



## Trinity River Restoration Program

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NC-150

### MEMORANDUM

**TO:** Trinity Management Council (TMC), Trinity Adaptive Management Working Group (TAMWG)

**FROM:** Doug Schleusner, Executive Director

**CC:** TMC Alternates and Technical Representatives, Science Advisory Board (SAB), and Staff

**DATE:** March 8, 2007

**SUBJECT:** Proposed Fiscal Year (FY) 2008 Budget; Draft Spreadsheet and Response to Comments

I am pleased to forward you the proposed FY2008 budget for your review and consideration. The enclosed budget spreadsheet (Attachment 1) represents the most extensive workgroup involvement since the Record of Decision (ROD) was signed in December 2000. It incorporates the priority lists (Attachment 2) developed by the workgroups and reviewed by the B-Team, with the initial cost estimates prepared by the Contracting Officer's Technical Representatives (COTRs) in this office. The proposal is based on the available funds identified in the President's Budget, and follows the allocation process outlined in my November 30, 2006 memo.

Current information indicates that \$8 million will be available from Reclamation (President's Budget level), with an estimated \$1.5 million from the U.S. Fish and Wildlife Service (FWS) which involves a \$1.1 million interagency transfer from FY2007 plus an estimated \$400,000 in FY2008 for FWS holdback projects. Most recently, it has been confirmed that we will receive \$500,000 in grant funding from the California Department of Fish and Game (DFG) for the Dark Gulch channel rehab site.

In this proposed budget Program Administration is considered a "fixed cost" consistent with the TMC budget subcommittee recommendation, and funds the Adaptive Environmental Assessment and Management (AEAM) staff (including the Rehabilitation Implementation Group (RIG) and the Technical Modeling and Analysis Group (TMAG)), TMC, TAMWG, SAB, etc. at about \$3.6 million. The project component of the RIG budget is \$3.1 million. All of the High priority

TMAG projects (\$3.3 million) are funded, but none of the Medium and Low priority items fell above the "cut line." Together these elements represent a total of \$10.0 million.

On February 13 I requested your comments on the updated list of FY2008 budget priorities resulting from the series of workgroup and B-Team meetings in December and January, along with initial cost estimates developed by my staff. As of today's date, we received responses from the Hoopa Valley and Yurok Tribes, the Arcata FWS office, and Trinity County. I and my staff have reviewed those comments, made a number of changes in the project descriptions for improved clarity, and modified some cost estimates. These changes are incorporated in a revised table of TMAG priorities and costs (Attachment 2). There were no significant changes to the Program Administration or RIG sections. In addition we prepared the attached response to comments that explains what items we changed (or did not change) and why (Attachment 3).

As I have stated in previous memos, my staff and I always try to incorporate the majority of suggestions presented at the B-Team meetings; we also have to weigh them against the intent of the original workgroup recommendations and/or professional judgments of RIG and TMAG staff. I am again attaching the summary of those relatively few cases where minority opinions could not be resolved in the B-Team discussions (part of Attachment 3). I encourage you to review this entire package of information (along with earlier memos dated November 30, 2006, and January 8 and February 13, 2007) prior to the TAMWG and TMC meetings later this month.

Even with many competing work priorities, together we have been able to successfully implement much of the process recommended by the budget subcommittee. Obviously not everyone has agreed with the results at every step of the process, but I believe we have achieved much greater involvement with broader overall support than in any prior year. Although it has been very productive, there is still room for improvement and it is widely understood that completion of the IAP will influence the budget process for FY2009. As an added benefit, we now have the best (but not perfect) assessment of what constitutes a full ROD program of work.

I think it is very important that we do our best to hold to the process outlined by the budget subcommittee, i.e., give workgroup consensus recommendations a great deal of deference. This does not mean, however that the TMC should "rubber stamp" the proposed budget. We must also remain committed to having an approved budget by the end of March, since Reclamation will begin to negotiate FY2008 Tribal AFAs and move forward with requisitions for other grants and agreements in April.

A final point: in March we are at least six months from having signed appropriation bills for FY2008, and are still using figures from the President's Budget released four weeks ago. Since many things can change between now and October 1<sup>st</sup>, I think it would be unproductive to debate differences of a few thousand dollars for each line item. I hope that we can agree that this budget document is a planning tool, and discover how to structure a TMC decision that allows major actions to proceed while reserving the option of revisiting some details later in the year when there is more certainty.

Please call me or members of my staff if you have questions. Thank you for your contributions to this process.

**Attachment 3**  
**Summary of Minority Views and Responses to Comments**

**Summary of Minority Views, TRRP Proposed Disposition of Unresolved Items, and Other Actions Subsequent to the January 19<sup>th</sup> and 23<sup>rd</sup> B-Team Meetings**

Minority Viewpoints:

1. **H-5: Emigration Estimates (Primary Period)** – Several B-Team representatives stated that there should be no additional data collection until the SAB-recommended assessment of the RST program is completed. Most felt the task should be retained at the current priority assuming that the assessment would be completed by December 2007.
2. **H-7: Tribal Harvest Survey** – One representative stated that while not disagreeing with the idea of having this type of task identified for both tribes, he preferred to see it displayed in two separate line items.
3. **H-9: Carcass/Redd Surveys** – One representative believed this High priority item should be expanded to include the lower Trinity River below Willow Creek (currently in M-5). Most felt that the upper river should be the focus in this High priority category.
4. **H-16: Estimation of Fry Survival (Primary Effort)** - Several B-Team representatives stated that this item should be moved to a lower priority. Most felt it could be retained in its current ranking if the description were sufficiently clarified and the study plan completed in 2007.
5. **H-20: Adult Fish Health Monitoring** – One representative felt that this item should be moved to a Medium priority rather than being incorporated into H-33. Others felt that the water-year specific general fund would be appropriate, given that this task would only be needed in dry years or when a larger than normal run size was expected.
6. **H-24: Riverine Birds** - One representative felt that this item should be moved to a Medium or Low priority or dropped. Others believed moving it from a High-C to a High-E was sufficient.
7. **H-29: Riparian Birds** - One representative felt that this item should be moved to a Medium or Low priority or dropped. Others believed keeping it as a High-D was appropriate.
8. **H-33: General Fund - Water-Year Specific (fish, physical, other)** - One representative felt that this item should be moved to a Medium priority. Others believed keeping it as a High-E was appropriate.

Disposition of Unresolved Items:

1. **H-17: Foothill Yellow-Legged Frogs** – B-Team representatives appeared to be about evenly divided over whether to keep this as a High-B or to move it to a lower priority. In the absence of a clear consensus, TRRP staff is recommending that it stay as a High-B because of the value of this information to the flow scheduling process.
2. **H-21: Sport Harvest Survey (Primary Period)** - B-Team representatives appeared to be about evenly divided over whether to keep this as a High-C or to move it to a higher priority. In the absence of a clear consensus, TRRP staff is recommending that it move to a High-B because of the value of this information to overall run-size estimates.

3. **H-34: SALMOD (Primary)** - B-Team representatives appeared to be about evenly divided over whether to keep this as a High-E or to move it to a lower priority. In the absence of a clear consensus, TRRP staff is recommending that it stay as a High-E because of the need for a production model and cost-share opportunities with USGS.

New Items Added to Priority Lists:

1. **SAB/IAP Follow-up Actions:** The B-Team recommended that funding be allocated to evaluations and workshops needed to respond to SAB recommendations and/or IAP derived program reviews. Rather than try to implement all recommended evaluations at the same time, it was suggested that cycling through them at a rate of about two per year (\$20,000 each) would be a realistic work load. This was added as a "High-A" priority.
2. **Equipment Replacement:** It was recognized that several monitoring activities are dependent on relatively costly pieces of equipment which have finite life spans, such as CWT machines, rafts, rotary screw traps, etc. Rather than including them in O&M costs, they should be identified as multi-year replacement items.

