

Final Notes
Bear River License Implementation
Environmental Coordination Committee Meeting
July 14, 2004
Grace, Idaho

The meeting was called to order at 9:10 a.m. by Catherine Collis, Facilitator, SWCA Environmental Consultants, with the following individuals present:

ECC Members

Monte Garrett, Environmental Coordinator, PacifiCorp
Jim Capurso, U.S. Forest Service
Blaine Newman, Bureau of Land Management
Jim Mende, Idaho Department of Fish & Game
Marv Hoyt, Greater Yellowstone Coalition
Deb Mignogno, U.S. Fish & Wildlife Service
Warren Colyer, Trout Unlimited
Greg Mladenka, Idaho Department of Environmental Quality

ECC Members Participating by Phone

Mary Lucachick, Idaho Department of Parks and Recreation (joined at 9:20 a.m.)
Charlie Vincent – American Whitewater (joined at 1:10 p.m.)

Others Present:

Eve Davies, PacifiCorp
Scott Christensen, Greater Yellowstone Coalition
Louis Berg, U.S. Forest Service (Fisheries Biologist)
Jeff Seamons, Citizen of Preston, Idaho
Patrick Koelsch – Bureau of Land Management
Scott Pratt, PacifiCorp
Michelle Weidner, SWCA (arrived 9:45 a.m.)
Kelly Holt, PacifiCorp (2 p.m.)
Miriam Hugentobler, Project Coordinator

ECC Members Not Present

Hunter Osborne, Shoshone-Bannock Tribes
Susan Rosebrough, U. S. Park Service
Jena Borovansky, Idaho Rivers United

Decisions Made at the July 14, 2004 ECC Meeting

- Vote on ECC-preferred alternative for the Cove Feasibility Study at the August meeting.
- Leave development of Bonneville cutthroat trout broodstock in the BCT Study Plan.
- Malad River will not be included in the aerial photography effort.
- Proceed with data gathering for the Black Canyon Monitoring Plan for three years, then come to agreement on criteria for decision-making regarding whitewater flows.

Obligations Made at the July 14, 2004 ECC Meeting	
All	Come to the August ECC meeting prepared to make a decision on the Cove Feasibility Plan. A vote will be taken. All members should plan to attend or designate proxies.
Jim Mende	Forward Idaho Fish and Game's Telemetry methods and other Appendices to the BCT Study Plan to Michelle Weidner, SWCA.
Monte Garrett	Distribute Revised BCT Study Plan to ECC July 19. Finalize by July 23. Start procurement process for genetics work (Campbell).
Black Canyon Monitoring Plan Subcommittee Members: Lynn Van Every (chair), Jim Mende, Pat Koelsch, Charlie Vincent, Warren Colyer, Jim Capurso, and Eve Davies	Meet July 29, 2004.
Eve Davies	Prepare a draft site plan for wetland protection at Kackley Springs.
Greg Mladenka	Check for existing sources of thermal imagery
Tracylee Clarke	New name tag for Deb Mignogno Send project binder to Louis Berg, 410 East Hooper Avenue Soda Springs, ID 83276. Also, add to project email list: lberg@fs.fed.us

Opening Comments

The meeting began with a review of the day's agenda, introductions, and a review of notes from the June meeting. The June meeting notes were approved with changes sent by email from Jim Capurso (US Forest Service) and the addition of Eve Davies (PacifiCorp) to the Black Canyon Monitoring Subcommittee. An updated contact list was distributed by Collis (included in Attachment A-1, Contact List).

Update by Monte Garrett, PacifiCorp's Environmental Coordinator

Implementation Plan

Garrett said the Federal Energy Regulatory Commission (FERC) has reviewed the Implementation Plan and indicated that they believed it did not include sufficient detail and may not be acceptable to FERC. Garrett said he explained that the ECC was actively involved in preparing the draft BCT Study Plan, which would help scope studies and

future actions that funding would be used for, and that the level of detail incorporated into the Implementation Plan by the ECC was intentionally crafted to provide flexibility for future actions. The ECC believes that great detail in the Habitat Restoration Program and the Land and Water Acquisition Program (included as plans in the Implementation Plan) would be inappropriate and restrict creative use of these funds in the future. Garrett said the FERC indicated that it will submit concerns in writing. The ECC, in turn, will have a chance to address those concerns in writing. Marv Hoyt (Greater Yellowstone Coalition) suggested submitting a letter to FERC regarding the Implementation Plan and also inviting them to send a representative to an ECC meeting, if necessary.

