

## Big Fish on the Move

2022

Following the heavy October rain, Friends was delighted to receive several reports of big fish, positively identified as Chinook salmon, in Corte Madera Creek, Ross Creek, San Anselmo Creek, and even as far upstream as Cascade Creek. Spawning fish detect the flush of fresh water in the estuary and follow it upstream, normally to their natal streams.

This year, as very high flows generated by the big storm dropped, conditions seemed right for the spawners to navigate the many barriers to their passage in our watershed. Steelhead don't begin to spawn until mid-December or January and the fish we have seen so far are all Chinook salmon. Eric Ettlinger, Aquatic Ecologist at Marin Municipal Water District, recently reported on the abundant fish in Marin's creeks this fall. Referring to the Chinook salmon, he stated: "Many, if not all, of these fish were the survivors of the millions of juvenile Chinook Salmon that were bred in hatcheries and released into San Francisco Bay in recent years. These fish don't have a natal stream to re-turn to, so will follow the scent of rain-water to the nearest stream."

Although the chances are high that these returning Chinook are from the recent hatchery releases, this is still encouraging news. A small percentage of salmon are genetically programmed to "stray" from their natal streams, enabling them to recover populations that may be lost even in natural conditions, like a volcanic eruption or large wood dam. We are hopeful the strays entering Corte Madera Creek will be plentiful and successful in re-establishing a small sustainable population of Chinook in the lower watershed.

According to fish biologist Andrew Bartshire, "there is very little competition between steelhead and Chinook for spawning habitat. Chinook are [in-migrating] Sept–Nov. (typically) and steelhead are anywhere from Oct.–Apr. but peaking closer to Feb./Mar. Typical hatch timing for Chinook is about 12 weeks so most of those juveniles should be out of the streambed by the time steelhead are in the system. Also, Chinook typically spawn in much larger gravel than steelhead. There also isn't an issue with rearing carrying capacity because Chinook juveniles move, almost immediately, down to more estuarine environments so they will likely be getting big and fat down by Hal Brown Park!

The success of these fish is directly dependent on the health of the stream, and this is a great reminder to keep our watersheds clean, support restoration efforts, and limit diversions of water from the creek."

Let's hope for more rain this winter to promote spawning steel-head trout as well.



*The best spawning habitat in our watershed is in the Cascades, where Morgan Cantrell photographed this Chinook salmon*

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