Additional Information:

1. Alternatives were not developed for the Implementation activities, since as proposed it represents a minimum viable program of work that keeps the channel rehab site construction schedule from slipping any further behind. There appeared to be a consensus among B-Team representatives that the tasks presented by the RIG Branch Chief were carefully developed, and no significant adjustments were necessary with the exception of #2 (below). The major choice to be made is whether or not to obligate additional channel rehab site construction costs in FY2008, or to shift the full amount of remaining obligations (\$1.1 million) into FY2009.
2. Ranking of Dark Gulch/Lewiston 4 Rehab Construction: Several B-Team representatives suggested that these two line items should be moved from their RIG rankings of 14/15 to a mid-range position of about 6/7. Upon further review, the Executive Director and RIG Branch Chief still believe the sequential priorities originally identified are valid, with the emphasis on environmental compliance, planning, and design of new sites best suited to keeping the channel rehab program on schedule.
3. There appeared to be no clear consensus for moving any of the TMAG Medium priority items into the High category, and most comments were directed at the need to clarify project descriptions so it was easier to understand
4. Low priority TMAG items were not categorized into "ABCs" by the workgroups due to lack of time, and low probability for implementation due to available funding in FY2008. TRRP staff revised project descriptions as necessary to be consistent with counter-part activities in the High and Medium priority lists, and developed initial cost estimates primarily for the purpose of improving our overall estimate of "full ROD program" needs in 2008 and future years.

## Responses to Comments on 2/13/07 TRRP Priorities and Costs

### Program Administration - Priorities and Costs

The TMC budget process subcommittee recommended that Program Administration (including RIG and TMAG salary plus indirect costs) be treated as “fixed costs”. The proposed budget identifies those costs without alternatives or priorities. Only one comment was received regarding this portion of the budget.

#### Independent Review Committees

**HVT:** We assume that this is for the SAB and Expert Review Panels. Previous budget needs for the SAB were on the order of \$25k per year. While we strongly support this line item, \$100k to \$125k per year for Expert Review Panels seems pretty steep.

**ADMIN:** This amount (\$150,000) includes maintaining the four current SAB positions at \$25,000 per year, plus filling the fifth (currently vacant) position, for a total of \$125,000. The same amount proposed for ERPs in past years (\$25,000) is again shown for FY2008.

### Implementation - Priorities and Costs

#### General Comment 1

**YT:** The TRRP did not apply the “accordion principle” to the RIG portion of the budget as recommended in the B-Team meetings. Although some line item costs may be fixed, the intensity and/or scale of some tasks (channel rehab/gravel) can be variable.

**RIG:** It was never agreed at the B-Team meetings to use the “accordion principle” to develop the RIG budget. As discussed by the TMC budget process subcommittee, RIG activities are primarily schedule driven, and due to the costs of contracting and mobilization of construction equipment, it is generally not cost-effective to reduce project scope with a plan of returning again at a later date. Funding for gravel is the amount needed to place the remaining 48,000 tons of processed material delivered in the final year of the Indian Creek contract. Funding for rehab sites is by necessity all that remains of the RIG budget when the other higher priority activities are funded (previous year construction, NEPA/CEQA, designs).

#### General Comment 2:

**FWS:** Differences in project cost estimates developed by the TRRP and the Hoopa Valley Tribe’s consultants, particularly as they relate to differences in contingency costs, should be identified for the TMC. If costs for channel rehab projects are higher, then how much total funding would RIG need in FY2008 to stay on schedule?

**RIG:** This can be discussed as part of the budget presentation on March 28. It is important to note, however, that planning level cost estimates developed in concert with the Hoopa Valley Tribe’s draft legislative proposal are not appropriate for use within the FY2008 budgeting process. Using high contingencies and other overly conservative cost estimates for individual

projects will create unrealistic and unnecessary shortages in individual budget year projections. Recent bids for similar construction contracts have been within 3 percent of our independent government cost estimate, and our accuracy continues to improve. For best use of existing funds, it is always advantageous to estimate construction contracts over multiple years as closely to the projected bid price as possible, even erring on the side of being below the bid price. Shortfalls can be made up in the next fiscal year or from surplus funds available within that year.

**Indian Creek Rehab Site Implementation (1)**

**FWS:** We recently became aware that there is a difference of opinion as to how the Indian Creek project should be constructed. Refocus the objective of the project on fish habitat restoration rather than being an experiment to test the effectiveness of the riparian berm breaching construction method.

**RIG:** We acknowledge there is a difference of opinion relative to the design of the "AU" site. The current design excavates 13 notches in the berm (8,000 cubic yards). The design is intended to provide immediate fry rearing habitat while significantly reducing impediments to geomorphic processes at the site and is believed to be consistent with the Flow Study philosophy. Some have suggested that more of the berm should be removed along with placement of coarse sediment. Indian Creek designs have been finalized and are in the contracting phase. This is the only construction project scheduled for FY2007, and every effort should be made to avoid delaying the award, especially since DFG and EPA grant funding is involved. If desired by the TMC, this site could be removed from the contract by amendment to the solicitation or, if more funding is made available in FY2007 or FY2008, alternatives requiring additional excavation could be added to the contract by modification. The alternatives described in the final environmental documents (with FONSI scheduled for May 1, 2007) allow for no more than 30,000 cubic yards to be excavated at the site and no coarse sediment augmentation is included. We recommend, at a minimum, that the site be constructed as designed. If the TMC decides to expand the project to the maximum allowed in the EA/EIR, and funding is acquired, the contract could be modified.

**GVC Watershed Monitoring, Hamilton Ponds O&M (2)**

**HVT:** Would like more information on what is included here.

**YT:** Is it certain that GVC pond maintenance will be needed in FY2008? Could this be deferred if determined not needed?

**RIG:** The majority of the work involves dredging the Hamilton Ponds. This includes maintaining and operating appurtenant facilities including pond spillways, fish by-pass channel and road systems. Also includes surveys necessary to determine pond volumes and permits. The TMC has historically required that Hamilton Ponds be completely empty going into each winter. There is some variability in contract costs depending upon how much material must be removed, but cost savings are generally small and carried over to the next year.

**Cultural Resource Compliance Planning (8)**

**YT:** Is this a new item? Why is this not included in the channel rehab and coarse sediment NEPA/CEQA line items? Is this for internal BOR costs?

**RIG:** This line item first appeared in the FY2007 budget. It used to be part of the Environmental Compliance line items but was made a separate line item when it became a significant cost. This work is done by a combination of contract and BOR employees and has become significant due to requirements of the National Historic Preservation Act and various agreements between other agencies and tribes.

**Floodplain Structures Relocation Implementation (4)**

**HVT:** Seems pretty high. Is there a list of structures that this budget allocation is based on, and if so, is it available for review?

**RIG:** This line item includes: 1) Pump house relocation (\$10,000); 2) Well emergencies (\$10,000); 3) Major structure modifications (\$100,000); 4) Realty agreements (\$30,000); and, 5) Well and septic assistance program (\$200,000). This last item is a continuation of the activity approved by the TMC in FY2007 and reflects the number of applications received for assistance.

**Coarse Sediment Introductions Implementation (12)**

**HVT:** ...the \$650,000 ... for augmentation at Dark Gulch and Lewiston bank rehabilitation sites is low. Our estimate ... is \$2.1 million...

**RIG:** A total of 60,000 tons of coarse sediment will be available during FY07/08/09 from processing operations associated with the Indian Creek Project. The processing and delivery of most of this material will be funded in FY2007. This line item for FY2008 includes: 1) Placing 25,000 tons of coarse sediment at the Dark Gulch and Lewiston 4 sites in FY2008 (\$250,000); 2) Remaining obligation associated with processing remaining 25,000 tons at Indian Creek in FY2009 (\$200,000); and, 3) Dark Gulch and Lewiston 4 earthwork in support of coarse sediment placement (\$200,000).

**Restoration Construction Below Lewiston Dam – Implementation**

**HVT:** "...the allocation for these sites is low. Based on estimates developed during the legislative process, total costs approximate \$3.1 million.

**RIG:** Based on a thorough review of these site designs, we are confident that the FY2008 costs for Dark Gulch and Lewiston 4 to be approximately \$2.1 million. Recent bids for similar construction contracts have been within 3 percent of our independent government cost estimate. Available funds for this project in FY2008 are currently \$550,000 (rehab) plus \$450,000 (coarse sediment). This defers \$1.1 million in contract costs to FY2009.

**Bucktail Rehab Site (Dark Gulch) Implementation**

**HVT:** Implementation of Dark Gulch must be delayed beyond FY2008 to allow for reconsideration of designs.

**RIG:** For construction to occur in the summer of 2008 at Dark Gulch as currently scheduled, 50% design alternatives must be developed and delivered to the NEPA/CEQA contractor by April 1, 2007. As long as these alternatives are broad enough to include these new concepts and identify worst case environmental scenarios, then time will be available to review, discuss, and finalize these concepts as part of the design process.