Recreation Site Plans

Garrett passed out an updated recreation site plan for the Oneida Narrows Put-in (Attachment A-2, Recreation Site Plan for Oneida Narrows Put-in). The sites have recently been completed, based on a site visit by representatives from PacifiCorp and the BLM and previous review of conceptual designs by ECC members.

Cove Feasibility Study – Monte Garrett

The consultant-prepared Cove Feasibility Study was distributed to ECC members via email on June 18 for the required 30-day review period. ECC members were asked to review the study and bring any comments to the July meeting. Hard copies of the appendices were handed out by Garrett at the July meeting (Attachment A-3, Cove Feasibility Study – Appendices). Garrett noted that the report will be finalized and sent to FERC in September; therefore, if the ECC would like to include a recommendation in the study, a decision would be needed no later than the August meeting.

Patrick Koelsch (Bureau of Land Management) asked whether there was a pot of ECC funding for the actions described in the study. Garrett said there were no earmarked funds to act on a Cove Feasibility Study alternative in the Settlement Agreement. Rather, should an alternative be selected, existing mitigation funding would be used.

A discussion of alternatives began, with Deb Mignogno (US Fish and Wildlife Service) noting that she favored construction of an interconnection canal. Hoyt questioned the effectiveness of fish ladder alternatives, noting that they looked too short and too high.

Hoyt said he did not feel he had enough information to make a decision on the alternatives at today's meeting. Capurso suggested bringing in an engineer to discuss the various alternatives. Garrett said the timeframe is short, as the report is due in September and suggested getting as far as possible in the discussion today, in the interest of time.

Some questions were raised in regards to making a recommendation on the alternatives presented in the study. Garrett said that if the ECC favors an alternative, he will take the recommendation back to PacifiCorp for discussion. Hoyt asked if PacifiCorp had a favored alternative. Garrett said he didn't think so. Hoyt asked whether PacifiCorp was reluctant to remove the dam. Garrett indicated that it depends on the business case; if dam

removal makes sense financially, the company may agree to such an action. PacifiCorp is already removing dams elsewhere when it makes good business sense.

It was noted that if the decommissioning alternative were chosen, PacifiCorp would have to reopen their license. It would not trigger the re-licensing process, Garrett said, but modification of the existing license would be required (there would be environmental analysis, etc.).

Mignogno asked if the decommissioning alternative is approved, does ECC funding have to be obligated immediately, or could funding from alternative sources be sought?

Louis Berg (US Forest Service) said he thought decommissioning may be a more valuable alternative, as there is always uncertainty with human-engineered solutions such as fish ladders.

Collis asked whether a no action alternative was included in the study. Garrett said yes, and it was agreed to go ahead with a pro-con discussion of alternatives (see table included at the end of this section).

Project Decommissioning

Garrett noted that the decommissioning alternative is not a total project removal, but a soft decommissioning. That is, the dam would be breached but not entirely removed. The flume would be demolished and (mostly) buried on site. No hazardous materials are expected to be present. The area would not be restored to a natural setting, but the dam would be breached and connectivity would be restored.

Koelsch asked whether there would be a cultural resources concern with this alternative. Garrett said that concern would be addressed in a Historic Properties Management Plan currently being prepared by SWCA.

Greg Mladenka (Idaho Department of Environmental Quality) asked what benefits would be derived from removing the flume or portions of it. Where would the ECC get the most bang for the buck?

Garrett said FERC would likely require removing facilities to the point that public safety is provided, as the area is accessible and must remain accessible to the public. The decommissioning alternative represents the minimum action needed to address safety concerns and prevent liability to the company. Garrett noted that the cost for the decommissioning alternative is estimated at \$3.2 million. However, if the ECC agrees to the decommissioning alternative, it would have to agree to fund the actual amount, which may be greater.

Koelsch said the benefit of the decommissioning alternative is that there would always be natural flow in the Cove Bypass, whereas now it would receive only minimum flow.

