TUOLUMNE RIVER TECHNICAL ADVISORY COMMITTEE
DON PEDRO PROJECT - FERC LICENSE 2299

MODESTO IRRIGATION DISTRICT
TURLOCK IRRIGATION DISTRICT
CITY & COUNTY OF SAN FRANCISCO
CALIFORNIA DEPARTMENT OF FISH & GAME
U. S. FISH & WILDLIFE SERVICE

333 East Canal Drive
Turlock, CA 95381-0949
Phone: (209) 883-8275
Fax: (209) 656-2180
Email: tjford@tid.org

# TECHNICAL ADVISORY COMMITTEE MEETING

September 16, 2004, 9:30 a.m.
Turlock Irrigation District, Lunch Room (2nd floor)
*DRAFT AGENDA*

1. Introduction
   A. Comments on draft agenda
   B. Correspondence since last meeting
2. General FSA Update:
   A. FSA/Order activity, expense tracking, and data and report status
   B. Review of activities from last meeting
   C. VAMP, Agency, and NGO updates
   D. Monitoring
   E. River operations and forecasts
   F. Restoration
      1. Funding, planning and implementation
      2. Project monitoring
      3. Other restoration information
3. Additional items
4. Next meeting and topics

TUOLUMNE RIVER TECHNICAL ADVISORY COMMITTEE
DON PEDRO PROJECT - FERC LICENSE 2299

MODESTO IRRIGATION DISTRICT
TURLOCK IRRIGATION DISTRICT
CITY & COUNTY OF SAN FRANCISCO
CALIFORNIA DEPARTMENT OF FISH & GAME
U. S. FISH & WILDLIFE SERVICE

333 East Canal Drive
Turlock, CA 95381-0949
Phone: (209) 883-8275
Fax: (209) 656-2180
Email: tjford@tid.org

# TECHNICAL ADVISORY COMMITTEE
# MEETING MINUTES of
16 September 2004 – Revised

## 1. Introduction

A. No changes were made to the agenda

B. Correspondence list was handed out at the meeting. SP Cramer has set up a web site for the San Joaquin River that will be used to post some of the Tuolumne monitoring data. Ford will send out web site address to TRTAC distribution. Marston indicated there is also a web site for the San Joaquin River Pilot Recirculation Study that can be linked to the SP Cramer site.

## 2. General FSA Update:

A. Funds for monitoring have been mostly used up and there are some funds remaining available for restoration work.

B. Rest of activity review is contained below

C. Agency & NGO updates:

Dean Marston, DFG, has issued the 2002 RST report and Redd Count report. He will provide electronic files of these. They are still working on the 1998 and 2003 RST reports, both targeted for completion by October. The DFG is taking enforcement action against the nursery owner with the tailwater pond adjacent to the FOTT Waterford planting site that failed this summer with a resulting discharge of sediment into the river. Installation of the pond was earlier considered not subject to DFG permitting because the location was "outside the floodway". Marston reported MID provided a letter of support for the basin WT modeling proposal to CALFED.

Dave Boucher, FOTT, reported on 3 projects. Grayson River Ranch is in the final year and there have been survival concerns with some hardwoods after irrigation is withdrawn at end of the summer. The Bobcat Flat & RM 43 Project permits are underway. Sampling for mercury may still be required by the RWQCB. Waterford "perc. ponds" planting survival is 55% with the long/deep softwood cuttings doing much better than the hardwood rootstocks when there is no irrigation. Another immediate Waterford area issue is conversion of the upstream Big Bear Park to a housing development because of the minimal riparian buffer adjacent to the river and erosion concerns.

Work is continuing on the Hickman Bridge repair at Waterford, resulting in a temporary flow limitation.

C. VAMP:

Tim Ford reported the results from the VAMP study indicate very poor survival for this year, similar to last year.

D. Monitoring:

The 3rd snorkel survey of the season was underway at the time of the meeting, so results will be sent when they are available as with prior surveys.