## Modeling and Analysis - Priorities and Costs

### H-1 Streamgaging

**HVT:** Provides no funding in support of HVTF collaboration (budget requires \$175K additional to support HVTF companion project with GS).

**YT:** This was \$190,000 in FY 06 and FY 07. Please explain and justify the increase?

**TMAG:** Costs for HVT participation over and above USGS costs were not proposed by the Physical Work Group nor recommended by the B-Team. This is a planning level estimate of the USGS costs for FY08. It is common for USGS to adjust their costs based on inflation and other operating factors. The annual variance report documents these differences; also refer to the FY2006 Actuals column in the budget spreadsheet.

### H-2 Mainstem Sediment Transport

**HVT:** Dry and Critically Dry year types require no funding (or nearly so) in this category.

**TMAG:** We don't know what the water year will be next year. It seems prudent to plan for a normal water year. The Normal Water Year cost for the comprehensive (mainstem and tributaries) Q<sub>s</sub> contract is \$400,000. Since this year appears to be dry, and we are separating the mainstem from tributaries (see H-12, H-18, H-26, M-22, L-5, L-6, L-7) there will probably be carryover from FY07 to FY08. The budget figure represents our current estimate of FY08 costs less the projected carryover.

### H-4 Water Temperature

**USFWS:** Water Temperature Monitoring. At the recent Science Symposium, Dr. Wittler, indicated to FWS staff that he wanted FWS to continue the mainstem temperature monitoring and modeling that it has conducted in the past for the Trinity River Flow Evaluation and the TRRP...The current budget does not provide funding for AFWO to do the temperature work, as monitoring appears to be transferred to Reclamation at "no cost". As such, it is unclear who will be doing the temperature data collection and modeling.

*Recommendation:* Clarify if FWS continuation of this project was an omission (need ~\$13,000) or whether this transfer of project responsibility has been determined to be in the Program's best interests. Also, it should be clarified exactly what activities Reclamation will perform if they are taking on this work (e.g., will Reclamation be doing the modeling work as well as the monitoring work?).

**TMAG:** We agree that this USFWS task should continue for 1-2 years longer until the USBR/NCAO demonstrates proficiency in logging temperature data at the specified locations for regulatory compliance and supplying calibration data for the new river temperature model. NCAO is not doing any modeling for the Program. NCAO will continue logging temperature data in both Trinity and Lewiston reservoirs, whilst beginning to log temperature at specified points in the mainstem Trinity River. A line item in the amount of \$13,000 has been added for the USFWS to continue this effort in FY08. It is probable that the USFWS portion of this task will cease at the end of FY09.

## **H-5 Emigration Estimates**

**HVT:** 1) Inadequate funding to operate both sites (WC and PT) for 'core' period. Minimum funding needed for 5 months at Pear Tree alone is \$218K; assuming no need for critical equipment replacement. 2) Peak Chinook emigration may vary year to year due to climatic events. Also, emigration timing may shift in response to rehabilitation efforts. We should sample through entire Chinook emigration period if we expect to track production. Core period should be expanded to a minimum of 7 months at the Pear Tree site. 3) Early emigration of YOY Chinook is likely passive, and either flow and/or density dependent. Tracking the ratio of passive emigrants/total production may provide evidence of increased habitat quality and availability as rehabilitation progresses. The proposed 5 core months limit precludes estimation of productivity; workshop results should dictate sampling period.

**YT:** It appears that the costs for Task H-5 do not reflect operating costs for the 'core period' as described. A total of \$480K was allocated in FY 07 to operate upper and lower RST's for a period of 7 mos. The FY 08 project description of the 'core period' is 5 months (71% of the FY 07 project duration), but is only funded at 46% of the FY 07 allocated project. The Program should reevaluate project costs and incorporate direct input from partners regarding adequate operating costs to conduct monitoring during the 'Core period'.

**USFWS:** The dollar amount allocated for this effort is unsupported. Further, the limited time period of the "primary period" (5 months) is not supported by an analysis of past trapping data. We respectfully request that the TRRP staff demonstrate to the TMC how they arrived at this cost estimate and the "primary" period of trap operation. The SAB identified this as a critical metric and as such, it needs to be sufficiently funded to meet the objectives of the program.

*Recommendation:* Pending the completion of the outmigrant monitoring review to be funded and completed this year, this project should be allocated at \$750k. Once the review is complete, a study plan and associated budget can be developed that will ensure that project objectives are met. If the entire \$750k is not needed to carry out the study plan indicated by the review, the difference between the \$750 k placeholder estimate and the study plan budget could then be directed to other projects. If the upcoming review and resultant study plan demonstrate that additional funding is needed to meet the study objectives, the TMC should revisit the budget to make these funds available.

**TMAG:** The primary 5-month 'core' period was a consensus position agreed upon by the majority of the fisheries work group participants. The cost estimate for this task is based on actual unit cost budget data submitted by partners in past years, as well as typical costs experienced by other similar programs in the northwest. Funding this item at \$750k is well above those cost estimates, and could effectively eliminate other high priority tasks, including RIG projects, in FY 2008. We also point out that as Reclamation's COR/COTR's, we have the responsibility and obligation to develop independent government cost estimates that represent (with some room for adjustment) what the federal government is willing to pay for an activity. While we actively encourage/accept feedback on costs of doing business, this responsibility cannot be delegated to TMC partners, especially those who may be the funding recipients.

A total of \$480K was allocated in FY 07 to operate upper and lower RST's for a period of 7 mos. This included a range of Partner costs per month of \$35,557 to \$14,714 for two traps. The Program used the following approach/rationale to calculate cost: The Fish and riverine Ecology work group description of the 'core period' is 5 months. Two traps at Pear Tree may be necessary. Three traps may be necessary at Willow Creek. At \$11,000 per trap per month (Based on Government cost estimate) the cost per month is \$55,000. 5 months x \$55,000= \$275,000. The Program reviewed costs last year on other programs and these costs are within the range. \$43,600 per month is far more than the \$13,500 per month charged by the Yurok Tribe for 3 traps, not two. It is more than the \$12,500 charged by USFWS in the Sacramento Basin, more than the \$16,000/month charged by USFWS Arcata.

The placement of traps downriver requires more traps and more effort to operate them safely. In March 2003 the mean length of fish caught in the RST's was 40 mm (i.e. fry). Rotary Screw traps are an expensive and cumbersome way to monitor fry. Placement of a screw trap to monitor fry at the North Fork when 90% of our fry are produced in the upper 10 miles below the dam is not scientifically justifiable.

#### **H-6 Chinook Coded Wire Tagging**

**HVT:** \$350K is needed here assuming \$33K is also allocated to CWT machine purchase @ H-New, equipment replacement line.

**TMAG:** Our government cost estimate is \$322,000. We think it unwise to recommend a specific amount at this time for CWT equipment, except for planning purposes (see the NEW – EQUIPMENT comment near the end of these responses), until we do a field site inspection and analysis of the need. These machines work for 10 years with refurbishment. We have funded replacement of these machines for several years. We also point out that as Reclamation's COR/COTR's, we have the responsibility and obligation to develop independent government cost estimates that represent (with some room for adjustment) what the federal government is willing to pay for an activity. While we actively encourage/accept feedback on costs of doing business, this responsibility cannot be delegated to TMC partners, especially those who may be the funding recipients.

#### **H-7 Tribal Harvest Survey**

**YT:** Please delete the reference to 'explore cost share with KBAO'. Although we are not opposed to the potential of cost-sharing expenses between the KBAO and SAO, we see no indication that the KBAO has or will agree to this at this time, hence it is not meaningful to the development of the FY08 budget.

**HVT:** HVT estimate for conducting Tribal fishery monitoring at \$140K for 2008, adjust total to \$290K)

**USFWS:** It is unclear as to how the budget was developed for this project. It appears that an 80:20 split of the overall allocation was made on a proportional basis to either 1) miles of river surveyed by each Tribe, or 2) harvest allocation. If so, this method may not accurately reflect costs for the tribes to do this work, and this project may be inadequately funded. We recommend recalculating costs based on fixed costs necessary to administer

and conduct the survey, coupled with an analysis of harvest effort, and clarifying the methodology used to the TMC.

*Recommendation:* Clarify the methodology used to develop a budget for this project.

