

Quick summary of salmon observation data on Vashon Island from 2001-2009

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This data is taken from King County annual salmon watcher reports:

<http://www.kingcounty.gov/environment/animalsAndPlants/salmon-and-trout/salmon-watchers/reports.aspx>

SITES:

Christensen, Fisher, Judd, Shinglemill, Gorsuch.

OBSERVATIONS:

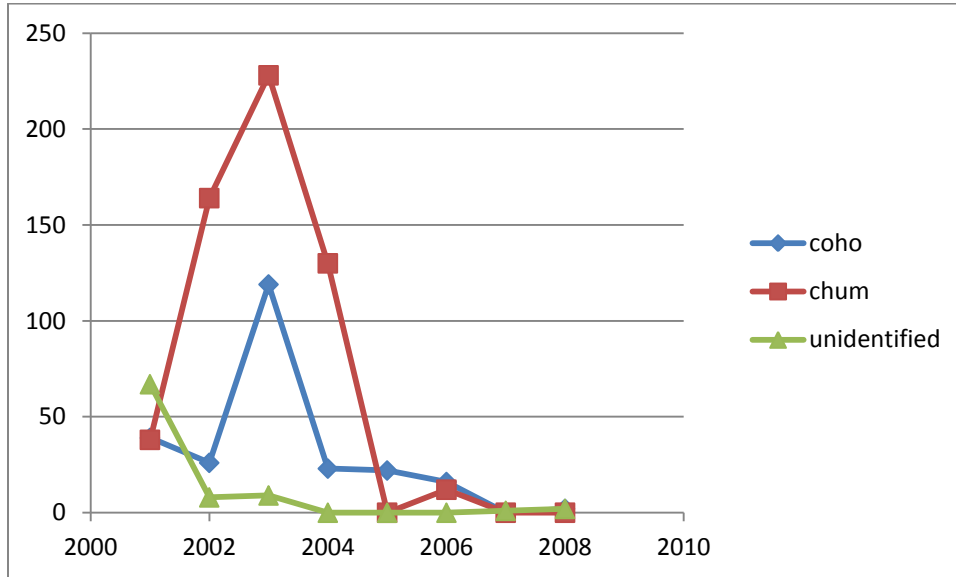
Gorsuch: observed one year and no fish were recorded.

Christensen: 2001-2003, 2005, 2006. One coho was observed in Christensen in 2002.

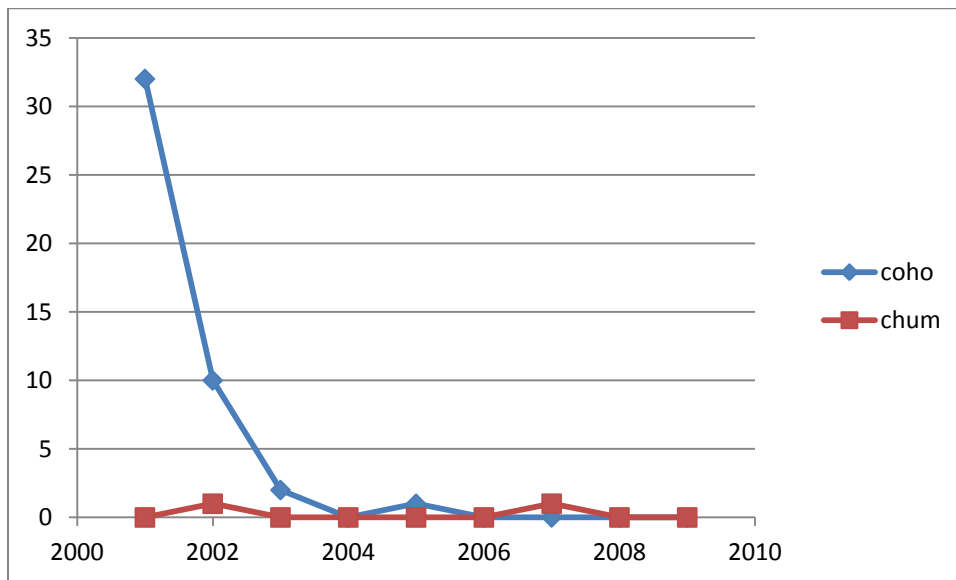
Fisher: 2001-2003, 2005, 2007, 2008. 3 coho, 17 chum, and 1 trout (as well as 11 unidentified fish) were observed in 2001. 5 chum were observed in 2002, and 1-2 chum every survey year thereafter.

