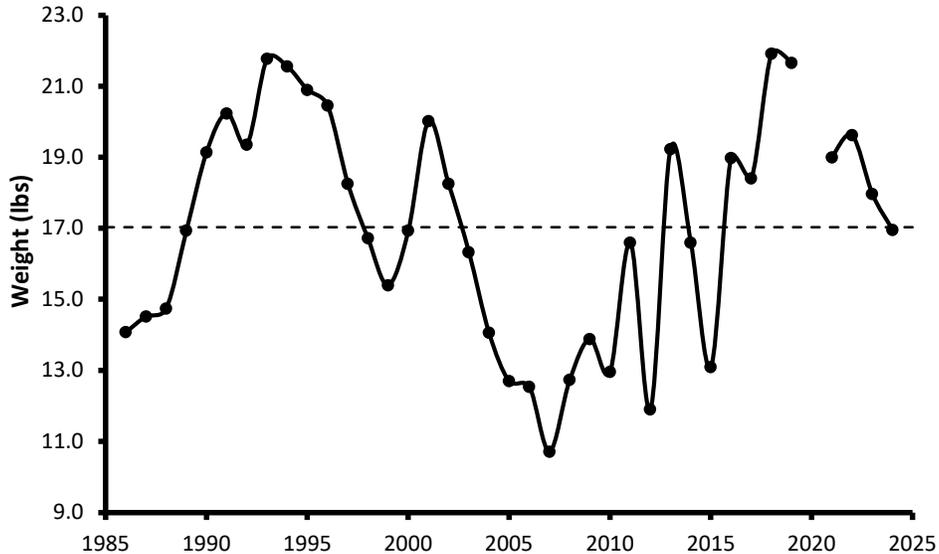


Figure 2. The average weight of age-3 female Chinook Salmon processed at the Strawberry Creek Weir per year from 1986-2024 (2020 data not available). The long-term average is 17.0 pounds (dotted line). Many factors impact Chinook size including alewife biomass, Chinook abundance and the ratio of predator/prey (etc.).

A water pump powered by a diesel engine was operated continuously to supplement stream flow at SCW from September 26 to October 21, 2024. The water level in Strawberry Creek was relatively low prior to pump operation. The pump increased flow and ensured that Chinook Salmon could easily swim upstream and seemed to trigger the annual Chinook spawning run by increasing stream flows.

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<http://dnr.wi.gov/topic/fishing/lakemichigan>

For fishing information, please visit:

<http://dnr.wi.gov/topic/fishing/lakemichigan/OutdoorReport.html>

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