**TMAG:** Reference to the KBAO cost share has been removed. Tribal Harvest Survey should be two separate items reflecting FY 07 version: H7(a) Lower Klamath Yurok Tribal Harvest, and H7(b) Lower Trinity HVT Tribal Harvest.

The following descriptions have been inserted into the priority table:

**H7(a):** Klamath below Trinity – Estuary plus 44 river miles. Survey data used in estimates of total in-river returns of fall Chinook. Typical fall Chinook runs early August to end of September in this part of river. Pre season Harvest Management Plan used to govern fisheries and includes enforcement of conservation measures for spring Chinook and Coho. This is a complex harvest involving the estuary as well as mid river and upper tribal monitoring of the net fisheries. (+\$150,000)

**H7(b):** Lower Trinity – Red Rock to Tish Tang (roughly 7 miles). September through October. This is an in-river only harvest. Confirm existence of Pre-season Harvest Management Plan specifying methods of managing and monitoring harvest. (+\$25,000 for survey; \$10,000 for development of initial preseason harvest Plan)

#### **H-8 Weir Operations**

**YT:** Annual adult run size data from the weirs were intended to complement juvenile emigration population data as a means to track long-term Program progress towards increasing natural production of salmonid fry (smolt/spawner index). Trap sites and weir site locations were established based on this metric. Severe reductions in outmigrant monitoring efforts could compromise the ability to develop this metric. We suggest further discussion on this topic with considerations of alternative adult enumeration techniques with emphasis on cost efficiency.

**HVT:** Funding ok, Assuming \$77k for HVT participation (balance to DFG of \$492k)

**TMAG:** Annual adult run size data from the weirs stand on their own to track long-term Program progress towards increasing natural production. The issue of the RST's and their ability to assess juvenile production should not influence the power of this measure and the long-term data set it represents. Please do not assume any cost-distribution between participants.

#### **H-9 Carcass/Redd Surveys**

**USFWS:** The line item for this project only covers the upper 47 river kilometers, which equates to 45% of the complete upper river survey that has been conducted annually since at least 2001. The proposed reduction in the scope of this project does not address the primary objective of this study which is to assess the distribution of spawning along the length of river where restoration work is proposed. Rather, it appears that the goal of this study has been altered to estimate spawning escapement, which is being estimated through operation of fish weirs. By not surveying the lower sections of the river, the program will be unable to assess changes in spawning distribution in relation to habitat creation, magnitude of spawning escapement, and the influence of hatchery operations.

*Recommendation:* This project should not be funded as proposed. Limiting the focus of this study to the area where 80% of the spawning occurs would preclude study objectives from being met. The goal of this project is to assess the distribution and associated magnitude of spawning in the mainstem Trinity River, rather than focus solely on the reach where the majority of spawning occurs, which is most heavily influenced by hatchery production. This project needs to be combined with M-4 and L-11 and fully implemented.

**TMAG:** This recommendation was based on the Fish and Riverine Ecology Work Group meeting in December, 2006. The work group clearly stated that the upper reaches were top priority. Combining M-4 and L-11 with H-9 was not a consensus position of the Work Group nor recommended by the B-Team.

### **H-11 Integrated Information Management System (IIMS)**

**YT:** We support this effort.

**TMAG:** So do we.

### **H-13 System-Wide Geomorphic Mapping, Integrated With Habitat Assessment/Mapping to Provide Baseline Data**

**HVT:** See inserted row 17 – (RJW assumes this refers to the *New – BASELINE HABITAT SURVEY* line item suggested by the HVT).

**TMAG:** The TMAG has developed budget line items for this work, for which planning is in process (as noted in HVT and USFWS comments), based on the following:

- Input from the SAB on our draft IAP
- Changes based on recent IAP work describing our possible habitat assessment/mapping and physical geomorphic mapping integrated approach.
- Direction to follow a high, medium, low “accordion” principal to develop a range of costs.
- The idea that physical/geomorphic and habitat assessment, modeling, and mapping will be integrated.

The description provided and work/cost estimated is based on what we know, the comments received, and the realization that we are working to come up to clearly identify needs, methods, timeline, etc this year, in collaboration with project partners. Clearly, these estimates are placeholders, pending the outcome of research, workshops, negotiations, etc. We estimate a total of \$153,000 to be spent on high and medium level tasks associated with this effort.

HVT and USFWS estimates are higher. However, both acknowledge that “The May 2007 workshop should develop the study plan for this baseline habitat assessment task” and “...a total of some \$300k-\$400k may be needed to support completion of a fish habitat baseline assessment” and “There needs to be a stand alone line item for baseline habitat documentation...” (HVT), and “...a habitat workshop will be held in 2007 to define what exactly what the habitat baseline will be and methods used to collect these critical data.

The outcome of the habitat workshop, which will occur as part of the IAP process, will be a study plan for the habitat assessment for the TRRP.” (USFWS).

Tasks/costs included in the USFWS and HVT estimates are not specified. It would make the most sense to wait until after the upcoming workshop to clarify costs. It would seem that this could be accomplished as a stand-alone baseline task or as a set of tasks is better. One point that we do feel strongly on: TMAG Staff possess the required expertise and should lead a thoroughly collaborative effort to complete this task.

See M-9 and our response on the NEW – Baseline Habitat Survey proposed line item at the end of this document.

**H-14 Core Habitat Mapping/Assessment- Habitat Mapping/Assessment Sufficient to Develop Baseline and Provide Minimum Integration with Geomorphic Mapping.**

**HVT:** See inserted row 17 – (RJW assumes this refers to the *New – BASELINE HABITAT SURVEY* line item suggested by the HVT.

**TMAG:** See our response on this proposed line item at the end of this document and the response for H-13.

**H-16 Estimation of Fry Survival (Primary Effort)**

**HVT:** Measuring survivorship in transient populations presents many difficulties (e.g., unclear how to determine if emigration or mortality accounts for population reduction...). If adequately funded, RST may provide index of fry survivorship (i.e., ratio of smolts/total production).

**USFWS:** At the proposed funding level, this project will not result in valid estimates of fry survival (even if included with M-6). For example, a Coho salmon smolt survival study is being conducted on the Klamath River at an annual cost between \$300-400k/yr, excluding trapping costs. A fry density monitoring program was recommended by the SAB and Sam Williamson (USGS) is working on a study plan to meet this objective. Other projects listed as fry survival (M6 and L-19) are similar to H-16, with added effort. *Recommendation:* Once a study plan has been developed and approved by partners/collaborators and reviewed by an expert review panel, this project should go forward. A placeholder of about \$200 k should be allocated for FY08. The actual cost of the project will be determined by developing a budget based on specific details of the work identified in the upcoming study plan as deemed necessary to meet clearly defined study objectives.

**TMAG:** Since fry rearing habitat is the primary objective of the channel rehabilitation, it is crucial for the Program to monitor fry survival and mortality. We can and will obtain data by sub-sampling, estimation, and use of valid scientific means to obtain data on fry mortality within the upper 30 miles of the River. The RST at Pear Tree may be a good measure of fry numbers moving in the vicinity of the trap. However, RSTs are not an effective means of monitoring fry mortality and survivorship. The scientifically valid alternative we are developing with the USGS (Sam Williamson) has the benefit of years

of investigations on both the Klamath and Trinity rivers. \$100,000 was added to L-19 to address FWS concerns.

**H-17 Foothill Yellow-Legged Frogs**

**HVT:** In the face of budget restrictions, this should be eliminated. Separate funding (NEPA CEQA) pays for regulatory needs.

**TMAG:** With the absence of a clear consensus by B-Team members, the TMAG recommends retaining this task because of its value to the flow scheduling process. Furthermore, this program is a multi-species (by several legislative mandates) restoration program intent on the scientifically valid concept of ecosystem management. This task is cost-shared with the US Forest Service at a 1:1 basis. The task is in a monitoring status now, providing supplemental data to both the TMAG (for ecosystem analysis) and RIG (for environmental compliance, planning, and permits).

**H-19 Gravel Augmentation Monitoring/Analysis - Bucktail**

**HVT:** This project won't be completed in FY 2008, so the \$60,000 allocated to monitoring can be redirected.

**YT:** We feel there should be less emphasis on gravel monitoring and more emphasis on channel rehab site monitoring. We know that a lot of gravel is needed every year and that it will move (in fact we want it to move). It seems there is less uncertainty regarding coarse sediment response than there is regarding the response and evolution of channel rehab sites. Only \$15,000 was allocated to H-27.

