

# Fall Chinook Spawning Survey @ North Mountain Park

November 2, 2012

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Start Time: 10:30 End Time: 11:35

Flow at USBR Bear Creek above Ashland gage: 20cfs

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')**.

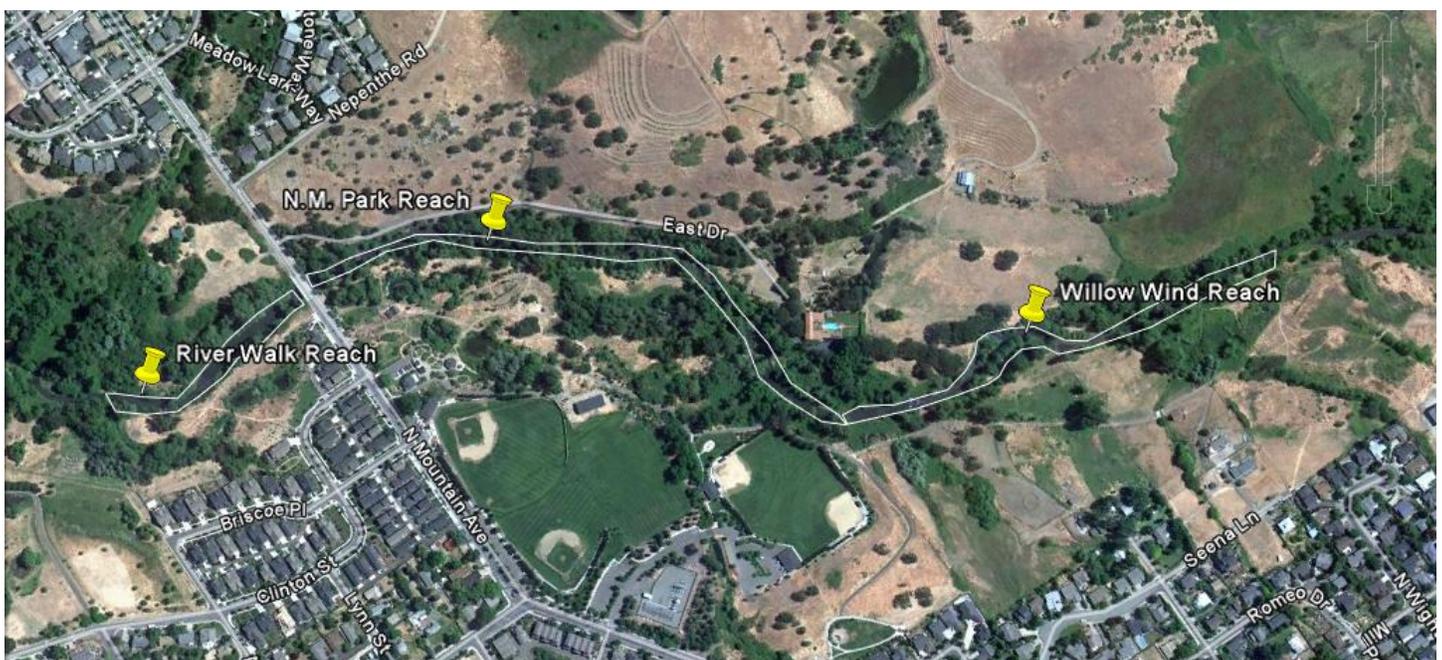


Figure 1. Map of the three survey reaches

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. A digital camera was used to capture photos of habitat features and wildlife.

## River Walk Reach:

**3 redds and 0 live fish were observed.** This reach has limited spawning habitat, due to the substrate being dominated by bedrock. The redds that were observed centered on the same location where spawning was observed last

year, where a small log extends into the creek from the right bank about half way through this reach. **0 carcasses'** were seen.



Figure 2. 3 redds but no live fish were observed in 2012, however it is worth noting that this was the only place spawning was observed in this reach in 2011 and 2012. This log is the only piece of wood over 6" diameter in the reach.

#### **N.M. Park Reach:**

**2 live fish** were observed, and **1 active redd. 3 additional redds** were observed within the reach. 1 dead fish scavenged by raccoons was seen on the waters edge. Raccoon tracks and otter tracks were seen along the banks, primarily in the upper 1/3 of the reach (figure 3). 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 were observed. No trout were observed this season despite relatively low flows and turbidity.