FOT provided a handout requesting protocol information for snorkeling, including summer and winter sampling, daily high WT graphs, review literature on smolting causes, protocols for winter spawning float surveys, and CALFED WT criteria guidelines for salmonid life stages. There was discussion on the various protocols. Blakeman would provide those of the float survey for review. Concern was expressed regarding how to differentiate locations and extent of *O mykiss* redds vs. salmon redds. Mesick indicated interest in *O mykiss* abundance for prioritizing restoration gravel infusions. Ford had sent the summer snorkel protocol prior to the JUN meeting, snorkel protocols used on the Stanislaus would be checked, Heyne will send some information on smolting, and Marston will provide some Stanislaus WT criteria information.

Due to funding shortfalls, DFG is asking for support of the fall carcass survey starting in October. SP Cramer will be funded to provide support in a manner and amount similar to last year.

E. River Operations & Forecasts:

There is only a small amount of water available for a fall pulse flow due to the dry year conditions. Ford presented an example of what a 2004 variable summer flow operation would have looked like given the temperatures to date, using the same criteria as in the 2003 operation.

F. Restoration & Project Updates:

Fryer presented a summary of the current TRTAC sponsored projects. The ROW (right of way) for the MJ Ruddy Project is moving slowly due to the need for a mining report and new format requirements for the appraisal. There is potential to lose $1.5M in AFRP funding if the ROW cannot be completed by the end of the year. Time extension contract amendments are being requested for MJ Ruddy, Warner-Deardorff, and Fine Sediment projects. Amendments to the Gravel Infusion project are still being processed by CALFED.

Hume, SWS, indicated the CWT analysis report update is in the QA/QC phase. He is preparing materials for the subgroup to review prior to making final decisions on the data from the 2002 smolt survival study.

3. **Additional Items:**
Marston expressed interest in collaboration on developing recommendations for the April 2005 FERC Report.

4. **Next meeting and topics:**
A subgroup meeting was scheduled for 7 or 8 October. The CALFED PSP deadline for monitoring proposals will be 19NOV. The next TRTAC meeting will be 15 December.

## FERC 2299 TRTAC Meeting
## 16 September 2004

| Name | Organization |
|---|---|
| Tim Ford | TID/MID |
| Wilton Fryer | TID |
| Roger Masuda | TID |
| Dave Boucher | FOTT |
| Ron Yoshiyama | CCSF |
| Noah Hume | Stillwater Sciences |
| Dean Marston | DFG |
| Tim Heyne | DFG |
| Carl Mesick | CRRF |

# TURLOCK IRRIGATION DISTRICT

WATER PLANNING DEPARTMENT
MEMORANDUM

TO: TRTAC
FROM: Wilton Fryer
DATE: 14 September 2004
RE: Project Status Update

| Project | Funding | Status |
|---|---|---|
| SRP 9 | Full | Construction completed, revegetation planted and maintained for two years, and final replacement planting completed in December 2003. NOC filed March 2003. |
| SRP 10 Dike | Full | Construction complete. NOC filed March 2003. |
| 7\11 Segment | Full | Construction complete with remaining revegetation planted in December 2003. 7\11 Materials NOC filed March 2003. HART NOC filed May 2004. A separate limited irrigation & maintenance agreement is in place for 2004, funded by MWD. |
| MJ Ruddy | Partial | ROW appraisal rejected by Interior Dept., but working with staff to revise in new Federal format. Acquisition now scheduled for November 2004. Construction will be delayed for 2nd year. September 04 the USBR-CN Ops pulled $1.53M from the funding to keep from loosing the funds completely to the US Treasury. The amendment before CBDA will be modified to add back the lost funding rather than reinstating the revegetation work deleted in the last amendment. |
| Warner-Deardorff | Partial | Design at 90% stage, remaining permitting and ROW appraisal on hold. Based on instructions from CBDA, work on contract with GCAP Service for remaining committed funds is proceeding w/o resolution of review by CBDA-ERP on Directed Action package submitted 21 November 2003. |
| Design Manual | Full | Final Report submitted 26 February 2004. |
| Course Sediment | Full | Report was completed with modifications on methods and techniques to protect existing salmonid habitats during implementation. |