**TMAG:** This project will assess the hypothesis that gravel additions alone can promote fluvial processes and habitat creation in downstream reaches, even in the absence of mechanical restoration. The reach downstream from the Bucktail hole contains a long straight section of channel with minimal complexity. It is important to determine whether planned gravel augmentations at Bucktail will cause a geomorphic response in this reach, or if mechanical intervention is required. If the latter is true, it is important to determine what level of mechanical intervention is required. It may be that minimal mechanical intervention trigger a geomorphic response if the upstream gravel supply is adequate. The outcome of this monitoring effort has the potential to have a substantial impact on how future rehabilitation actions are designed.

This is not an allocation process, i.e., \$60,000 for H-19 vs. \$15,000 for H-27. These amounts are estimates for the specified work.

The Dark Gulch restoration was originally scheduled for 2007, but will likely be deferred to 2008. This budget is for assessments beginning in FY08. The analysis of gravel additions began with the draft Coarse Sediment Management Plan, and continues in FY07 under Dr. Dave Gaeuman and Andreas Krause. FY08 will be the 2<sup>nd</sup> of three years of planned analyses.

**H-20 Adult Fish Health Monitoring - incorporated with H-33.**

**HVT:** We have not been in contact with anyone who knows this subject well (Foott for instance) but think we can pick this up with the annual 'adaptive management experiment fund' or approx \$400k as pitched in the legislative 2030 budget

**TMAG:** The funding status was uncertain at the time the priority list/cost estimate table was sent out. It was not the intention of the Fish and Riverine Ecology Work Group to lump adult fish health monitoring as an E, especially in a year with normal or below normal flows and predictions of a good run. This project occurs within the Lower Klamath with the hope that incipient epidemics could be identified early in migration. This is a Yurok project due to location of the study area. This project has been followed by TAMWG, CDFG, and others every year.

**H-21 Sport Harvest Survey (Primary Period)**

**YT:** Is this adequate funding? Please explain the rationale behind this amount? Is this amount based on the proportion of fish harvested in the sport fishery by area? Is the creel census technique adequate? Please include a detailed description of the creel census technique in the Lower Trinity. Is it not a 'volunteer' census that relies on volunteer submission of catch by sport fisherman?

**HVT:** Not clear what geographic area, sampling frequency, nor what time frames are being presented here. This funding level is grossly inadequate. The lower Klamath, full program is \$64K while the lower Trinity is \$80K for full program. Hence, full program (H-21 + M-14) sums to only \$65K or 45% of full implementation!!!

**TMAG:** This is meant to be a random, stratified creel census; not full implementation. The following inputs were used in the calculation: (1) the peak migration time for fall run Chinook is for two months between August-November; two - 3 days a week; distance determined roughly by river mile; percentage of sport harvest allocation for lower Klamath and Trinity also taken into account. Salmon cards in effect on Trinity provide some data below the Willow Creek weir. We added in funds to H- 21 to bring the total up to \$60,000. As it now stands H- 21 + M-14 + L16 = \$60k+30K+30K= \$120,000 for the full program.

The following modifications to the description of this task have been made to the priority table and included in the proposed budget.

**H21: Sport Harvest Survey (Primary Period) \$60,000**

H21(a): \$45,000 Annual collection of sport fishery data supplements information collected basin-wide to estimate the annual returns of anadromous fish. Access points along 44 miles of river monitored. 50% of sport harvest for fall Chinook in Klamath basin is Lower Klamath. Contributes to Trinity annual run-size estimation, historic fishery data indirectly related to abundance (i.e. Steelhead), provides ancillary public relation benefit. (See M-14)

H21(b): \$12,000 field; \$3,000 analysis. Trinity River sport harvest represents 33% of the harvest in the Klamath Basin. Voluntary cards are placed on cars parked at outtakes by HVT. Salmon punch card for Chinook salmon and steelhead report card are required in Klamath Basin thus

covering this part of the river. Only 10 miles of river monitored (Red Rock to Willow Creek weir). Monitors angler harvest in the lower Trinity where indirect estimates by weir are not attainable (below weir locality.) (See M-14).

### **H-22 Watershed Coordination**

**HVT:** This seems out of line with Work Group discussion that we focus tightly on analytical steps for watershed projects, as the construction side is far easier to fund.

**TMAG:** The role of and need for a watershed coordinator was discussed and approved through the workgroup process (see minutes of the Dec. 7, 2006 watershed workgroup meeting) has received strong support from the TAMWG and has been approved by the TMC in prior years.

### **H-23 Watershed Implementation (Priority Sediment Control Projects)**

**HVT:** The Program began several years ago to develop a prioritized list of watershed actions based on: an assessment of effectiveness of prior efforts and; prioritization of treatable sediment delivery sources in upper watersheds. The Tribe feels that watershed rehabilitation is an important contributor to restoring the Trinity River fishery, and that implementation should be guided by the prioritized list, once completed. Cost of completing the prioritization is unknown, but should be less than \$100,000.

**TC:** We object to only \$100,000 for watershed restoration implementation.

**TMAG:** The implementation budget is intended to complete work on the ground, not to develop or plan projects (the latter is the role of the watershed coordinator). Obligation of funds for on-the-ground projects are contingent on the development of high priority projects ready for implementation.

### **H-24 Riverine Birds**

**HVT:** In the face of budget restrictions, this should be eliminated. Separate funding (NEPA CEQA) pays for regulatory needs.

**USFWS:** It is unclear as to why these projects ranked so high, especially in light of numerous other projects that address critical metrics and received a lower ranking. Based on information presented in the science symposium, it appears that the scope of this project can be reduced while still providing useful data to the TRRP. We do not believe the TRRP needs warbler or chat estimates that are within +/- 1% of the true abundance. Additionally, this project does not have numerous "accordion" stages/levels like those developed by the TRRP for other projects (outmigrant trapping, weir, harvest, redd survey, etc), with the exception of M-21 riverine birds, which has been incorporated into H-24.

*Recommendation:* We are unclear as to the need and level of support that exists for these projects. In addition, the wildlife projects did not go through the workgroup ranking process, and consensus on the ranking of these projects was not achieved at the budget committee meetings. We continue to believe that this work is of much lower priority than many projects which are proposed at funding levels that are insufficient, or that are proposed as lower priorities. We recommend this work be placed in the "Low" category.

**TMAG:** Based on B-Team consensus, this item was moved from H-C to H-E. Proposals to move it to a lower ranking were documented as a minority opinion. This program is a multi-species (by several legislative mandates) restoration program intent on the scientifically valid concept of ecosystem management. This task is cost-shared with the US Forest Service at a 1:1 basis. The task is in a monitoring status now, providing supplemental data to both the TMAG (for ecosystem analysis) and RIG (for environmental compliance, planning, and permits).

**H-25 Science Framework - IAP: ESSA & Others**

**YT:** We strongly support this effort. ESSA guidance and support of the IAP development is critical.

**HVT:** Appropriate, given expectations that only the first quarter of 2008 will see IAP development activities.

**TMAG:** We support this too.

**H-27 Rehabilitation Site Monitoring (Minimum/Critical)**

**YT:** We feel there could be more emphasis on this element of the TMAG budget. Is this adequate funding to do this right? We feel that funds could be reallocated from the Lewiston Gravel monitoring project to supplement this more comprehensive assessment rather than a site-specific assessment.

**HVT:** The level of effort in rehabilitation site monitoring based on the FY 2008 budget allocation is inadequate given the importance of geomorphic and riparian objectives in achieving Program goals (see comments of HVTF to November Draft IAP). Monitoring of riparian-geofluvial processes (cause-and-effect linkages) is required alongside system-scale geomorphic and riparian mapping. An additional \$50,000 is required to monitor process monitoring at the Hocker Flat site alone. Monitoring at additional sites is also required, and an overall Program strategy must now be developed. Therefore, an additional \$20,000 is required in the FY 2008 budget to develop this strategy. Furthermore, given that there will be 47 rehabilitation sites with a variety of treatment experiments, additional funding in FY 2009 and beyond will likely be needed.

**TMAG:** This budget item refers to the minimal acceptable level of monitoring only, and as stated at H-19, this is not an allocation process. Standard rehabilitation site monitoring requires a higher funding level included in items M-2. Additional funds for specific physical or biological hypothesis testing are included in M-12 and M-17, as discussed in the physical work group, with consensus on their relative priorities. No minority opinions were presented on this subject at the B-Team meetings.