Judd and Shinglemill results are shown graphically on the next page.

JUDD CREEK SALMON OBSERVATIONS: no trout were recorded in Judd Creek during surveys



SHINGLEMILL CREEK SALMON OBSERVATIONS: there was one trout observed in Shinglemill in 2001

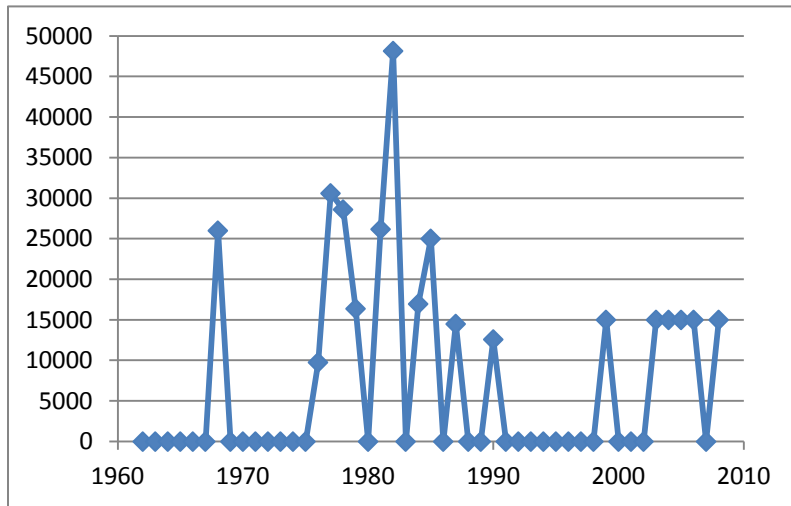


FACTORS AFFECTING THESE NUMBERS: Factors that potentially affect these numbers include stocking history, changes in observation effort and technique, and other environmental/ecological factors. Below I will include what I could find on stocking information and observation effort.

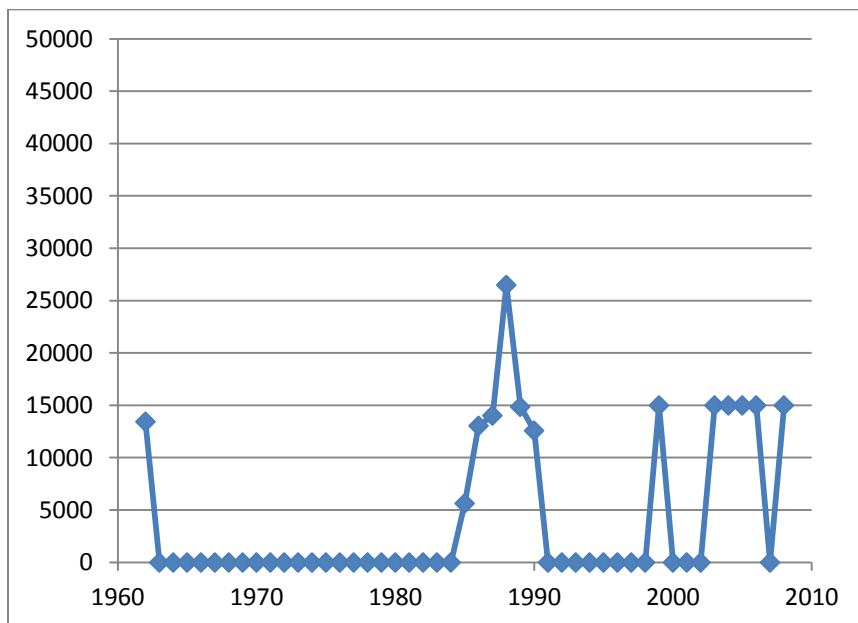
Stocking effort: From 1963-2008 Washington Department of Fish and Wildlife records hatchery releases for Shinglemill and Judd Creeks.