| | | |
|---|---|---|
| La Grange Gravel | Full | Amendment request was presented 25 Mar 04. CBDA requested completion of the CSMP revisions before finalizing approval of amendment request. CBDA also requested that the entire proposal be resubmitted as if it were a new PSP. The peer review will be abbreviated and then the district will be allowed to make SOW revisions with McBain & Trush to delete the aggregate mining and expand inchannel gravel infusion work. |
| Fine Sediment | Full | No action from DFG on the basin design. Revisiting remaining tasks in the FSMP to see what can be set up for next year and what fits with special studies under the FSA. |
| RM 43 | Full | Design work is in final stage. Agency site visit comments have been incorporated. Permits and CEQA process under way. The overall project is going for CBDA a time extension amendment. |
| SRP 10 | Partial | Design concepts being finalized with input from the SRP 9 post project monitoring results and the use of a 2D model for SRP 9 and SRP 10. No date set for the next funding cycle for PSP on Phase II – Acquisition & Construction. AFRP is looking to place $4.5M in their 2006 budget to be used on this project. |

# Tuolumne River Chinook Salmon Redd Enumeration
# 1998 and 1999

## Background

Carcass surveys performed by California Department of Fish and Game (CDFG) since 1953 have documented the spawning escapements in the tributaries of the San Joaquin River. These numbers have allowed the CDFG to separate successful fish production years from unsuccessful years but do not allow a complete assessment of biotic and abiotic factors that contribute to that success or failure. Counts of redds and live fish during the carcass surveys allow further assessment of where and when spawning is occurring.

Recently, efforts have been made to estimate the number of juveniles outmigrating from the river. This additional data should allow the separation of the impact to recruitment of factors in the natal stream versus factors beyond the natal stream (Delta pumping, ocean mortality). There is interest in further parsing the natal stream factors to evaluate spawn success and survival to emergence, such that affects of spawning habitat quantity and quality can be separated from those of rearing habitat. This will require large amounts of information.

A beginning for this information collection can be to evaluate spawning success. This can be defined simply as the number of redds produced in the river divided by the number of females in the adult escapement. Currently, some data is collected on the number of redds in the river. This data consists of number of redds counted by the carcass survey crew in each spawning area (riffle).

The CDFG in 1998 and 1999 performed an evaluation of the number of redds (determined by intensive foot survey) in a stratified random sample of the spawning areas compared to the carcass survey crew counts of redds in those same riffles. (CDFG 1999).

## Procedures

Carcass surveys were performed as described in numerous CDFG reports (2002). These crews tagged and recovered carcasses and counted the number of live fish and redds that they see as they float through each riffle. The riffle referred to is a shallow area in the river where the salmon tend to congregate for spawning. These surveys are performed each week throughout the entire area of the river where spawning is occurring. Since the crews float in a boat through the riffles, the counts are of live and redds are approximate as the crews are moving rather quickly.

During three weeks of the spawning season, a second crew surveyed specific riffles chosen in a stratified random pattern that accommodated the size and intensity of use at each riffle. The survey was conducted on foot at each of the chosen riffles. The intensive survey involved passing through the riffle in a boat and then recovering it on foot. Redds were mapped onto riffle maps which were then used to count the number of redds in each riffle. The counts from this second crew were used to determine how the number of redds counted intensively on a riffle compares to the counts of redds obtained by the carcass survey.

The counts at each riffle were tallied in the following two tables. The intensive counts are referred to as calibration counts and the carcass survey counts are called crew counts. Crew counts were taken from the database based on the carcass survey date on a riffle that most closely matched the date of the intensive surveys. These were always within a week of each other. This will allow calibration of the carcass survey crew counts to obtain a more accurate estimate of redds in the river in a season. This should give a much better estimate of spawning success.

