Wildlife Survey & Photo Service
2443 Fair Oaks Blvd. # 209 • Sacramento, CA 95825 • (916) 747-8537

REPORT 5784
Salmon Fry Habitat

February 12, 2018

To: Rich Marovich

Subject: Salmon Fry in Lower Putah Creek

Report

As you are aware, last year prior to the 2017 floods, I was looking for habitat favored by salmon fry that we might be a be able to duplicate. The high-water situation eliminated the proposed project. After many years of study by a variety of entities, no one has specifically researched or suggested that we can develop areas for young salmon to use as refugia from aquatic predators, foraging areas, and resting sites. Other than side-channel development, scarification and the addition of woody material, I am not aware of any suggestions to improve "subsurface habitat." Planting streamside sedges will provide overhead protection for fry and juveniles from predators such as herons but provides marginal harbor from in-stream predation.

I contend that the term "Large Woody Debris" (LWD) is misleading. In my experience LWD, such as logs, log jams and stumps do not provide effective habitat for small fish when compared to the myriad of branches provided by downed trees, even though they are technically classified as LWD. Video (**Link Here**) taken yesterday clearly shows the salmon fry are exceptionally healthy and that they effectively use the branches for safe harbor and foraging.

Several salmon fry / juveniles. Image 2/11/2018

Other areas such as the main spawning channel at Pickerel and scarification sites at Morales are areas with few hiding areas for recently-emerged salmon.

Over the last week I have identified several sites

Downed tree that is being used by a significant number of salmon fry / juveniles. Several salmon redds are located in the shallow area directly upstream from the tree.

where naturally-downed trees are providing exceptional habitat for salmon fry. The branches provide effective harbor and foraging sites as many limbs are covered with Black Fly larvae, a common prey source for small salmonids. The branches also provide lower-velocity water flow.

Recommendations / Comments:

1. I plan on continuing to monitor the known salmon refugia and documenting their presence, health, and use of the sites. Video footage will be available.
2. I recommend that we determine if we can introduce Tree Material (LWD), such as shown on Page 1, into sites such as the scarification (spawning) area shown below at Morales. That of course, might have to wait until next year if permits are required.
3. It appears that salmon fry readily use refugia that are immediately downstream from the redds.
4. Because I documented salmon spawning in late December, I believe we still have alevin that have not emerged from some redds. I will document that situation by video monitoring.

Submitted via e-mail 2/12/2018:

Ken W. Davis
Aquatic Biologist / Wildlife Photojournalist
2443 Fair Oaks Blvd. # 209
Sacramento, CA 95825
(916) 747-8537
ken@creekman.com
www.creekman.com