Chinook: 62,000 Chinook salmon were released into Shinglemill Creek in 1963 and 40,320 Chinook salmon were released into Shinglemill Creek in 1964. These fish came from Minter Creek Hatchery.

JUDD COHO SALMON STOCKING 1967-2008



SHINGLEMILL COHO SALMON STOCKING 1962-2008

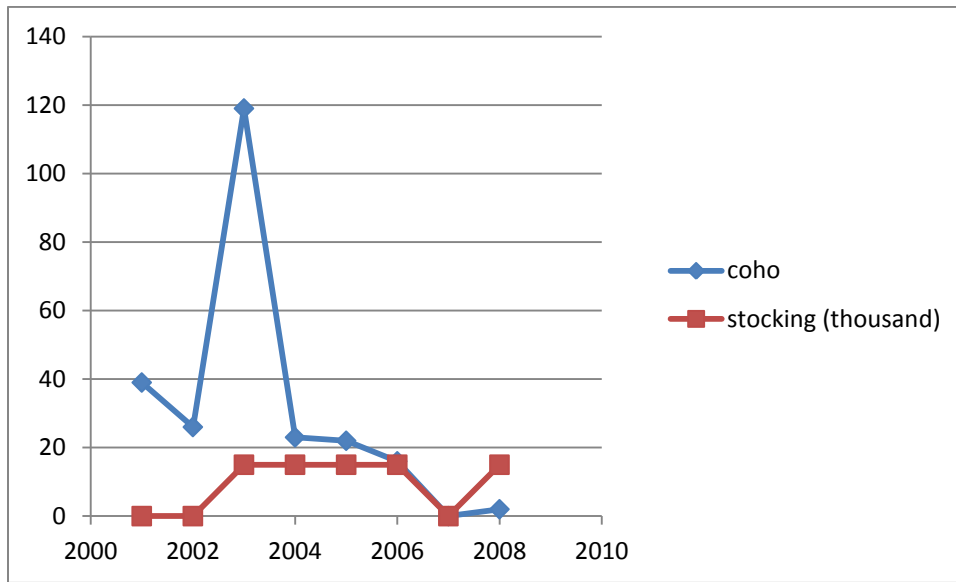


The Vashon Sportsmens Club reported to WDFW that they released 15,000 coho salmon/yr into Judd and Shinglemill from 1999-2008. I am still trying to find out whether any stocking is still happening and just not reported to WDFW.