**1998 Calibration Data**

| | Calibration Count | | | Crew Count | | |
|---|---|---|---|---|---|---|
| Survey# | 1 | 2 | 3 | 1 | 2 | 3 |
| Start Date | 11/3/1998 | 11/17/1998 | 12/1/1998 | 11/2/1998 | 11/16/1998 | 11/30/1998 |
| End Date | 11/4/1998 | 11/24/1998 | 12/3/1998 | 11/6/1998 | 11/25/1998 | 12/3/1998 |
| Riffle | | | | | | |
| 1A | | 91 | 110 | 34 | 25 | 8 |
| 3B | 54 | 82 | 96 | 32 | 21 | 16 |
| 4A | 42 | 78 | 89 | 32 | 25 | 13 |
| 4B | 31 | 44 | 64 | 37 | 33 | 20 |
| 5A | 16 | 16 | | 12 | 5 | 2 |
| 8 | | 3 | 8 | 1 | 3 | 7 |
| 13 | | 14 | 16 | 2 | 1 | 8 |
| 16 | 6 | 18 | 13 | 2 | 2 | 6 |
| 19 | 9 | 18 | 9 | 2 | 3 | 7 |
| 23A | 6 | 8 | 6 | 1 | 4 | 4 |
| 23C | 5 | 8 | 7 | 1 | 0 | 3 |
| 23D | 7 | 12 | 12 | 1 | 4 | 5 |
| 33 | 0 | | 4 | 2 | | 3 |
| 35B | 0 | | 0 | 1 | | 0 |
| 41 | 3 | | 2 | 3 | | 2 |
| 60 | | | 0 | 0 | | 1 |
| 64 | | | 4 | 0 | | 1 |

**1999 Calibration Data**

| | Calibration Count | | | Crew Count | | |
|---|---|---|---|---|---|---|
| Survey# | 1 | 2 | 3 | 1 | 2 | 3 |
| Start Date | 11/21998 | 11/16/1998 | 12/2/1998 | 11/2/1998 | 11/16/1998 | 11/30/1998 |
| End Date | 11/8/1998 | 11/19/1998 | 12/9/1998 | 11/8/1998 | 11/19/1998 | 12/9/1998 |
| Riffle | | | | | | |
| 1A | 33 | 120 | 129 | 23 | 41 | 27 |
| 3B | | 117 | | 20 | 48 | 17 |
| 4A | | 114 | | 0 | 45 | 9 |
| 4B | | 77 | 128 | 43 | 20 | 15 |
| 5A | | 41 | 50 | 4 | 11 | 3 |
| 8 | 7 | | 12 | 8 | 3 | 9 |
| 13 | 16 | | 11 | 11 | 15 | 5 |
| 16 | 7 | | 0 | 3 | 12 | 0 |
| 19 | 3 | | 3 | 1 | 0 | 3 |
| 23A | 3 | | 8 | 3 | 2 | 6 |
| 23C | | | 6 | 2 | 2 | 4 |
| 23D | | | 0 | 2 | 2 | 6 |
| 33 | 1 | 1 | | 1 | 2 | 0 |
| 35B | 0 | 0 | | 0 | 0 | 0 |
| 41 | 1 | 2 | 1 | 0 | 0 | 2 |
| 60 | | 2 | 1 | 0 | 0 | 1 |
| 64 | | 0 | 0 | 0 | 0 | 0 |

Friends of the Tuolumne, Inc.

7523 Meadow Avenue
Stockton, CA 95207
(209) 477-9033

September 15, 2004

## INFORMATION NEEDS

1. Written snorkeling protocols from Tim Ford per the April 24, 2004 meeting. The protocols should include winter snorkeling. We also need sample protocols from other rivers.

2. Graph or other data showing the daily high temperatures from Tim Ford per the January 28, 2004 meeting.

3. Studies of the causes of smolting. We need at least a literature review. We feel it is important that this be included in the studies for FERC. This was requested at the January 28, 2004 meeting.

4. Written protocols for steelhead spawning survey floats. The protocols should be specific enough to indicate the amount of time it takes to complete a section of river. The protocols should also indicate when and how snorkeling is used. We request Tim Ford draft these protocols.

