

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

2019 Strawberry Creek Weir Summary

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Introduction

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 located in Sturgeon Bay, Wisconsin in Door County and has been in operation since the early 1970s. Strawberry Creek Weir 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 2019. 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 2019 Strawberry Creek Summary

Approximately 112,175 Chinook Salmon fingerlings from the Wild Rose State Fish Hatchery were stocked into a rearing pond at SCW on May 3, 2019. These Chinooks were reared in the pond for about three weeks and released on May 28. Rearing activities involved feeding twice daily, monitoring conditions (i.e., temperature, dissolved oxygen) and routine maintenance. To release these Chinooks, a seine net was used to direct Chinooks out of the pond and into the creek. The pond was seined on May 28. All Chinooks stocked lake-wide from 2011-2016 were marked with adipose fin clips and coded wire tags (CWTs). This Great Lakes Mass Marking program then shifted focus to steelhead *Oncorhynchus mykiss*. All Chinooks stocked at Strawberry Creek in 2019 still received adipose fin clips but didn't

receive CWTs. About 30,000 Chinooks stocked at Strawberry Creek in 2019 received left and right ventral and adipose clips for future age assignments.

Autumn 2019 Strawberry Creek Summary

Due to challenges associated with high lake and stream water levels, Chinook eggs were not collected for hatchery production at Strawberry Creek in. The Strawberry Creek facility was operated on a limited basis for data collections, with no hatchery egg collection. The weir was fished only seven nights, instead of three to four consecutive weeks per usual. Also, a diesel engine and pump, normally used to add water flow to Strawberry Creek during the spawning run, were not operated during 2019. Instead of collecting eggs at Strawberry, Chinook eggs were collected at the Besadny Anadromous Fisheries Facility and Root River Steelhead Facility to meet hatchery production goals.

The SCW fished for seven nights during 2019 from Sept. 27-30, Oct. 7-9, and Oct. 15-17. A total of 2,265 Chinook were processed for data, and another 745 Chinook mortalities were counted (Table 1; Figure 1). Chinook Salmon were processed for data, including length (millimeters), weight (kilograms), gender, lamprey scars, fin clips and CWTs. The average weight of age-3 female Chinook at SCW for 2019 was 21.7 pounds (N=564) based on known age-3 fish from CWTs (Figure 2).

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 2019. (Note: Every fish wasn't always removed from the pond each day, and instead fish were sometimes processed at a later date).

Date	Chinooks Processed	Females Spawned	Hatchery Eggs Collected	Average Eggs Per Female
Wed Oct. 2, 2019	576	0	0	N/A
Wed Oct. 9, 2019	850	0	0	N/A
Fri Oct. 18, 2019	839	0	0	N/A
TOTALS	2,265*	0	0	N/A

*An additional 744 dead Chinooks were removed from the pond and stream and were just tallied (2,265 processed + 745 tallied = 3,010 total).

