

Fall Chinook Spawning Survey @ North Mountain Park

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Start Time: 14:30 End Time: 15:40

This survey covered three short reaches of Bear Creek, centering on North Mountain Park in Ashland, with the objective of counting live and dead fall Chinook and their redds, as well as looking at the spawning locations chosen by the fish.

The three sections surveyed are: **River Walk to N. Mountain St. Bridge (750')**, **N. Mountain St. Bridge to upper end of N.M. Park (1930')**, and **upper end of N.M. Park to Willow Wind School (1500')**.

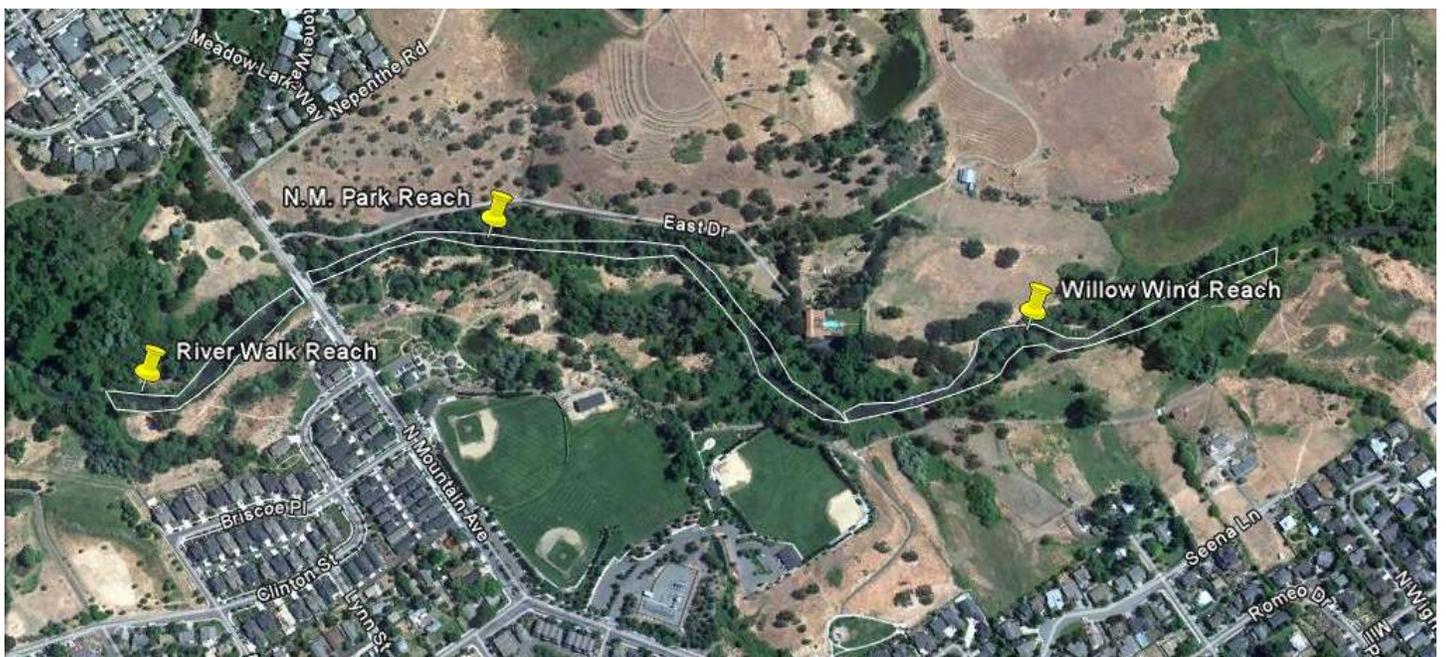


Figure 1. Map of the three survey reaches

The survey was conducted by walking upstream in the wetted channel wearing polarized glasses. I moved slowly and counted fish and redds as I came upon them.

A water proof note book and pencil were used to record the observations.

River Walk Reach:

3 live fish were observed and **1 active redd**. One of the fish was decaying and was seen resting in a slow pool. The other two salmon were on a redd at a location where some wood protruded from the bank. This reach has limited spawning habitat, due to the substrate being dominated by bedrock.



Figure 2. A pair of spawning Chinook in the River Walk reach.

N.M. Park Reach:

15 live fish were observed, and **5 active redds**. All the redds observed had fish on them. No dead fish were seen. Most of the fish observed were fairly bright still and were actively attempting to spawn. The highest amount of activity was in the lower 200' of this reach and then activity dropped off until between the two upper most weir structures, where a couple more Redds and several fish were observed. In the upper end of this reach I also observed 5-10 trout feeding behind and around the salmon's redds. The largest of the trout was about 10" long.



Figure 3. Garter snake observed on stream bank in N.M Park.



Figure 4-5. Boulder weirs have trapped wood and improved pool habitat, as well as sorting spawning gravel.



Figure 6. Large Chinook with back out of water while defending a redd.



Figure 7. Bright Chinook on a redd.

Willow Wind Reach:

From the upper end of N.M. Park up to Willow Wind schools property I observed **2 live fish** and **no redds**. The habitat in this reach is a mix of bed rock and shallow gravely runs broken by lateral pools that are generally deeper than those observed in the lower two reaches. The live fish I observed were resting in pools. Although there seems to be more gravel in this reach than the other two, it is highly embedded and fish seem to reject it, as evidenced by lack of redds.



Figure 8. The beginning of Willow wind reach looks much like sections of River Walk reach, where bedrock dominates.



Figure 9. Deep slow pools in Willow Wind reach looked good but the tail outs did not have spawners like expected. Notice the accumulation of beaver chewed sticks on the left bank.



Figure 10. Nice riparian habitat in willow Wind reach, but it lacked spawning fish.

Summary and discussion:

In the years following the installation of the boulder weirs at N. M. Park I was asked by my supervisor (Su Mayo, USFS) to conduct spawning surveys throughout the areas detailed in this survey. As I recall the results of those surveys were similar to what was observed on this visit. The weirs appear to alter the channel conditions in a way that salmon prefer to the up and down stream surrounding habitat.

The fish that were observed this year looked brighter and more active than those observed in past surveys. I found neither dead fish nor signs of predation. The only limiting factor I observed was the sandy embedded nature of the substrate. The only places where the gravel looked loose were at pool tail/riffle transitions. These were the areas where the majority of fish and redds were observed.

I recommend that we resurvey this reach for fall Chinook on an annual or bi annual basis so that we can continue to document the presence of this species and continue to evaluate the effectiveness of the boulder weirs and future habitat improvement projects.