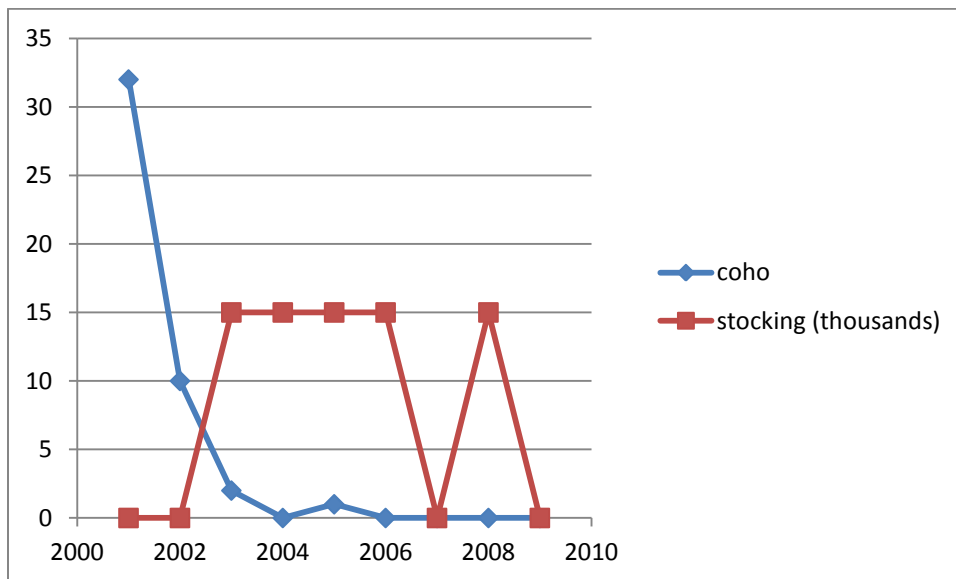
Trout: Cutthroat trout were stocked in both creeks from 1954-1967, Eastern brook trout (!) in 1933, 1934 and resident rainbow trout were stocked in both creeks in 1969 and in Judd Creek 1970-1975.

Stocking and Coho observations:

JUDD CREEK

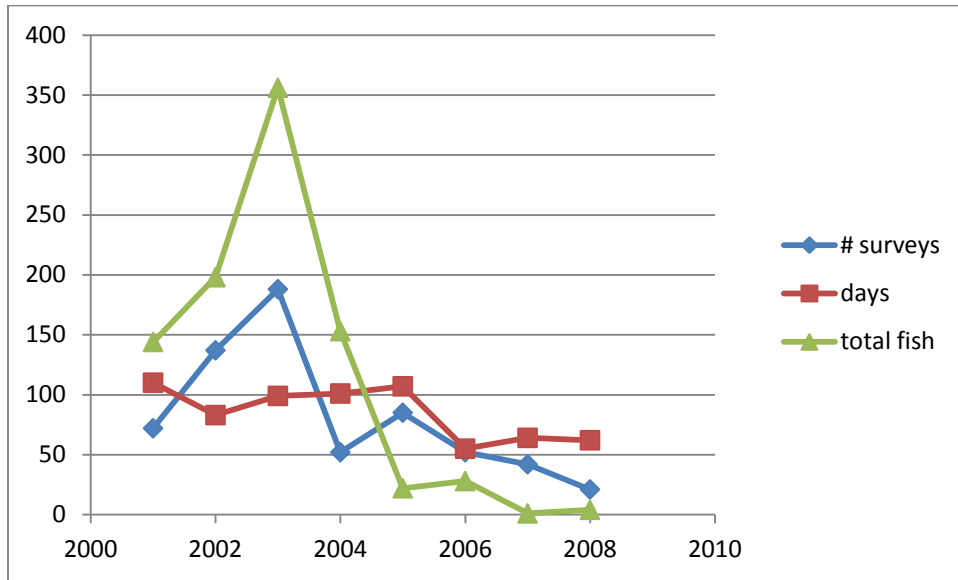


SHINGLEMILL CREEK

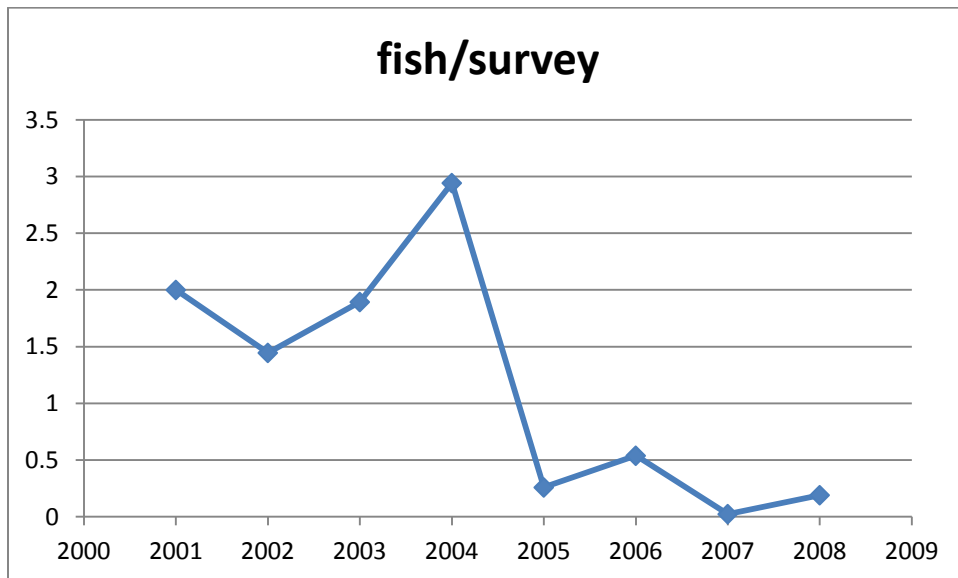


Observation effort:

Talking to longtime volunteers, salmon watching methods on Vashon have changed over the years. From the data it appeared as though we could quantify effort in the same way across multiple years in 2 ways. One is the length of the season that surveys were conducted (# of days), and the second way is the total number of surveys conducted/season. Here is a graphical representation alongside salmon observation data:

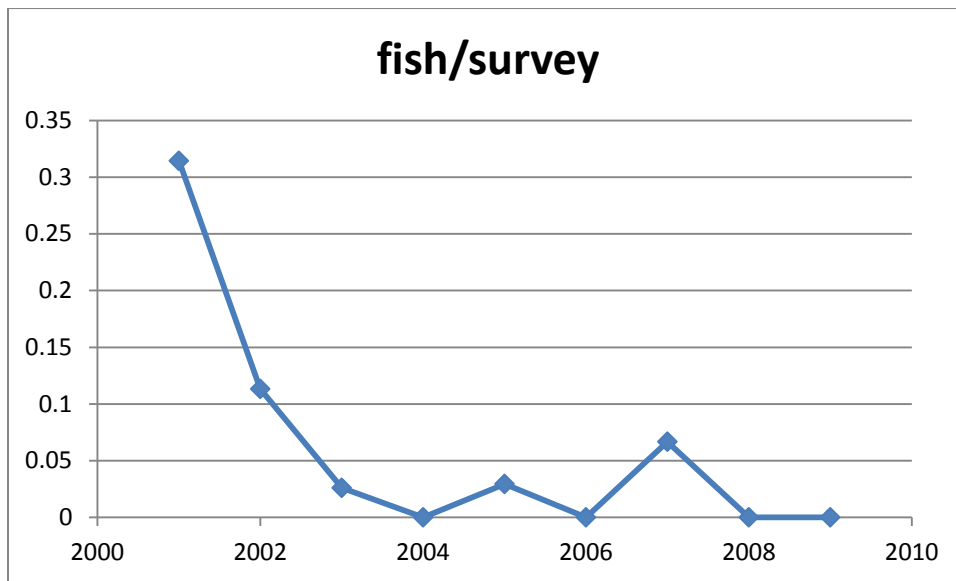
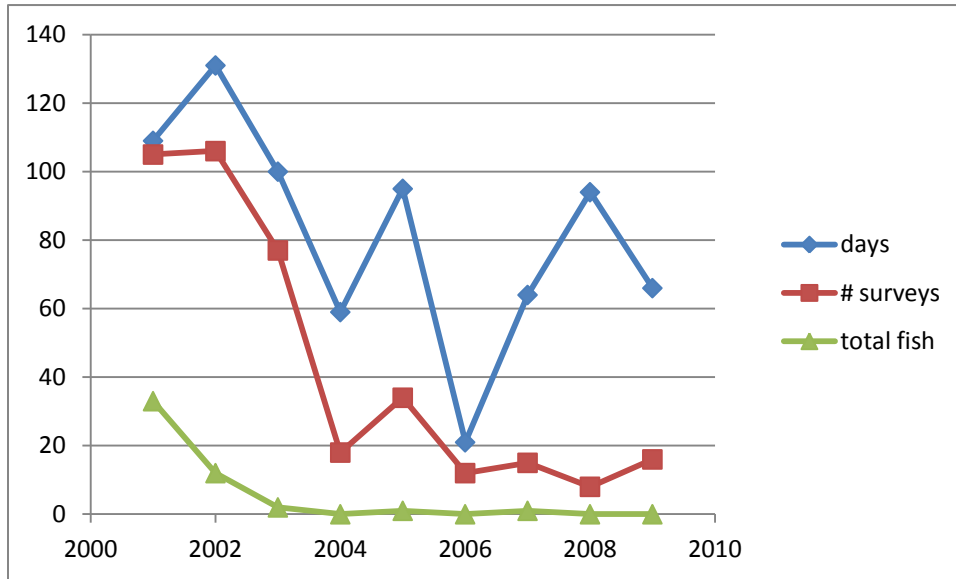