Rehabilitation site monitoring was organized with these three funding levels to accommodate the “accordion” principle identified during the budget process. Minimal monitoring include field mapping of geomorphic/habitat/vegetation conditions, and Standard activities include all minimal activities plus topographic/bathymetric surveys and habitat utilization assessments. Additional targeted hypothesis testing may address physical or biological processes. Rehabilitation site monitoring consists of four stages of assessment. These are 1) pre-construction assessment of site conditions (physical and biological), 2) implementation monitoring to assess as-built physical conditions, 3)

effectiveness monitoring to assess design performance and site evolution, and 4) validation monitoring to assess the biological outcome of the rehabilitation. It is anticipated that pre-construction and implementation assessments will be incorporated into project implementation budgets, so that this budget line item is intended to cover only the subsequent effectiveness monitoring and validation. Minimal monitoring is anticipated to require between 3 and 5 person-days per rehabilitation site.

It may be true that more should be spent, as Yurok comments indicate, but note that costs are additive, and the lowest level of effort is shown to note what would be done at a minimum level. As costs are additive, doing the medium priority work means that you also do the high. Again, it should be kept in mind that some work is covered elsewhere in the budget (construction includes as built drawings and topography, for example). Regarding HVT comments, tasks M-12 and M-17 represent placeholders for hypothesis testing-specific, process monitoring tasks. These are placeholders. We do agree that costs should go up as the number of sites built goes up, especially in early years.

#### **H-28 Age Composition/Scale Analysis (Primary Period)**

**YT:** Although there appears to be adequate funding for these tasks, the TMAG should conduct a technical review this effort to determine the most appropriate method (sample sizes, alternative analyses, etc.) for this task, with an emphasis on cost-efficiencies.

**HVT:** \$78K is full program implementation by HVT for Trinity Portion of the Age-Composition/Scale analysis project. Scale collection at hatchery is vital to the scale-read age validation process, archiving scales would ensure disaster to the process as there is significant in-kind contributions from others outside of TRRP in the review and use of these data for cohort reconstruction. Suggest cost saving measures be couched in the 2007 appropriation total for this project.

**USFWS:** It is unclear as to the rationale for the proposed reductions and if the objectives of the project can be met under the proposed reduction. The TRRP needs to share their analysis of the available data that supports this change in sampling protocol.

*Recommendation:* Ask the entities that collect and utilize these data if the proposed project can, at the reduced funding level, fully satisfy the project objectives. If not, the budget for the project should be adjusted accordingly.

**TMAG:** Age Composition/Scale Analysis (Primary Period) - Proposed new language:

The Focus is on fall Chinook only, not to include spring run Chinook as in past years. Due to coded wire tag calculation of age composition of hatchery runs, scale collections from hatchery fish will be reduced. Rates for Iron Gate hatchery scale collection are 1 in 20 fish and CDFG collects the scales for the Tribe. Reducing the maximum number of scales collected per week to 100 scales would reduce time. Sub-sampling by reducing the number of days to one spawning day a week early and late in the season, 2 days a week during the peak season, reducing personnel at the hatchery, sampling only fall Chinook (i.e. after late October), reducing the scales analyzed for the validation matrices, are all proposed scientific methods for reducing costs. Comparisons to Iron Gate and methods used in the Klamath Basin indicate data collection for the Trinity River is the most expensive with precision far in excess of other data collected in the basin. (See M-20).

### **H-29 Riparian Birds**

**HVT:** In the face of budget restrictions, this should be eliminated. Separate funding (NEPA CEQA) pays for regulatory needs.

**USFWS:** It is unclear as to why these projects ranked so high, especially in light of numerous other projects that address critical metrics and received a lower ranking. Based on information presented in the science symposium, it appears that the scope of this project can be reduced while still providing useful data to the TRRP. We do not believe the TRRP needs warbler or chat estimates that are within +/- 1% of the true abundance. Additionally, this project does not have numerous "accordion" stages/levels like those developed by the TRRP for other projects (outmigrant trapping, weir, harvest, redd survey, etc), with the exception of M-21 riverine birds, which has been incorporated into H-24.

*Recommendation:* We are unclear as to the need and level of support that exists for these projects. In addition, the wildlife projects did not go through the workgroup ranking process, and consensus on the ranking of these projects was not achieved at the budget committee meetings. We continue to believe that this work is of much lower priority than many projects which are proposed at funding levels that are insufficient, or that are proposed as lower priorities. We recommend this work be placed in the "Low" category.

**TMAG:** Based on B-Team consensus, this item was moved from High-C to High-D. Proposals to move it to a lower ranking were documented as a minority opinion. This program is a multi-species (by several legislative mandates) restoration program intent on the scientifically valid concept of ecosystem management. This task is cost-shared with the US Forest Service at a 1:1 basis. The task is in a monitoring status now, providing supplemental data to both the TMAG (for ecosystem analysis) and RIG (for environmental compliance, planning, and permits).

### **H-30 Gravel Augmentation Monitoring/Analysis – Hatchery**

**HVT:** While we agree this monitoring is needed, the decision to fund this while failing to support process-based geomorphic and riparian monitoring at rehabilitation sites is illogical. Since five bank rehabilitation sites have already been implemented, much of this budget allocation should be redirected towards the process-based geomorphic and riparian monitoring. The primary monitoring of the already-implemented project should be directed at thresholds for movement and loss of storage, at a FY 2008 cost approximating \$20,000.

**YT:** We feel there should be less emphasis on gravel monitoring and more emphasis on channel rehab site monitoring. We know that a lot of gravel is needed every year and that it will move (in fact we want it to move). It seems there is less uncertainty regarding coarse sediment response than there is regarding the response and evolution of channel rehab sites. Is evaluation of the Lewiston Gravel site critical information to the TRRP at this time? Can this item be deferred? Does the TRRP really intend or care to provide fish habitat near the TRH (for TRH fish)?

**TMAG:** There are three reasons to monitor the gravel placement at the hatchery. These are to determine: 1) if it has an effect (positive or negative) on the spawning beds in the Bear

Island area, 2) if the weir is a barrier to downstream gravel routing, and 3) when it is necessary to replace gravel at the hatchery. Purpose 3 can be accomplished using a small number of conventional cross section surveys and/or relatively simple field mapping protocol similar to that recommending for rehab site monitoring. Purpose 2 could be incorporated as part of the standard monitoring of the Sven Olbertson rehab site, and purpose 1 could be assessed in conjunction with redd surveys. We have reviewed the cost estimate and agree that \$20,000 is a reasonable amount.

### **H-31 System-Wide Physical Monitoring - Air Photo Ground Control**

**HVT:** DWR should remain the lead on providing all ground control for the program to ensure consistency, quality, and ensure that there is a single clearinghouse for ground control information. Historically (reference 1990's) the Program has struggled when multiple agencies were involved in ground control.

**TMAG:** We agree that DWR should continue as the lead surveying partner, if they are willing and wish to provide these In-Kind-Services in the future as they have in the past.

### **H-33 General Fund - Water-Year Specific (fish, physical, other)**

**YT:** Are costs for these tasks clearly identified? The amount for Task H-23 should be clearly defined based on WY type. This should not be a contingency fund to supplement projects at the discretion of the Program. A ranked list of projects should be developed by TMAG staff and Partners to identify priority assessments that would be supplemented should these funds not be needed.

**TMAG:** The general fund would cover water-year specific monitoring not foreseeable when developing TRRP budgets several months in advance of the water year classification. Example tasks (and costs) could include: increased level of effort for sediment monitoring required in wet years (\$100k), or special AEAM experiments related to the ROD spring releases (e.g. the riparian bench flow experiment conducted in May 2006 (\$35k). We have not identified, ranked, or prioritized these potential projects. As the water year progresses, TMAG staff and partners will share information about possible needs and meet as necessary (Work Groups) to coordinate specific monitoring as conditions require.

### **H-34 SALMOD (Primary)**

**HVT:** The \$15,000 allocated to SALMOD seems inadequate unless there is a very substantial cost-share contemplated by USGS. The Tribe strongly encourages allocation of FY 2008 budget to fund a workshop for development of Program modeling needs, unless the workshop was funded from the FY 2007 budget. At such a workshop, SALMOD can be evaluated alongside competitive production models with respect to Program needs. The workshop seems to be included in M-19, so we recommend that the priorities be swapped (e.g., ensure that the workshop in M-19 is funded first, and then fund H-34 as a second priority).