In regards to timeframe, Garrett said FERC probably won't allow a delay in implementation once an alternative is chosen; if the decommissioning process did not proceed immediately, the company would be expected to rebuild the flume (as per the 300 series articles in the new license) and operate the project. Once flume construction was completed, the company would not agree to future decommissioning.

Capurso said the ECC should not be tempted by the allure of just removing a dam. He urged members to look at the possible benefits and base their decision on that. He said that from a BCT restoration perspective, there are no BCT or appropriate habitat in the Cove reach of the river right now. He asked whether this facility is in a good place for BCT restoration and whether it would be worthwhile to wait for 30 years.

Warren Colyer (Trout Unlimited) said there are better places to spend \$4 million to benefit BCT, but noted that implementation of any of the alternatives would cost \$2 million anyway.

Collis noted that there is also the alternative to take no action.

Capurso said that early in the settlement process, USFWS offered to shelve fish passage. There are ways in the future to bring up fish passages. Mignogno said the ECC can wait and add fish passages later, when the fish are present in that portion of the Bear River.

Jim Mende (Idaho Department of Fish and Game) said the ECC needs to consider other values, like recreation and other native fish.

Garrett said that while he was not promoting any of the alternatives, he wanted to inform the group that this (decommissioning) is a onetime opportunity. It was noted that the decommissioning alternative may be a "no w or never" proposition. If the dam isn't taken out now, PacifiCorp will probably resist efforts to remove it in the future.

Mignogno asked whether PacifiCorp would kick in funding if the interconnection alternative were chosen; Garrett responded that this is not required in the settlement and would be highly unlikely. Mignogno asked for a caucus with Mende, Koelsch and Capurso.

Returning to the table, Colyer asked whether decommissioning would delay habitat restoration.

Garrett said that under the decommissioning alternative, approximately \$450,000 per year for seven years would come out of mitigation funds, which equates to about seven years of habitat restoration funds, unless matching funds were used, in which case much less mitigation may be required. The ECC would need time to find matching funds. Mignogno noted that, depending on the source, some matching funds can't be used for actions already taken.

Returning to the pro/con discussion of the alternatives, Collis asked whether there was interest in the “technology” and tailrace alternatives. Mignogno said while it is good they are in the feasibility study, they can be picked up later.

Based on that understanding, the ECC agreed to consider the decommissioning, interconnection canal, and a no action alternative only in the day’s discussion.

Mende asked for more information on the interconnection canal alternative. Garrett passed around an illustration of the interconnection canal.

Colyer asked whether there is a benefit to the interconnection canal over decommissioning. If not, Collis said, let’s take it off the table because it is more expensive than decommissioning, and continue discussion only of decommissioning or no action. Koelsch asked whether the interconnection canal should be left on the table, in case FERC is uncomfortable with decommissioning. Collis said the interconnection canal will be left in the feasibility study, this is just for discussion purposes.

Cove Feasibility Alternatives Discussion

Pros	Cons
1) Decommissioning Alternative	
Step towards connectivity	BCT populations may not be ready to benefit
Only chance	Not the best location for breach
Other possible benefits to other resources (flow, riparian, other aquatic species, water quality)	Need to address Gentile Diversion
Relatively small portion of mitigation funds required	Forgoes x number of years of habitat restoration, including diversion structures
2) Fish Ladder Alternative	
Movement one way	Possible operation and maintenance issues
	Cost
3) Fish Screens a/b	
	Possible operation and maintenance issues
	Cost
4/5) Tail Race Barriers Alternatives	
	Possible operation and maintenance issues
	Cost
6) Interconnection Canal	
Addresses Gentile Valley	Possible operation and maintenance issues
Provides continued generation	Cost
7) No Action Alternative	
Fish passage option in the future	Lost opportunity for decommissioning
No money requirement now	Continued lack of connectivity without other action

A “round robin” poll of ECC members was taken on decommissioning.

Mende said, from a fish perspective (BCT), the dam breach is a viable alternative but makes no sense at this time. From a restoration perspective, there is no reason to do it at this time. There are no BCT. Mende said he supports no action.

