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Madelyn Martinez  
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Sacramento, CA 95814

Subject: Informal Consultation with regards to Steelhead for Phase II Gravel Introduction at La Grange on the Tuolumne River, CA.

Dear Madelyn,

I am sending this letter to you, at your request, to summarize the meeting on June 25, 2003, in La Grange to discuss the impacts of gravel additions for salmon spawning enhancement on ESA listed steelhead/trout habitat. As you know, The Anadromous Fish Restoration Program (AFRP) has contracted a portion of this work to the La Grange habitat improvement shop and feels it fulfills a vital role in restoring Chinook salmon populations on the Tuolumne River. The AFRP wants to ensure steelhead/trout habitat is not adversely effected during this process. The meeting which took place on site was attended by representatives of the Tuolumne River Technical Advisory Committee. The following people attended the meeting:

Doug Ridgway, California Department of Fish and Game  
Dave and Allison Boucher, Friends of Tuolumne River  
Dennis Blakeman, California Department of Fish and Game  
Jeff McLain, U.S. Fish and Wildlife Service  
Madelyn Martinez, NOAA Fisheries  
Patrick Koepele, Tuolumne River Trust  
Tim Heyne, California Department of Fish and Game  
Wilton Fryer, Turlock Irrigation District

The group visited gravel augmentation sites utilized by the California Department of Fish and Game La Grange office. Dave Boucher, among others present pointed out the favorable steelhead/trout habitat adjacent to these sites and we discussed methods to avoiding impacts to these habitats as well as potential enhancements. Following, is a summary of our discussion at these sites and recommendations for gravel augmentation during 2003.

**Introduction Site 15a (Riffle 1A)**

The group observed introduction site 15a, which appeared to have good salmon spawning habitat. Previous years gravel introductions at this site have been successful (Figure 1).

### **Introduction Site 15b (Riffle 1A)**

This site had a good steelhead/trout pool on the south bank with good depth, velocity and overhanging vegetation (Figure 2). Previous gravel introductions have remained upstream of this pool, and the group agreed to continue to avoid disturbing this pool that is at the lower end of the riffle. Any introductions in the future should stay at least 20'-30' from the bank.



Figure 1. Gravel introduction site 15a, La Grange.



Figure 2. South bank pool (left) at lower end of gravel introduction site 15b, La

Grange.

**Introduction Site 16**

Introduction site 16 was on a riffle just below a large pool and appeared to have moderate steelhead/trout habitat adjacent to the south bank (Figure 3). The group recommended pushing gravel from the north bank, restricting the channel and concentrating the flow on the south bank.



Figure 3. Gravel introduction site 16, La Grange.

**Introduction Site 18b (Riffle 1B)**

Site 18b appeared to have good gravel on the slightly large side for spawning purposes for both Chinook and steelhead/trout (Figure 4). Top dressing may be beneficial in the future. There were some good pools just downstream of this gravel introduction site on the north side that should be preserved (Figure 5). The group recommended filling the south side of the channel upstream of the bridge to keep the thalweg on the north bank.





Figure 4. Gravel introduction site 18b, La Grange



Figure 5. Pools just below gravel introduction site 18b, La Grange.

### **Introduction Sites 14a and 14b**

Introduction sites 14a and 14b are upstream of the Old La Grange bridge just downstream of Riffle A7 (Figure 6). These sites contained small pools with overhanging vegetation along the north bank but did not have the required topographical heterogeneity for steelhead/trout usage. The suggestion of the group was to add gravel in “ridges” upstream of the pools.



Figure 6. Gravel introduction sites 14a and 14b, La Grange.

### **Recommendations**

Due to increasing gravel costs, only 5,300 cubic yards of gravel will be available for placement during 2003 (see attached letter from Doug Ridgeway, California Department of Fish and Game). Gravel size will be consistent with past introductions and will range from ½ inch to 4 inch and have a  $d_{50} = 50\text{mm}$  (refer to attached letter from Doug Ridgeway for percentages). In light of the limited gravel supply, the group made the following recommendations (not in order of priority):

- 1) Build new riffles downstream of Riffle A7 in sites 14a and 14b,
- 2) Create a new gravel bar at site 16 by narrowing the channel using existing gravel,
- 3) Add contours running diagonally with a down stream sweep in the direction of the deep flow at 18a,
- 4) Stay 20' to 30' from banks with valuable steelhead habitat, and
- 5) Conduct pre and post project evaluations of bed movement and trout habitat.

The group agreed that these actions should be taken to ensure no damage to steelhead/trout habitat. In addition, it appears the existing steelhead habitat could be improved with small adjustments in gravel introduction methods. Please call me if you have any questions.

Sincerely,

Jeff McLain  
Fishery Biologist

Attachments