

Lower Tuolumne River Instream Flow Study
Study Coordination Meeting #1 – NOTES
Thursday, August 26, 2010, 10 AM - 5 PM
Turlock Irrigation District
333 East Canal Drive, Room 152, Turlock, CA

Attendees:

Scott Wilcox (Stillwater)	Patrick Koepele (TRT)
Russ Liebig (Stillwater)	<i>Bob Hughes (CDFG) (Phone)</i>
Wayne Swaney (Stillwater)	Jenny O'Brien (CDFG)
Noah Hume (Stillwater)	Ramon Martin (USFWS)
<i>Bill Johnston (MID)</i>	Jennifer Vick (SFPUC)
<i>Robert Nees (TID)</i>	Jesse Raeder (TRT)
Ron Yoshiyama (CCSF-SF)	Jesse Roseman (TRT)
<i>Allison Boucher (TRC) (phone)</i>	Jarvis Caldwell (HDR DTA)

[italicized names attended for part of the meeting]

Scott Wilcox provided a general overview of Instream Flow studies and some additional background on prior instream flow studies on the Tuolumne River.

The purpose of this meeting was to determine: (1) the study reach, and (2) habitat types to include in refined mapping for transect selection. Other objectives of the meeting included introducing the HSC curve possibilities and soliciting additional curves, if suitable, and reviewing potential pulse-flow study sites.

Study Area Segmentation:

Previously, MID/TID had recommended RM 34 as the lower extent of the study reach. CDFG had recommended RM 24 (below the in-channel mining reach). TID/MID provided a revised proposal for RM 29 near Waterford, or near the RST location (RM 29.5), based on: slope; channel configuration; dominant substrates; hydrology; biology; and flow-responsive habitat types. The group reviewed the channel characteristics below RM 34 and discussed where the most appropriate segment boundary may be.

DECISION:

The group decided to make the study reach between LaGrange Dam and RM 29. The group agreed to have one week to come back with comments on this decision. The group discussed using an existing hydraulic model at SRP9 (near RM 25.9) below RM 29, re-run with the current HSC, but the group postponed that decision until after we get into the field since it is not time critical for new data collection.

Habitat Mapping:

As a component of the study, the river needs to be re-delineated and the habitat types quantified. The river has already been mapped using different habitat mapping criteria. However, USFWS preferred a different set of habitat types, which FERC concurred with. The group discussed updating the current maps using the USFWS proposed mesohabitat types. The group preferred that side channels, though limited in the Lower Tuolumne, should be included in the mapping; however, they could be mapped as a component of a flatwater or bar-complex unit rather than a separate unit, since they would presumably occur off to the side of the main channel habitat unit.

DECISION:

Mapping will be based on two channel forms (flatwater and bar-complex) and 4 habitat types, as proposed by USFWS, with side channels as a subset of flatwater or bar complex (rather than its own channel form - e.g., bar complex, with side channel, pool). Run/glide habitat types may be lumped (resulting in 3 categories) following the field mapping if the mapping results show that one habitat would drop out of consideration based on frequency; this decision can be made after the mapping is complete. The group also noted that if there is representation of side channels, we will want to consider that channel characteristic during transect selection.

Transect Selection:

Transect selection will take place after the habitat mapping. There will be an office meeting prior to selection in the field. Dates for the meeting and field selection were discussed (listed below).

Habitat Suitability Criteria:

The group discussed Habitat Suitability Criteria (HSC), the proposed process, and the HSC development schedule. Curves will be required for: *O. mykiss* (adult, spawning, fry, and juvenile), and Chinook (spawning, fry, and juvenile). TID/MID initially proposed using existing curves. FERC ordered the use of existing curves and collection of some site-specific data. The proposed process relies on existing curves with additional field observations for validation.

Ramon Martin (USFWS) noted that they have steelhead curves for the Merced (recommended) and Lower American rivers that USFWS (or HDR|DTA) will provide.

The group reviewed cover types; Ramon Martin (USFWS) would like cover data collected.

The group reviewed substrate coding. Scott Wilcox reviewed an issue with the USFWS proposed substrate table (regarding overlapping categories and model complications). The group discussed the need to have something with "exclusive" categories. Jen Vick offered a more "standard" substrate classification (Wentworth scale) that she said she would e-

mail to Scott. Bob Hughes (CDFG) suggested also doing a subdominant category in addition to the dominant substrate, and recommended the Bovee Code (Wentworth Scale as used on the Klamath).

DECISION:

HSC development is expected to take a considerable amount of time and the group did not select curves to be used during this meeting. It was requested that any curves that participants would like to have included for consideration (that are not currently included) should be sent to Scott Wilcox for discussion during the HSC development meetings.

The study will collect cover information using codes listed in Table 7a (see *Cover Codes* handout). If the group has any alternative cover type recommendations than those presented, they need to get it to Scott Wilcox within a week.

The group proposed to use the Wentworth Scale (for substrates) and split the Wentworth small cobble scale into two groups (3-4.5" and 4.5-6", per request of Allison Boucher). Any objections should be presented within the next week. Subject to confirmation, this scale is presented below.

Modified Wentworth Scale (adapted for the Tuolumne River)	
Description	Size (inches)
Organic	N/A
Silt	<0.1
Sand	0.1 - 0.2
Small Gravel	0.2 - 1.0
Medium Gravel	1 - 2
Large Gravel	2 - 3
Very Small Cobble	3 - 4.5
Small Cobble	4.5 - 6
Medium Cobble	6 - 9
Large Cobble	9 - 12
Boulder	>12
Bedrock	N/A

Pulse Flow Assessment Study Sites:

Noah Hume discussed the proposed Pulse Flow Study site locations (see *Pulse Flow Assessments* handout). The group identified 9 possibilities (5 were viewed as preferred [bolded]):

RM 49

RM 48.5

RM 44.5 broad floodplain with a side channel

RM 45.5 broad floodplain with a side channel

RM 43.5 (Bobcat restoration site) currently floods at 3,800, but will flood at 3,000 after summer 2011.

RM 37.8-38.3 (not a great option)

RM 34 closer to what a majority of the river looks like (riffle 46)

RM 26 restoration site

RM 5 (Big bend), no LIDAR

These sites will be visited and site-specific ground truthing information provided to the group.

There was also interest in the temperature study and combining the two studies (i.e., temperature monitors at the 2D sites).

Upcoming meeting dates:

Habitat Mapping Refinement Float Trip week of September 13 (3 days)

Site Selection Meeting, October 5, 2010

Site Selection in Field, October 6-7, and 8th if needed.

HSC development 1st meeting, September 20 in Davis.