**USFWS:** This project was funded for \$20,000 in FY06 and for \$15,000 in FY07. It is unclear as to what the additional FY08 funding is needed for. Additionally, it is unclear if and how the TRRP will use SALMOD (or any other fish production model).

*Recommendation:* Zero out this project. It appears that funding for this work has already been allocated by the TMC twice, and it therefore should be completed with funds already allocated.

**TMAG:** This task is meant to be a cooperative effort between TRRP and USGS (Sam Williamson) to review and plan field investigations and analyses related to fisheries population monitoring and assessing effectiveness of restoration sites. In addition, analyses of data will be reviewed for their applicability to updating SALMOD for the Trinity River. (See M-19).

B-Team representatives appeared to be about evenly divided over whether to keep this as a High-E or to move it to a lower priority. In the absence of a clear consensus, TRRP staff is recommending that it stay as a High-E because of the need for a production model and cost-share opportunities with USGS.

This task is not to develop the SALMOD model. USGS is the sole model developer. This task reviews and performs quality control/assurance on the data sets required for building the data set for re-running SALMOD (compared to the Flow Study runs conducted by USGS in the 1990's) Funds allocated for this task in prior years were redirected towards other program tasks. USGS now has the time to assist the Program with this task.

#### **M-1 System-Wide Physical Monitoring - Acquire & Scan Historical Aerial Photos**

**USFWS:** System-wide Physical Monitoring. Acquire and Scan Historical Aerial Photos (M-1). We are unclear as to why this is a Medium-A priority, especially in light of the importance and time sensitivity of many other projects listed below it. Moreover, there was some indication that these data may be needed for a paleo-dam safety survey being done by Reclamation.

*Recommendation:* Move this to a low priority or remove it from the list. If the data are needed for dam safety purposes, we recommend that the TRRP not fund this project, or that a cost-share arrangement be developed (if TRRP also needs these data) to apportion project costs appropriately.

**TMAG:** The ranking was the result of the Work Group and B-team deliberations. As stated, this is an opportunity to cost-share an important project with Reclamation/Dam Safety (Denver). The opportunity will only come once, this summer when Dam Safety plans to conduct a Paleo-flood study of the Trinity River. Cost sharing this with Denver will allow either the acquisition of more historical aerial photographs, or more scanning (for input into GIS) of more photographs. In either case, it is a value added opportunity. The products of this task will be very useful in future habitat assessment and geomorphic analyses.

#### **M-2 Rehabilitation Site Monitoring - (Standard/Core)**

**HVT:** The level of effort in rehabilitation site monitoring based on the FY 2008 budget allocation is inadequate given the importance of geomorphic and riparian objectives in achieving Program goals (see comments of HVTF to November Draft IAP). Monitoring of riparian-geomorphic processes (cause-and-effect linkages) is required alongside system-

scale geomorphic and riparian mapping. An additional \$50,000 is required to monitor process monitoring at the Hocker Flat site alone. Monitoring at additional sites is also required, and an overall Program strategy must now be developed. Therefore, an additional \$20,000 is required in the FY 2008 budget to develop this strategy. Furthermore, given that there will be 47 rehabilitation sites with a variety of treatment experiments, additional funding in FY 2009 and beyond will likely be needed.

**TMAG:** We agree that more funding is necessary as effectiveness monitoring is necessary at six rehabilitation sites in 2008. The cost for this item has been revised from \$20,000 to \$75,000. This cost is based on an assumption that standard monitoring will require approximately 18 person-days per site. Standard monitoring refers to the level of monitoring that would typically be conducted at each rehabilitation site absent budget shortfalls. Funds for studies that target the testing of specific hypotheses, such as the cause-and-effect linkages mentioned in the HVT comment, are included in budget item M-12 and M-17. See the comment for H-27 for a description of how rehabilitation site monitoring is currently structured.

### **M-3 Temperature Modeling - Lewiston Reservoir CE-QUAL-W2 Model Development**

**USFWS:** Temperature Modeling -Lewiston Reservoir (M-3). We are not sure why this is needed for TRRP adaptive management or how it might be used. We believe this may be more of an issue of managing the cold water pool, which is more of a Central Valley Operations issue. Tom Stokely should be asked about this since he is much more aware and knowledgeable on this issue. We are struck, however, at the amount of funding in the budget to conduct more temperature modeling. We understand that the modeling is intended to refine the models of Reservoirs, as well as the river. However, we do not believe that either is warranted and the funds would be better off spent elsewhere. While useful, models typically involve a long-term commitment of funds to calibrate, maintain, and refine. The resolution of the existing models should be fully described to the TMC, in addition to demonstrating how potential gains in resolution of new modeling efforts will be of use to trigger management actions based on model forecasts, which are highly influenced by highly variable and somewhat unpredictable weather conditions. We view the modeling that has already been done to be adequate in explaining system behavior and potential issues of concern, and that further modeling will NOT provide additional assistance in our understanding of the system within the realm of management actions that would be taken.

*Recommendation:* Confer with Tom Stokely as to usefulness of the modeling, and explain more fully the usefulness and necessity to the TMC.

**TMAG:** The existing Lewiston Temperature Model is a weekly model. It is adequate for the comparative analyses used in NEPA and CEQA documents, but as a tool for management of river and hatchery temperatures during periods of drought (low cold water pool in Trinity Res, minimal water available for export to the CVP to keep Lewiston Reservoir cold), it is inadequate. Lessons learned from the droughts of 1976-77 and 1987-93 include a number of operational measures that can be utilized in Lewiston Reservoir to improve downriver fishery temperatures. An hourly/daily model of Lewiston Reservoir will greatly enhance the ability to model and operate to maintain suitable temperatures

for Trinity River fisheries during the next drought. This tool allows the TRRP to evaluate annual CVP operations for ability to meet both smolt and adult salmon temperature objectives. (Thanks to Tom Stokely for preparing this response.)

**M-5 Carcass/Redd Surveys (Secondary Period, Tertiary Area)**

**HVT:** Lower Trinity portion is \$50K so this figure would leave \$21K for balance of work at this priority level. Is that sufficient?

**TMAG:** We believe the total amount is appropriate for the work identified in M-5. No assumptions should be made about the division of these funds at this time. As Reclamation's COR/COTR's, we have the responsibility and obligation to develop independent government cost estimates that represent (with some room for adjustment) what the federal government is willing to pay for an activity. While we actively encourage/accept feedback on costs of doing business, this responsibility cannot be delegated to TMC partners, especially those who may be the funding recipients.

**M-6 Estimation of Fry Survival (Secondary Effort)**

**HVT:** How does one measure mortality without getting population estimates at two locations...transient populations are difficult to monitor...

**TMAG:** See H-16 response.

**M-7 Watershed Implementation - Sediment-Control and Other Watershed Projects**

**HVT:** The Program began several years ago to develop a prioritized list of watershed actions based on: an assessment of effectiveness of prior efforts and; prioritization of treatable sediment delivery sources in upper watersheds. The Tribe feels that watershed rehabilitation is an important contributor to restoring the Trinity River fishery, and that implementation should be guided by the prioritized list, once completed. Cost of completing the prioritization is unknown, but should be less than \$100,000.

**TMAG:** The implementation budget is intended to complete work on the ground, not to develop or plan projects (the latter is the role of the watershed coordinator) (See H-23). Actual obligation of funds for implementation should be contingent on the existence of prioritized projects to be implemented.

**M-9 Core habitat Assessment/Mapping (Secondary)**

**TMAG:** See H-13 response.

**M-10 Emigration Estimates (Secondary Period)**

**HVT:** Raise to high priority. Primary sampling period for YOY Chinook at Pear Tree site should include January through July (or August) to facilitate production estimates and detect increased residency or shifts emigration timing. 2) Insufficient funding for 2 sites; 7 months at Pear Tree alone will require minimum of \$284K. 3) Imposing a 500 smolt/day sampling minimum is unrealistic (since 2003 we have had daily catches greater than 500, excluding hatchery fish, only 10 days in 4 years at Pear Tree, and 30 days in 2 years at Junction City). 4) No utility in marking hatchery Coho; very small sample size and does not provide pertinent information for monitoring restoration.

**TMAG:** See H-5 response. Raising this to high priority is inconsistent with the Work Group consensus. This concern was previously documented as a minority view point.