JUDD CREEK: The above graph shows the total number of surveys conducted each year (blue), the total number of days in the survey season (red) and the total fish observed. It appears that total number of surveys is most related to the total number of fish seen (tracks most closely).



The above graph shows the number of fish standardized by the number of surveys for each year in Judd Creek (i.e. total fish/total number of surveys), one way of standardizing for effort so that we can get more of an idea whether declines in fish are real or just due to declining observation efforts.

Below are the same graphs for Shinglemill Creek:



CONCLUSIONS:

- There has been a drop in salmon numbers in both creeks over the survey period and some of this drop in numbers seems to hold even when effort is (sort of) standardized.
- The drop in fish started in 2001 in Shinglemill and 2003 in Judd Creek.

- In Shinglemill salmon stocking hit a peak in 1989 and then dropped off until 2000. Despite a renewed stocking effort in 2001, at around the average stocking rate of past efforts, salmon stocks seemed to continue their decline.
- In Judd Creek there was a sharp decline in salmon observed between 2003 and 2005.
- 1999-2008 stocking was reported at average levels and salmon populations don't seem to have rebounded. In addition, chum as well as coho declined and there is no history of stocking Judd creek with chum.

It is hard to tease out what is happening from this data as this data is better suited to determine presence/absence than trends overtime. But drops in salmon observations are so steep that I feel comfortable in thinking that we are seeing a real decline in salmon that isn't completely due to the fact that we have less people observing in the later years. It is also hard to get a sense from the data how much changes in salmon population are affected by stocking history. How dependent are salmon populations in our creeks on past stocking efforts and what is the time lag between stocking effort and returning populations?

How do fluctuations in Vashon salmon populations compare to regional fluctuations in salmon populations? I wonder what the salmon runs were like naturally before stocking? Before logging? Anecdotal evidence from conversations with long-time islanders that are now in their 80's and 90's indicate that salmon runs in Judd at least were orders of magnitude higher than today. Sea lions used to park themselves at the outlet of Judd and gorge all season long according to some accounts. Judd is also classified as historical steelhead territory by Department of Fish and Wildlife which is corroborated by local islanders who remember many more seasonal runs of salmon here including springs runs which may have been either steelhead, Chinook or both. Old pictures show extensive pools that were much deeper than any seen today. What did our creeks look like pre-logging? How many salmon did these creeks hold in their prime? It would also be interesting to know more about the trout in these streams. What can we do to make our creeks more amenable to salmon? What is the effect of current restoration activities on stream health and salmon populations? Which other creeks historically supported salmon? I could go on and on 😊....but I'll spare you.