Hoyt said decommissioning would benefit other species and aquatic habitats. While the goal is to reestablish BCT, we should not forget other benefits. We have to look at the ecosystem. Hoyt said he is in favor of decommissioning, adding that if we are successful with restoration, we will have a connected system.

Mignogno said she isn't certain that we'd benefit riparian areas by taking out the dam. We could instead focus on important riparian areas and diversions that would make a difference now. She would support no action, with the potential of adding fish passage later.

Colyer said he feels that to forgo decommissioning based on one species is not right. He said he believes we will have restoration success with BCT. Migratory barriers are the greatest threat. We don't know enough about the system to say decommissioning would not benefit them. Colyer supports decommissioning.

Koelsch said he is undecided but leans toward no action.

Mladenka said decommissioning would provide instream flow to the reach, improving water quality and quantity, as well as recreation. A mile of habitat improvements in this area is a big deal. Finally, it's the last and only chance to do this. How will we look back on our decision in 30 years if we fail to do it? Mladenka said he feels strongly that we get the most bang for the buck with decommissioning.

Capurso said the majority of funding we would forgo would not be lost, it carries over. Mende mentioned that the other restoration work would not be expensive, but Capurso disagrees. In previous discussions, fish screening alone cost more than decommissioning. But Capurso also disagrees with this being the last chance at decommissioning. PacifiCorp may revisit the issue down the road. He added that he thinks it's the wrong place and the wrong time to decommission. Populations would not be reconnected. While Capurso said he shares Hoyt's ecological perspective, he feels we'd be spending money designated for BCT, when we might get better improvement spending the money on other projects. At this time, Capurso supports no action.

Mary Lucachick (Idaho Parks and Recreation) said she is leaning towards decommissioning.

Garrett said, with his PacifiCorp hat off, the one step that would make the biggest difference would be decommissioning. It's the large stroke that could be taken to benefit the most species. As far as restoration funds, this is a small chunk to make a big difference. With his PacifiCorp hat on, PacifiCorp will support whatever consensus decision is reached on these alternatives.

Collis said in summary that the vote is split on decommissioning 4 – 4 with American Whitewater, Idaho Rivers, Shoshone-Bannock Tribe and National Park Service not present at this meeting.

Hoyt said the next agenda/meeting notes must reflect that ECC members need to be at the next meeting or give proxies, as the decision will be made next meeting. He also noted that there is a tributary that would be benefited by decommissioning – Cottonwood Creek. It's one of the largest in Idaho, it's "trashed", and there are BCT there. Although it's on private land, we should pay attention to it.

Lunch Break

Collis suggested setting aside an extra half day on Thursday the 19th (day after regular meeting Wed 18th) to wrap up discussion and reach consensus on the Cove Feasibility Study. If the extra day is needed, the ECC would meet in the morning and adjourn at noon.

Bonneville Cutthroat Trout Study Plan – Michelle Weidner

The BCT Study Plan was distributed via email to ECC members on June 14 for a 30-day review, as required by the new license. After receiving comments, a revised draft of the plan (dated 7/7/04) was distributed to ECC members via email for review prior to this meeting (Attachment A-4, Bonneville Cutthroat Trout Study Plan). Michelle Weidner (SWCA) was present at the meeting to receive comments on the plan. She noted that a genetics study design work plan will be included in the plan as Appendix A, and that changes from the previous draft were highlighted.

Garrett noted that discussion was needed on 1) the level of detail in the plan; 2) thermal photography and scale; and 3) telemetry and broodstock development methodologies.

Thermal Photography

Garrett suggested adding language for the possibility of using thermal photography. The ECC agreed this was desirable. Mladenka said he had heard a cost estimate from a colleague of \$100/mile. Eve Davies (PacifiCorp) said the ECC also should check for existing sources of thermal imaging, and include that possibility in the plan.

There was discussion of whether the Malad River would be included in the diversion mapping/photography. Hoyt said the Malad joins the Bear below the state line, so that would be out of the area designated in the settlement agreement. Mignogno said since it's a tributary and it's in Idaho, she thought it would be included, but says she's not going to argue the point.

Broodstock

Mende said his agency (Idaho Fish and Game) is nervous about even the term broodstock, but Mende thinks the discussion on broodstock should stay in the BCT Study Plan. He said he believes his agency has faith in the ECC process.