5. CALFED peer review guidelines on temperature criteria for salmonid life history stages.

**TRTAC Subgroup Meeting**
**September 30, 2004 MID, 9:00-1:30**
**Draft Summary**
**(Ford and Yoshiyama)**

**Attending:** Dean Marston, Tim Heyne, Dennis Blakeman, Allison Boucher, Tim Ford, Noah Hume, Ron Yoshiyama, Steve Walser, Carl Mesick (soon with USFWS), Jen Vick; [by phone: Madelyn Martinez and Jeff McLain].

## TROUT MONITORING

Marston stated that CDFG recognized the need for more comprehensive information on the steelhead-rainbow trout population in the Tuolumne and other San Joaquin basin rivers. Walser and Heyne recapped some activities conducted in the past year from the overall list of potential monitoring activities. A list from Ford had been compiled from previous discussions on monitoring items and distributed to the TRTAC (in May/June).

Boucher requested that the snorkel survey protocol be reviewed and clarified to help the TRTAC parties understand exactly what is being measured. Ford indicated that one had already been sent out as requested. Marston suggested reviewing the current snorkel monitoring program and assess how to improve the field protocol, if needed. Mesick indicated a population estimate would be useful, but wondered if snorkeling could provide that. An eventual goal could be to develop a quantitative population assessment for the trout.

The Subgroup discussed possible near-future monitoring goals and techniques (the complete list is in a separate photo file). The general categories were:

--Presence/absence: snorkeling, seining, angling and redd surveys (include video).
--Abundance: electrofish, snorkel (index), trammel netting, counting weir.
--Distribution and habitat utilization: angling, snorkeling.
--Life history information (e.g., anadromy, age-structure): otoliths, age-at-smolting, smolt physiology, genetics, Mossdale trawling.
--Other factors: San Joaquin water quality

There was discussion of this years' angling and redd surveys and ideas to continue that effort in the upcoming season. Walser advocated conducting the DFG trout survey twice a month starting in November-December and then increasing to weekly in January-June. The redd surveys could be combined with that fieldwork. Walser will provide Ford with a proposal of expanding the DFG surveys done with Blakeman. Ford identified that the data gathered earlier this year should be provided.

## PROJECT MONITORING

Vick stated that McBain & Trush has been granted two amendments for SRP 9-related work:
(1) Ongoing habitat mapping and topography modeling.
(2) Cost augmentation to cover more electrofishing for project-related monitoring. Sampling so far indicates no apparent difference for pre-project versus post-project bass abundance. Plans for e-

fishing next month are being pursued - Vick will work with Marston and Martinez to obtain necessary collecting permits and will coordinate equipment needs.

**CalFed PSP (Proposal Solicitation Package)**

McBain & Trush will propose a broader sampling program in response to the CalFed PSP. This PSP focuses on monitoring, especially for restoration projects that already have been implemented. Vick sees potential areas of focus along the lines of the Adaptive Management Forum recommendations--e.g., broader, river-scale monitoring of predators and more monitoring of geomorphic processes at restoration project sites (i.e., 7/11 and SRP9).

Marston suggested that screwtrapping at upstream points on the Tuolumne River could be included in monitoring proposals for the restoration projects. Boucher stated that FOT plans to submit a proposal for post-project monitoring at the RM43 project site.

Vick suggested that two proposals could be written: one on predation and a second on geomorphic monitoring. Drafts will be distributed to the Subgroup in stages and finalized at the next Subgroup meeting (early November). Proposals must be completed by the deadline of Nov. 19.

**FLOWS**

The fall-winter flow previously scheduled was 155 cfs but has been changed to 150 cfs baseflow so that the difference could be accumulated into a ~1800 AF fall pulse flow. The Tuolumne River pulse will be coordinated with the larger Stanislaus River and Merced River pulses. Marston, Ford and Blanco (USFWS) will confer on flow coordination. The Head of Old River Barrier will be installed later this week.