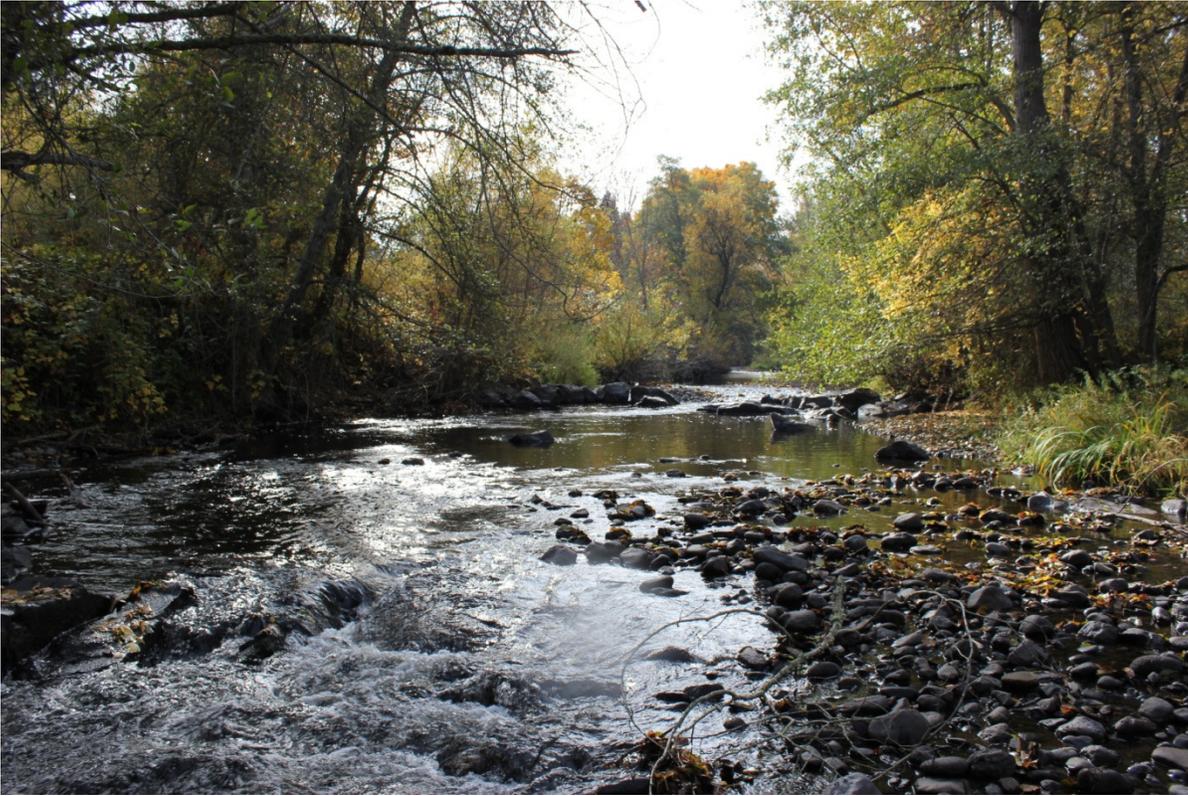


Figure 3. Upper 1/3 of NM Park survey reach.



Figure 4.



Figure 4-5. Boulder weirs have trapped wood and improved pool habitat, as well as sorting spawning gravel. The weirs retained wood in a similar fashion in 2012 as seen in these 2011 photos.

#### **Willow Wind Reach:**

From the upper end of N.M. Park up to Willow Wind schools property I observed **0 live fish** and **0 redds**. The habitat in this reach is a mix of bed rock and shallow gravelly runs broken by lateral pools that are generally deeper than those observed in the lower two reaches. 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. This reach would benefit from instream structures that helped sort gravel and create drops in the gradient the help scour out fines.

Both otter and beaver sign are strong throughout this reach. Holes on the south bank appear to be the den of an otter family and many chewed willow twigs were observed. Deer, herons, kingfisher, domestic cat, and grey fox tracks were also observed.



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

### **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.

Not as many fish were observed in the 2012 survey as had been seen in 2011. Flows appeared to be slightly lower this season, 25cfs in 2011 vs. 20cfs in 2012 at USBR Bear Creek above Ashland gage. The sandy embedded nature of the substrate and lack of instream structure/habitat continues to be a limiting factor for salmon in this reach of Bear Creek. The only places where the gravel looked loose were at pool tail/riffle transitions. Riparian habitat appears to be adequate and improving throughout the extent of this survey. Perhaps through instream habitat improvement projects above and below the NM Park reach spawning habitat could be improved and expanded.

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.