Mignogno said it should be strongly stated in the plan that broodstock will be a last-ditch effort, and the emphasis is on restoration of the system.

Garrett suggested adding language (to the BCT Study Plan) from the Settlement Agreement about use of funding allocated to broodstock development may be used in the Conservation Hatchery Program. Weidner will incorporate this into the BCT Study Plan.

Capurso said it would be valuable to have a broodstock on hand to replace non-native fish. Hoyt asked if the fish were reared and kept in runs too long (maintained in a facility), would they survive in the wild?

Capurso said the broodstock issue is a semantic problem.

Colyer suggested using the wording “develop and maintain a conservation hatchery” rather than “broodstock.”

Mende said Idaho Fish and Game would have a problem with using broodstock products for stocking recreational fisheries; however, Mignogno noted that the plan currently states one of the goals is to “provide an alternative to stocking with non-native species.”

Mende said to go ahead and change “broodstock” to “conservation hatchery” and caveat use as much as possible, i.e., “last ditch effort.” “The ECC can recommend....”

In regard to Black Canyon, Mignogno asked if rainbow are currently being stocked but the goal was to reestablish a population of BCT, why not stop stocking rainbow and stock BCT instead? Mende said that would be a management decision. Koelsch asked if there was a stream where the ECC wanted to restore BCT, why not get rid of the rainbows and stock fishable BCT.

Hoyt suggested taking “provide an alternative to non-native fish stocking” out of the BCT study plan. Why antagonize the agency in charge, he asked, adding that the ECC could add it later.

Koelsch noted that funding for this effort comes in the first eight years. He said he would like to leave the measure in. Hoyt asked whether this would put Mende in a tight spot. Mende said it’s OK.

Weidner noted that “broodstock” and “conservation hatchery” are different things in the Settlement Agreement, and cautioned against making the wording change in the BCT Study Plan. It was agreed to leave the wording as it currently stands in the draft.

Telemetry

Garrett asked whether Idaho Fish and Game has a methodology for telemetry. He asked that Mende get that to Weidner as soon as possible (as Appendix B in the plan). Weidner will incorporate the methodology and distribute a revised draft to ECC members by the first of next week (July 19), then finalize by the end of next week (July 24). He noted that this will be a short review. Mende said we don’t want to put so much detail into it that we get hamstrung.

Genetic Study Funding

Garrett said Mende had sent out a scope of work for the genetics study. Garrett also reviewed the funding commitments regarding the BCT studies to this point. Colyer said Campbell can use clips he (Colyer) has already collected but Campbell asked that he change preservation techniques. Garrett said he will start the procurement process for the genetics study.

Black Canyon Monitoring Plan

Mladenka reported to the ECC on the subcommittee meeting held on June 30, 2004 and passed out copies of the notes from that meeting (Attachment A-5 – Notes from the Black Canyon Monitoring Plan subcommittee meeting). He also handed out maps of the Black Canyon area (Attachment A-5) and CDs of photos taken during the survey (archived separately). At the meeting, the subcommittee decided against using a “reference reach” as part of the study, as this would increase cost of project and may not really work.

Mladenka asked what the ECC would like to do regarding the use of telemetry, as it is specified in the Settlement Agreement and the license.

Koelsch said radiotracking would require use of fairly large fish, as it can't be used on small fish. Colyer suggested using mark and recapture rather than telemetry, which would be a change from what is specified in the Settlement Agreement.

Collis asked about items in the Settlement Agreement and license that aren't desirable or wanted by the ECC. Garrett said they may be included in the monitoring plan, but should include a reference to the fact that the proposed methods differ from the Settlement Agreement and license. Collis asked whether the ECC would support not using telemetry as part of the Black Canyon Monitoring Plan. The ECC said they would.

Mladenka also asked about setting *a priori* criteria for adverse effects. He said he will bring IDEQ's matrix to the next meeting for discussion. The next Black Canyon Monitoring Plan subcommittee meeting is scheduled for July 29, 2004.

