RUSSIAN RIVER SALMON & STEELHEAD MONITORING

UPDATE - 2022 YEAR IN REVIEW

See videos of salmon and steelhead spawning in your local streams on our YouTube channel!

California Sea Grant's Russian River Salmon and Steelhead Monitoring Program has been monitoring endangered fish populations since 2004. The science-based information we provide to stakeholders throughout California's central coast plays a critical role in efforts to preserve these keystone species.

Below are the highlights from our 2021/2022 monitoring seasons, completed in collaboration with Sonoma Water.

This work was made possible through state and federal funding and the support of many partners, including resource agencies, non-profit organizations, local businesses and thousands of community members.

THANK YOU ALL FOR YOUR SUPPORT OF SALMON RECOVERY!

Winter 2021/2022: Adult Returns

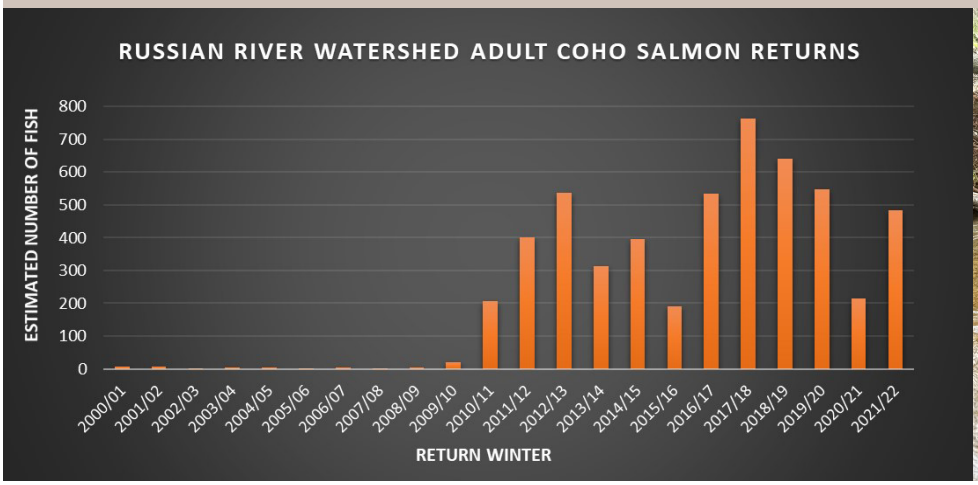
The adult salmon and steelhead season got off to an exciting start when an atmospheric river event in October 2021 brought record rainfall to the region, allowing salmon to enter the river early and fueling streamflows that made even the farthest reaches of all the tributary streams accessible to spawning fish. Smaller storms followed, resulting in favorable conditions during the mid-December to mid-January peak of the coho salmon run.

Using PIT-tag detection data, we estimated that 484 adult coho salmon from the Conservation Hatchery Program returned to the Russian River watershed to spawn—slightly above the previous 10-year average of 454 adult fish.

Unfortunately, the wet conditions did not persist. Record-dry conditions from January through early April led to extremely low flows, limiting stream access for adult steelhead during the peak of their spawning window.

Biweekly spawner surveys were conducted in 32 streams. Adult coho salmon presence was confirmed in 61% of streams with suitable coho habitat, with an estimated 135 coho redds. Coho distribution (the proportion of streams where they were present) was notably higher than the recent five-year average, while redd counts were slightly above average. While steelhead were also present in 61% of streams surveyed (slightly below average), the estimated steelhead redd count of 238 was less than half of the lowest number in recent years. It should be noted that surveys did not include all of the steelhead streams in the Russian River watershed, just those that overlap with coho habitat in the lower basin.

The incredibly dry late-winter and early-spring conditions took a toll on spawning success for both species. Just over 1/4 of coho redds and 1/5 of steelhead redds observed were documented as partially or fully dry within two months of first observation, which likely impaired survival during early life stages at these locations.