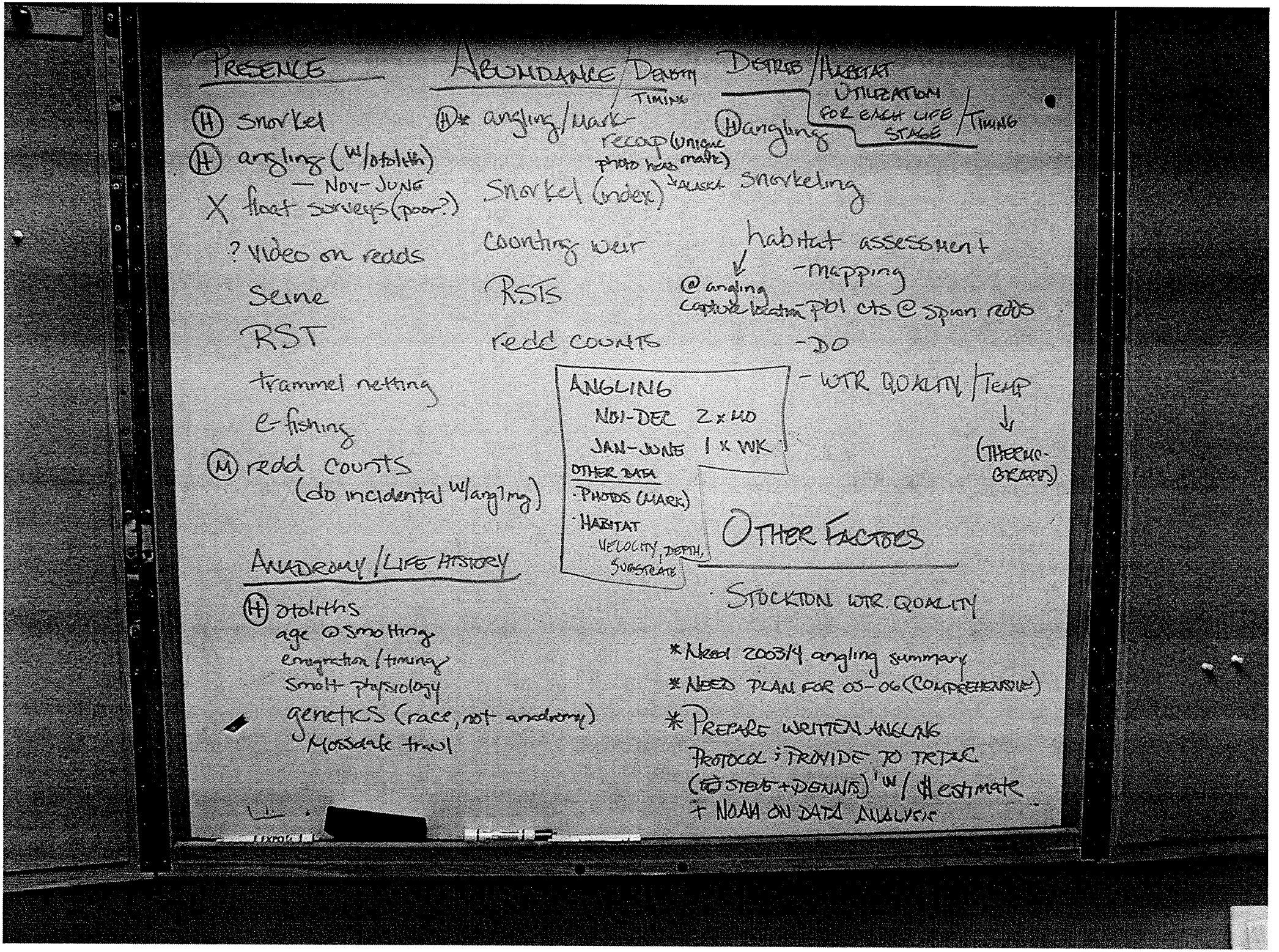
**Fall Spawning Survey**

The DFG spawning survey will be done similar to last year with assistence through SP Cramer as stated by Ford. CDFG staff to collect carcass heads containing CWTs during the spawning survey for later data processing, although reading the CWTs may require additional funding. The Districts and CCSF should address the status of funding for monitoring activities.

