

Annual Yellow-legged Frog Egg Count at Benbow Indicates Successful Mitigation for Benbow Dam Removal

The Eel River Recovery Project (ERRP) has been supplying volunteer monitoring support to Dr. Sarah Kupferberg, a UC Berkeley graduate and yellow-legged frog expert, since 2014. Sarah uses the number of yellow-legged frog egg masses per kilometer as an indicator of river health and has been collecting data on the South Fork Eel River at Benbow State Park. This year's field data collection this year took on new meaning as ERRP volunteers had helped Sarah move hundreds of thousands of eggs in 2016 to prevent their destruction by the removal of the foundation of the old Benbow Dam. What impact had the rescue project had locally on yellow-legged frogs?



ERRP volunteers assembled on May 13 ready to be taught how to count yellow-legged frog eggs.

This year's volunteer team was augmented by folks who traveled north from Willits, where ERRP has a new office. Shortly after 10 AM, Sarah Kupferberg oriented us at river-side and we immediately saw yellow-legged frog egg masses. ERRP volunteer David Sopjes and ERRP Outdoor Coordinator Eric Stockwell supplied kayaks so that both sides of the South Fork could be surveyed, even though flows remained a little high for wading in some places.

Yellow-legged frog egg masses look like a golf ball of caviar immediately after being deposited, and then take on a dusty look and expand to the size of a tennis ball over ten days before tadpoles hatch. Eggs are on the downstream side of cobbles and boulders out of the current and in relatively shallow water to avoid predation by fish. Counting frog eggs is done while walking upstream on the edge of the stream or while wading in shallow water near it. Polarized sunglasses cut glare off the water and help improve counting ability on bright days.



ERRP Outdoor Coordinator Eric Stockwell looks on at right, as volunteers join Sarah Kupferberg (second from left) in frog egg mass count.

The result of the day's census was a total of 353 yellow-legged frog egg masses, which was the highest one-day count from any previous sampling dates. Many of the egg clusters were also small, indicating good female recruitment in recent prior years. The data suggest that there was no harm to the yellow-legged frog population from last year's relocation efforts. The very high count may also be in part as a result of prolonged high spring flows that would wash frog eggs away. It is highly likely that yellow-legged frogs delayed their spawn timing and spawning activity was concentrated instead of staggered.

State Parks removed Benbow Dam during summer last year. The remaining abutment on the north shore of the river will be removed in the future, but not this year because flows are too high. See drone video of SF Eel at Benbow: <https://www.youtube.com/watch?v=4PbgfCphYvE&authuser=0>



Site of old Benbow Dam with just the abutment on the right remaining. 5/13/17.