**M-11 Weir Operations (Secondary Period)**

**HVT:** Adjust total to \$45K to meet (1) HVT participation is at \$30K staffing increases for safety to two staff in the added months, and approximately \$15K for DFG participation.

**TMAG:** See H-8 response. We believe the estimate of \$40,000 remains valid.

**M-12 Standard Rehabilitation Site Monitoring plus Targeted Physical Hypothesis Testing (geomorphic, riparian, habitat)**

**TMAG:** See response for H-27. Also, note that this is a “placeholder” line item that represents funding for “hypothesis-testing specific” geomorphic, habitat, and riparian monitoring associated with rehabilitation project sites. “Process based” monitoring tasks would be covered here, although we have noted identified specific tasks.

**M-13 Temperature Modeling - Trinity Reservoir WQRSS Model Enhancement**

**USFWS:** Temperature Modeling –Trinity Reservoir (M-13). We are unclear as to why this is needed for TRRP management or how it might be used. On the surface, it seems like an issue of managing the cold water pool, which is more of a CVO issue. Tom Stokely should be asked about this since he is much more aware and knowledgeable on this issue. See comments above.

*Recommendation:* Confer with Tom Stokely as to usefulness of the modeling, and explain more fully the usefulness and necessity to the TMC.

**TMAG:** The management of the cold water pool in Trinity Reservoir is both a CVO issue, as well as a tool to be used to maintain and restore the downstream fishery. CVP operations affect the availability of cold water for the Trinity River fishery, and restoring the Trinity River fishery affects the amount of cold water available for CVP operations and water/power supplies.

This project would result in training and transferring of modeling capabilities of the WQRSS model from a private consultant who applied the model to Trinity Res., to the staff at the TRRP office. Most of the work to develop this model has been completed over the past 15 years. Trinity Co. and Watercourse Engineering, Inc., have worked together for that time period to apply, verify, calibrate and re-calibrate the WQRSS model for Trinity Res. This tool allows the TRRP to evaluate annual CVP operations for ability to meet both smolt and adult salmon temperature objectives. (Thanks to Tom Stokely for preparing this response.)

**M-14 Sport Harvest Survey (Secondary Period)**

**HVT:** see comment at H-21, appears grossly inadequate budget!!!

**TMAG:** As it now stands H- 21 + M-14 + L-16 = \$60k+30K+38K= \$128,000 for the full program.

See H-21 response.

**M-17 Standard Rehabilitation Site Monitoring Plus Additional Targeted Biological Hypothesis Testing (Fish and Wildlife Habitat Use and/or Population Response)**

**HVT:** Unclear what is actually proposed, but the listed objectives will likely cost more to accomplish than proposed funding will cover. Perhaps 2007 habitat workshop will inform?

**TMAG:** See response for H-27. Also, note that this is a “placeholder” line item that represents funding for “hypothesis-testing specific” biological monitoring associated with rehabilitation project sites. “Process based” monitoring tasks would be covered here, although we have noted identified specific tasks.

**M-19 SALMOD (Secondary)**

**HVT:** Monies proposed for H-34 should suffice for determining if SALMOD is appropriate monitoring tool.

**USFWS:** SALMOD - secondary (M-19). We are unclear as to why a SALMOD Workshop would be ranked as a lower priority than H-34 SALMOD (primary).

*Recommendation:* Do not fund until other SALMOD effort is completed.

**TMAG:** This task is meant to be a cooperative effort between TRRP and USGS (Sam Williamson) to review and plan field investigations and analyses related to fisheries population monitoring and assessing effectiveness of restoration sites. In addition analyses of data will be reviewed for their applicability to updating SALMOD for the Trinity River. (See M-19). Until we see the data the Program is supposed to be producing on carcass, RST, and harvest monitoring, we do not think we should have a ‘workshop’. These funds are sufficient to ensure an in depth review and evaluation of the reports as they are produced.

**L-11 Emigration Estimates (Tertiary Period)**

**HVT:** Total cost for 9 months at Pear Tree alone, would be \$333K, monies proposed for L-11 are needed to operate during primary and secondary RST efforts (M-10 and H-10) and should be reallocated accordingly.

**TMAG:** See H-5 response.

**L-24 Western Pond Turtle - Change in Populations due to TRRP Actions**

**USFWS:** Western Pond Turtle (L-24). Without funding, the last year of the 3-year turtle demographics study funded by the TRRP will not be completed. Funding proposed by the TRRP in FY07 was for data collection only. Since three years of field data have already been collected, funding to analyze the data and complete the report should be provided.

*Recommendation:* Based on a budget developed by Don Ashton and Jamie Bettaso, it would require approximately \$60,000 to complete the report.

**TMAG:** Given the prior investment in this study, we agree that it should be funded in FY08. It has been moved to H-29(b), and cost share funds of \$30,000 proposed.

**NEW SAB/IAP Follow-up Actions – Workshops & Evaluations**

**YT:** What elements of the TMAG would be reviewed? Sediment Monitoring, Age Composition, CWT tagging, Sport Harvest monitoring, weir operations?

**TMAG:** We need to develop a process for planning the evaluation of every aspect of the science program. This begins with the role of the SAB as the periodic reviewers of the program. We can conduct special evaluations on an ad hoc basis or begin a series of evaluations by Expert Review Panels as assessments are vetted in that process.

**NEW Equipment**

**HVT:** 2008 prices for Mark IV tagger and QCD will be at \$33K

**TMAG:** The proposed funding is an estimate. Actual costs will vary by year and depend on the specific equipment in question. We do not recommend this until we inspect the current equipment and evaluate the need for either refurbishment or replacement. These machines have a 10 year lifespan. We have been giving funds to replace these machines for several years. We need to develop a process for identifying equipment needs, prioritizing, applying for, and approving purchases, as well as an inventory tracking system.

**NEW Baseline Habitat Survey**

**HVT:** The May 2007 workshop should develop the study plan for this baseline habitat assessment task, and based on recent planning-level discussions between HVTF and USFWS technical staff, a total of some \$300k-\$400k may be needed to support completion of a fish habitat baseline assessment. In contrast, the Draft Budget appears to allocate only \$66,000 for this purpose. There needs to be a stand alone line item for baseline habitat documentation, and we are not sure that this task is stand alone.

**USFWS:** A single line item to ensure that a habitat baseline is acquired has not been included in the budget. As you are aware, a habitat workshop will be held in 2007 to define what exactly what the habitat baseline will be and methods used to collect these critical data. The outcome of the habitat workshop, which will occur as part of the IAP process, will be a study plan for the habitat assessment for the TRRP. The SAB identified the need to acquire a habitat baseline, which has been echoed many times over the past couple of years by various entities. While many line items in the FY08 budget relate to habitat assessment, it is difficult to determine if these studies will provide the necessary baseline. Additionally, many of these line items contain the statement “Cost-share: TMAG staff salaries” which appear to indicate that TMAG will be leading studies/assessments.

*Recommendation:* Insert a high priority line item (H-1) for habitat assessment (baseline) for \$500,000. The expenditure of this funding would be based on study plan completed by a habitat subcommittee, using the guidance resulting from the habitat workshop. It is possible that this is what is being presented by TMAG with the numerous habitat-related projects in FY08 budget (H-13, M-9, L-8, others?). However, the lack of clarity in the budget proposal continues to cause us concern about the lack of success in defining what exactly the habitat baseline is and how it will be quantified. We also recommend there be clarification of the role of TMAG staff in this work. It is our view that this project is critical, and needs to happen in a collaborative fashion among the program participants.

The TMAG could certainly play an important project coordination role, but we do not believe that actual project implementation should be undertaken by the TMAG.

**TMAG:** The Habitat Baseline line item with suggested funding of \$500k was proposed by the fisheries work group as a L-8 priority (not as an H-1). The B-Team did not recommend any changes to this ranking. The Program has been executing the TMC approved Anadromous Fish Habitat Assessment study plan, agreed upon at the Turtle Bay work shop (December, 2004) since FY05. We believe the Program and outside experts should evaluate the first programmatic habitat assessment since the Flow Study before committing to another effort of this magnitude. This evaluation will take place this year as part of the IAP Part II process. We do not believe that there is a strong consensus for conducting another Habitat Assessment in 2008. Another purpose of the Habitat Assessment Workshop this summer is to plan the next update to our habitat assessment, both the scope and the schedule.