**Canal Tour** (field trip). Ford suggested that a tour of the Districts' canal system could be done soon after the water levels have dropped--during late-October to early-November. This would a follow-up to the canal trout survey reported earlier this year.

**Next Subgroup meeting: November 4, 2004. MID, 9:00 A.M.**

.


PRESENCE
(H) snorkel
(H) angling (w/otoliths)
— Nov-June
X float surveys (poor?)
? video on redds
Seine
RST
trammel netting
e-fishing
(M) redd counts
(do incidental w/angling)
ABUNDANCE / Density / Timing
(H)* angling / mark-recap (unique photo head marks)
snorkel (index)
counting weir
RSTs
redd counts
DISTRIB / HABITAT / UTILIZATION FOR EACH LIFE STAGE / TIMING
(H) angling
snorkeling
habitat assessment
- mapping
@ angling capture locations
- PDTs @ spawn redds
- DO
- WTR QUALITY / TEMP
(THERMO-GRAPHS)
ANGLING
NOV-DEC 2 x MO
JAN-JUNE 1 x WK
OTHER DATA
- PHOTOS (MARK)
- HABITAT
VELOCITY, DEPTH, SUBSTRATE
OTHER FACTORS
STOCKTON WTR QUALITY
ANATOMY / LIFE HISTORY
(H) otoliths
age @ smoltng
emigration / timing
smolt physiology
genetics (race, not anadromy)
Mossdale trawl
* Need 2003/4 angling summary
* NEED PLAN FOR 05-06 (COMPREHENSIVE)
* PREPARE WRITTEN ANGLING PROTOCOL; PROVIDE TO TRTAC (@ STEVE + DENNIS) 'ON' / $ ESTIMATE
+ NOAH ON DATA ANALYSIS

Friends of the Tuolumne, Inc.

MEMO

Date: November 3, 2004

TO: Tuolumne River Technical Committee

Subject: Summary of Subgroup meeting, ~~October~~ Sep 30, 2004

Please include these comments as an addendum to the Draft Summary of the Subgroup meeting, October 30, 2004 minutes prepared by Ford and Yoshiyama. These additions are necessary to properly record the comments and decisions.

The general categories for near-future monitoring goals and techniques also included:

- Timing
- Quality of habitat
- Limiting factors

Marston raised the question of what can we do to document presence? The group posed the following ideas—

- Redd surveys
- Redd counts
- Angling
- Cinema photography (video as the fish return to the redd)
- Screw trapping and seining
- Electro shock and trammel nets

To document abundance?

- Snorkeling (index)
- Screw traps
- Redd counts
- Counting weir
- Angling with video cinema photography and photo of the fish head for a mark recapture

subset – timing?

To document density? Same list as for abundance

To document habitat use?

- Angling

7523 Meadow Avenue • Stockton, CA 95207 • 209.477.9033 • email: dboucher@netfeed.com

Snorkeling
Habitat quality analysis for all life stages

Subset – timing?

To document anadromy/life history?
Otoliths
Age at smolting
Genetics (race not anadromy)
Emergency/time
Smolt physiology
Mossdale trawl

Steelhead Redd Float Survey Report:

The report of the steelhead float survey by Dennis Blakeman: We are not going to see large sizes like on the American River. We cannot the see the redds even if the fish are apparently spawning.

Walser suggests we need cinema photography.

Regarding angling: There are funds to have the otoliths analyzed and Dennis may be available. Ford is interested in combing redd surveys and angling for trout after the salmon carcass surveys are complete. Walser suggests once a week due to the short time a redd is visible. A consensus was reached that angling two times a month during November and December and weekly January through June would be useful.

Hume questioned why we are not fishing where the fish are not. McLain says we can. Perhaps next year we should expand angling to other areas.

Marston reported that there are no additional funds for the genetic analysis of more fish.