

**Matilija Dam Ecosystem Restoration Project
Fine Sediment Management Study Group**

DRAFT

Questionnaire for March 30 meeting

Please respond to the following questions, and circulate your responses to the Study Group members, and to Norma Camacho and Mary Selkirk, by COB, Friday, March 18, 2011.

Name & Affiliation: *Brian Cluer, Rick Bush, Mark Capelli:* NOAA-NMFS

Based on the consolidated flip-chart notes from the February 2 and 24 meetings:

1. Are there any other **major** constraints (or concerns by your organization) to the three major management options, *other than those listed on the notes?*

The willingness and commitment of all stakeholders to participate non-litigiously in dam removal and ecosystem restoration. This is probably the overarching constraint.

2. Are there any other **major** data gaps or information needs, *other than those listed on the notes?*

Expertise in sediment handling via slurry or other mechanical means is not well represented in the existing information.

A clear understanding of water system management including treatment for sediment and organic components is lacking for current conditions, as well as for future conditions under any scenario for the dam. What are the flexibilities in the Casitas water supply and delivery system that might allow for temporary changes to the traditional diversion regimen? What system modifications would increase flexibility? Are modifications to water system a better investment than the heroic engineering solutions to sediment management for dam removal?

What are the options to flood management for Meiners Oaks? The proposed levee project is counter to ecosystem restoration, and counter to a nationwide movement away from flood prevention (because it can result in greater damage) and toward flood proofing homes (e.g. raising them on pads).

3. In your opinion, what are the **top three** data gaps or information needs that must be answered in order to develop a viable consensus solution to managing the fine sediments in Matilija Reservoir as part of the Matilija Dam removal project? *Please be as specific as possible and list them in descending order as you would prioritize them. (1= first choice, 2=second, 3= third).*

1. *Dam removal by incremental notching presents technical challenges (how can it be done, at what rate?) and impacts that are not known at this time. This approach requires an expert investigation into the feasibility and recommended methodology for incremental dam notching. Analyzing the impacts to steelhead and other aquatics of phased notching and natural transport will need expertise in this climatic setting, where El Nino/Southern Oscillation (ESNO) cycles drive hydrology and fluvial processes, to examine sediment concentration events for duration and repetition, keeping in mind that long duration or repetitive high sediment concentrations are more deleterious than short duration but concentrated events.*
2. *Water quality conditions for water diversion, and potential impacts resulting from dam removal, are not well known. What is the baseline water quality for water diverted from the river, or pumped from shallow wells? What water diversion or treatment practices are currently used, and what changes in practices are anticipated in 10 years for the no action alternative? This is the baseline condition that changes in water quality resulting from any dam removal scenario should be compared to.*
3. *Costs and feasibility of various project components are not well known, or not quantified to the same degree. For example, the various slurry options were not assessed by slurry practitioners.*
4. In complete sentences---but in either bullet-item or paragraph format---please draft a **summary request for proposal/scope of work**, including expertise needed, to respond to the top data gaps or information needs that you have identified in Question 3 above.
 - *Assess the cost and feasibility of incrementally removing the Matilija Dam by various combinations of sediment slurry and notching with natural transport. The goal is to remove the dam at the fastest rate possible within constraints of the major climate driver, El Nino Southern Oscillation cycles. Experts with dam removal experience should oversee this task.*
 - *Independently inventory and assess the water systems, to include sources, diversions, storage, treatment, and delivery systems. Identify any water conservation opportunities, and any water quality improvement opportunities that might be feasibly implemented. The goal is to minimize problems to water diversions when dam removal sediment concentrations are highest, by scaling back diversion rates or otherwise modifying diversion systems or practices. Experts independent to the water districts should conduct this task.*
 - *Assess the cost and feasibility of various sediment handling options including slurry and conveyor belt. Experts with sediment handling experience should conduct this task, likely expertise exists in mining industry.*
5. Looking forward, post Study Group: Do you have any other suggestions about how we should continue to develop solutions to the major data gaps on the fine sediments?

- *Bring into the process scientists and engineers with sufficient independence, practical expertise, and experience, to get robust evaluations of problems and solutions.*
- *All solutions are colored by the need to 'keep Casitas whole', while this is undefined and hardly discussed in the process. An agreement needs to be made among the stakeholders to act in good faith and non-litigiously to jointly achieve the goals of the ecosystem restoration and dam removal. Each party must accept some temporary impacts resulting from the project.*