Koelsch suggested getting adverse effects defined ahead of time (i.e., before the work begins). Charlie Vincent (American Whitewater) said adverse effects should be expressed in standard deviation but added that without a 20-30 year data set, it will be difficult to determine effects (e.g., with the drought, etc). Mladenka suggested using the terminology “significant difference” vs. “negative effect.”

Collis suggested that the group move forward with data gathering for 3 years, then look for trends. Capurso added that if after 3 years we haven't found trigger points, we'll develop criteria to trigger decisions (that is, drawing on experience of the agencies and member NGO's). That should provide impetus for us to get together on trigger points as the ECC. Vincent said he doesn't feel he could set an *a priori* criteria without any data to establish the natural variation in the system; to feel comfortable, some statistically

significant data over a wide range of potential conditions would be essential to provide some context before developing a criteria.

It was decided to proceed with data gathering for 3 years, then regroup and see if the ECC can come to agreement on criteria for negative effects.

Shoreline Buffers – Eve Davies

Davies passed out an aerial photo of the Grace Cove shoreline buffer (see Attachment A-6, Grace Cove Shoreline Buffer Aerial Photo). She noted that parcel labels correspond to parcel names used in the descriptions distributed at the June meeting.

Collis asked the ECC to determine the overall goal and vision for the shoreline buffer zone, then discuss mechanisms to get there.

Kackley Springs

Hoyt said he arrived at the meeting early and walked Kackley Springs. He said cows have eaten everything palatable in the area. Cows were also in the stream itself. He took pictures of them. Hoyt said he would like to see this area protected. It could be an important area for wildlife and could provide cold, clean water to the Bear. He feels that good ecological health of the area would be an important goal.

Hoyt suggested establishing a good, healthy plant community that includes native shrubs and forbs; getting rid of noxious weeds (e.g., thistles); and taking the cows out. He suggested getting cows completely out, and allowing the wetland area to enlarge.

Mladenka suggested fencing the entire riparian area and creating a fully functional riparian corridor.

Capurso suggested increasing bank stability and increasing riparian and immediate upland vegetation that is effective in filtering sediments and pollutants and provides shade in appropriate areas.

Mignogno suggested supplying connectivity (i.e., corridors) between wetlands for amphibians and other wetland-dependent species.

Garrett said taking cows off the parcel may just shift the problem rather than solving it. Scott Pratt (PacifiCorp) also mentioned that bad public relations result from kicking people off, using PacifiCorp's experience at Cutler as an example.

Mignogno asked Davies to come back with ideas for where managed grazing may occur. Hoyt asked for the number of cows on the area. Davies said it's been leased at a minimum and perhaps unrealistic fee up to now. Davies will come back with a management proposal for wetland protection at Kackley Springs.

Mignogno suggested that at some point in the future there be restoration work done on Kackley Springs. Garrett said that is a valid future project, but not really part of the buffer zone task. The Cove Buffer Zone Plan (required in the license) will be a chapter in the Land Management Plan that specifically addresses the impacts of cattle grazing and actions to protect wetlands and riparian habitat from cattle encroachment.

Hoyt said his group did a literature review on cattails and found no indication that they were a non-native species.

Davies asked for time on the next agenda to continue this discussion with a more fleshed-out site plan. Then she would like to continue on a parcel-by-parcel basis. It was decided to add time for the discussion to a later agenda, possibly September.

Closing Comments

Collis suggested adding “Development of criteria for use of ECC fund matching” to the next agenda.

Regarding Rob Bundy’s proposal to the ECC, Capurso asked whether Mende planned to bring Skulley or someone to talk about whether IDF&G would treat St. Charles Creek area for introgressed species (i.e., take a look at a larger scope than Rob Bundy’s proposal).

Agenda Items for August 18-19 ECC Meeting, Grace, Idaho

- Black Canyon Monitoring Plan subcommittee review
- Cove Feasibility Study – vote on decommissioning
- FERC’s concern regarding the Implementation Plan
- BCT studies
- Establish criteria for matching funds

Meeting was adjourned at 4 p.m.