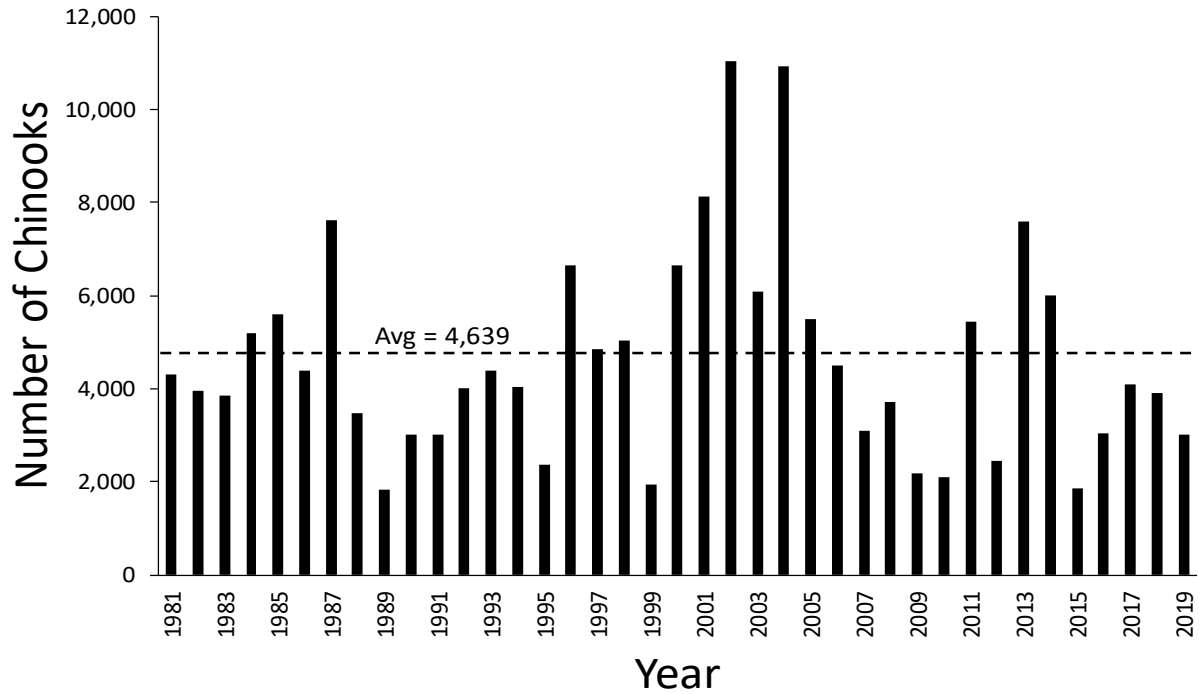


Figure 1. Numbers of Chinook Salmon handled during autumn spawning operations at the Strawberry Creek Weir per year from 1981-2019. The long-term average (dotted line) is 4,639. Several factors impact these numbers including stream flow from rainfall and supplemental water pumping, lake level, water temperature, stocking numbers, survival rates and dates of operation for the weir.

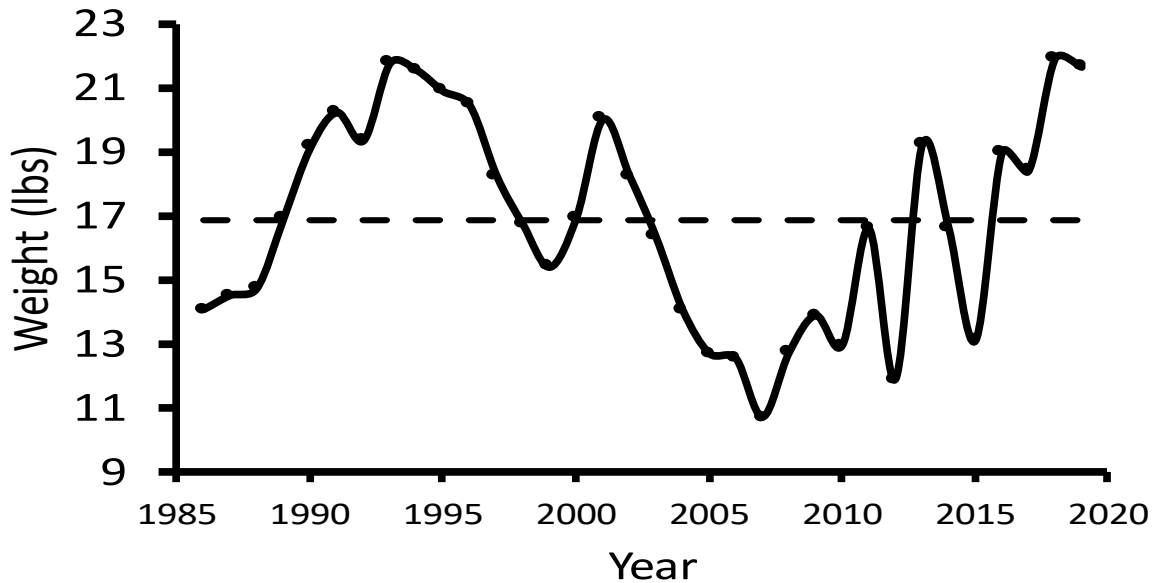


Figure 2. The average weight of age-3 female Chinook Salmon processed at the Strawberry Creek Weir per year from 1986-2019. The long-term average (dotted line) is 16.9 pounds. Many factors impact Chinook size including alewife biomass, Chinook abundance and the ratio of predator/prey (etc.).

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

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