Please Take Note

This is a transitional time for California Sea Grant, as our Russian River Program is downsizing. We will no longer be conducting intensive field work, but Sonoma Water will carry on core salmon and steelhead recovery monitoring activities in the Russian River watershed. We have partnered closely with them on fish and habitat assessments for several years and we are happy to report that they have added a number of our former staff to their team. Our program director, Extension Specialist Mariska Obedzinski, will remain closely involved in a technical advisory capacity. This change will not affect stream monitoring on private parcels in any discernible way, though the primary contact will now be Sonoma Water's Aaron Johnson.

IF YOU HAVE QUESTIONS OR CONCERNS, PLEASE CONTACT AARON AT AARON.JOHNSON@SCWA.CA.GOV OR 707.547.1910.

Spring 2022: Outmigrating Smolts

Our spring smolt trapping season started off with precariously low water levels due to the lack of late-winter rainfall, likely compounded by preceding drought years. Fortunately, several spring rain events beginning in mid-April offered hope for one-year old fish on their journey out to the estuary and ocean by maintaining stream connection through the smolt outmigration window. An estimated 8% of the coho smolts captured (over 200) were natural-origin fish. We hope to see this percentage increase in years to come. These hearty survivors endured the driest stream conditions we have ever documented over the previous summer!

CURIOUS ABOUT WHAT SMOLT TRAPPING ENTAILS? CHECK IT OUT!

Summer 2022: Young-of-the-Year

We snorkeled over 2,000 pools in 42 streams in the lower Russian River watershed to document the distribution of coho young-of-the-year (yoy) and spawning success from the previous winter. Because we only sampled every second pool, we doubled the number of fish we counted to get an expanded count of **50,558 naturally-spawned coho** yoy in the 32 streams where they were present.

This is a far higher number than we have ever counted before, and more than five times the previous five-year average!!

By contrast, the expanded count of steelhead yoy was just 23% of the five-year average at 9,971 fish.

These outcomes reflect spawning success and emphasize the critical role of suitable year-round streamflows in sustaining our sensitive, keystone salmonids.

WANT TO KNOW HOW MANY FISH WE COUNTED IN EACH STREAM?

SEE OUR JUVENILE MONITORING PAGE.

Summer 2022: Available Wet Habitat

Thanks to the spring rainfall, summer streamflows during the *severe* 2022 drought in our region were better than during the *exceptional* drought of 2021 (Drought Monitor). At the end of the dry season, 66% of the 121 miles surveyed in 42 streams in the lower Russian River watershed remained wet and connected. This included 73% of the pools where salmon and steelhead yoy were seen earlier in the summer.

While this was a welcome improvement from only half of the fish-holding pools remaining wet in 2021, the fact that more than a quarter of our rearing fish were faced with pool drying or poor water quality conditions as a result of stream intermittency once again illustrates that insufficient streamflow continues to be a formidable problem facing our sensitive salmonids, along with the many other organisms that depend on suitable year-round streamflows for their survival.

Hope for the future

When this program began nearly two decades ago, coho salmon were on the very brink of extirpation from the Russian River watershed, with adult returns estimated at fewer than 10 fish per year. Today—thanks to the conservation hatchery, intensive efforts to improve habitat and restore ecosystem processes, and robust public support—adult coho are returning to the watershed by the hundreds each winter.

While we still have a long way to go, we are encouraged by signs of hope such as the record numbers of juvenile coho seen last summer, and even more so by the growing solidarity and support behind recovering imperiled Central California Coast salmon and steelhead. The fact that our salmon still have a fighting chance here at the southern end of their native range is a testament to the tremendous, sustained and coordinated efforts of a broad diversity of people working to achieve positive change for our natural and human communities!

We are grateful for the connections made within those communities and extend our heartfelt thanks for the gracious support we have received over these many years. Wishing each of you health and abundance as we continue to work together towards a brighter future for all who call this watershed home.