Attachment A: Handouts

- A-1 Updated Contact List**
- A-2 Recreation Site Plan for Oneida Narrows Put-in**
- A-3 Cove Feasibility Study – Appendices**
- A-4 Bonneville Cutthroat Trout Study Plan, 7/7/04 Draft**
- A-5 Black Canyon Monitoring Plan: Subcommittee meeting notes and map**
- A-6 Aerial Photo of Grace Cove Shoreline Buffer**

Attachment A-5

**Black Canyon Monitoring Plan
Subcommittee Meeting Notes**

NOTES
Black Canyon Monitoring Plan Subcommittee Meeting

June 30, 2004

Participants: Eve Davies, Lynn Van Every, Jim Mende, Jim Capurso, Warren Coyler, Pat Koelsch, Greg Mladenka, Charlie Vincent

Reference Reach Discussion

The group discussed the possibility of using a reference reach for comparison. It was determined that comparing monitoring results in Black Canyon to a representative reach was not the best option, as a reach similar enough was not available and that controlling for the differences would be difficult. The Bruneau River was discussed as a possible representative reach, but it was determined to be too different to make accurate comparisons. It was decided that a temporal reference would provide the best data for assessing changes associated with the 80 cfs base flow and subsequent whitewater releases. It may be necessary to include in the BCMP a discussion of why a reference reach approach was not chosen, including a table of potential representative reach candidates and why each was not considered comparable for this study.

Macroinvertebrate Sampling Methodology

The subcommittee recommends that Black Canyon be sampled by dividing the canyon into four reaches based on substrate similarities: the flat, upper section between Grace and Turner, the middle section (which includes Site #17), the section with big boulders and long pools, and the travertine section near Grace power plant. [We could define these areas more clearly.] Methods may incorporate both benthic and drift sampling techniques depending on location applicability.

Discussion about sampling techniques – drift sampling is more intensive and may not add additional information concerning what happens in canyon after whitewater flow events because drift happens at dawn/dusk, following catastrophic events, and in response to predators. Also, only some species drift. However, it may be useful in areas difficult to sample by other techniques, and it may contribute useful information pertaining to changes in fish diet. Still to be determined whether drift sampling will accompany benthos. Could have sampling crews do drift survey at same time in certain locations.

Samples taken at 80 cfs will be used to establish a baseline for comparison. Three years of data previously collected will provide information about stream conditions prior to setting the 80 cfs minimum flow requirement. Data from PacifiCorp records that document historic flow events and weekly water quality monitoring will also be incorporated in the monitoring studies. Gauge measurements will be used to determine flow differences attributable to precipitation events.

The subcommittee recommends that three to five samples would be collected four times each year at each of the four sample reaches, with an estimated cost of \$250.00 per sample. Total cost of each sampling effort is estimated at \$3,000 to \$5,000, depending on number of samples collected at each reach.

The subcommittee recommends that the ECC discuss and decide upon the number of samples to be collected each time, and the number of reaches where the samples will be obtained.

Telemetry

This monitoring requirement needs ECC discussion.

Budget concerns. Will not have enough of the \$35,000 per year to do full telemetry study. Would require a settlement amendment. Could we incorporate into BCT telemetry component?

Monitoring is mostly concerned with impacts to younger fish. Adults will probably just be flushed out, which may decrease angler experience, but not cause mortality. Telemetry used on fish 10 inches and up, so may not be applicable to study of juvenile mortality.

One option would incorporate time series of distributions relative to flood events. Mark and recapture with combo of seine/shock, but recapture rate is low.

Need to set *a priori* determinants of monitoring results, i.e. what percent decline in bugs, algae, fish, etc is acceptable/unacceptable, and what is considered an adverse effect? Could use IDEQ assessment process for beneficial uses (that of supporting cold water aquatic life), which incorporates a multi-metric index of bugs, algae, fish.

Or, we could defer setting *a priori* criteria for adverse effects until baseline info has been collected (end of year 4, which will start period of whitewater releases).

Or, reference the BCT Telemetry and specify that the Black Canyon monitoring is included.

Discussion decided the ECC needs to decide whether to (a) set *a priori* determinants of acceptable change, (b) collect baseline first, then set determinants, or (c) do not set any *a priori* determinants, just do the study, then ECC determines if changes documented are acceptable.

Options to decrease sampling costs could include using ECC members as technicians and TU and PacifiCorp equipment.

Creel Survey

IDFG questionnaire? Survey?