

Trinity River Restoration Program – Oregon Gulch Project Public Scoping Meeting

November 5, 2020 6:00 – 7:30 PM

Teams Live Event

Transcript from the Question and Answer Portion

If you have further questions or comments regarding the proposed Oregon Gulch Project, please contact Brandt Gutermuth at 530-623-1806 or fgutermuth@usbr.gov; or Kevin Held at 530-623-1809 or kheld@usbr.gov

Emily Thorn – Project Manager, Ironwood: Yes. To submit a question, go to there's a dialogue box near the right hand upper corner of this meeting interface with a question mark on it, and you click on that. It will open up the Question and Answer panel and you can type in your question, you can submit it anonymously. We ask that you submit your name if you're comfortable doing so, but you have the option to submit it anonymously once you do that, it's a moderated chat so we have some moderators that will look at your question and then it will be published for participants and presenters to see.

Q1: It looks like we have a few questions to start out with the first: Have you tested or assayed the tailings piles for residual placer gold deposits?

Brandt Gutermuth: We have not tested these tailings piles for gold. We think there would be some gold there and Eagle Rock would gain the benefit of that when processing those.

Q2: What is the total estimated cost of the projects, including tailings removal, property cost, actual restoration costs, etc.?

Brandt Gutermuth: We don't have a solid estimate. This meeting is scoping the project. This is what we propose, so there has been some rough estimates as Dave mentioned in terms of moving the material up to Eagle Rock. There's around estimates of 4 million to move that mining waste, the tailings there.

In general, this is a large scale project and it's approximated at 10 million, but the details of the project are not in place yet to come up with a real detailed budget because we haven't even done the environmental analysis yet, so it's a little early to have much more than that very rough budget.

Q3: The next question reads: I thought I heard different design parameters for the project's bankfull discharge. It sounds like the new channel will access its floodplain at 600 CFS, but annually the channel has flows that exceed 1200 CFS. If you could, please clarify, thank you.

Dave Gaeuman – Project Designer, Yurok Tribe: Yeah, that's correct. The channel is designed to overflow at about 600 CFS and the intention there is for it to flood that floodplain most of the time in the winter, when the juvenile fish are there, and so there'll be lots and lots of habitat for the fish. But the notion of bankfull discharge doesn't really come into this design, it's kind of, it's not really an applicable concept for this design. We're really interested in flooding as much areas we can during the time when the fish are there.

Q4: The next question reads: The tailings have been at the current location since the early 1900s. Approximately 50 to 60 years pre-dam and 50 to 60 years post-damn. There have been many fish runs both very strong and not so strong.

The tailings appear to be almost natural since they have been in place so long. Why the desire to remove what appears to be a natural structure?

Kyle DeJulio – Fisheries Biologist, Yurok Tribe: So I'll take that one. I have to disagree. They don't appear natural, they're entirely manmade. These gravel dunes aren't something that would naturally form 40 feet above where the water can put them so they're confining the channel and pre-dam there was 109 miles above the dam that fish could utilize. And as I said before, salmon were already in decline at the time of the dam there were several tanneries at the mouth of the Klamath that really impacted fish stocks, the mining efforts and logging also impacted fish. We relatively today we had more fish at the time of the dam, and that's what we're trying to recover. But to do that we have to somehow support the number of fish that utilized all 109 miles above the dam in what river we have left that the fish can access.

So the desire to remove those tailings is that we're going to make the river longer so the 40 mile restoration reach with that new elongated curved channel will be the 40.4 mile restoration reach and we're going to add those 16 acres of floodplain which, as I said before at a normal winter flood, there's only about 60 acres in the entire restoration reach, so we're talking about an increase of over a quarter so that's a really big increase. We do have to figure out some way to achieve reliably consistent salmon runs of a certain size and that's our mandate as the Trinity River restoration Program.

Mike Dixon – Executive Director, TRRP: I think we should also point out with that kind of our primary charge from our inception has been to restore the natural processes of the river to allow it to sustain its own habitat overtime and the size of floods that would be necessary in the recurrence interval of floods. It would be necessary to allow the river to create its floodplain in an area where it's surrounded by mine tailings. It's something that we could never accommodate with modern infrastructure in place. We would have to flood out whole cities to be able to make the river behave in a way that would mobilize those tailing piles and restore its floodplain. So we're sort of in this position of having to throw diesel at the problem because we can't throw enough water at the problem.

Kyle DeJulio: Yeah, that's great to add Mike and just for context, I'd like to let the audience know that on the left hand side of the photo in the upper left you can see a large terrace that was formed by the 1955 flood or a flood right around that time. An even larger flood that occurred in 1964 may have processed some tailings and made a terrace somewhere else and started to recover this area, but when the dam went in place, that recovery process was halted and so this river can no longer recover its valley because it doesn't have the stream power that's necessary at those 100 year flow events to do that. And so that's why restoration has been put forward as a as an alternative strategy for to allow the river to recoup itself. And this design is a very dynamic design, so whatever is created, we do not expect for to stay exactly as it is. We are trying to restore process. And that means that the channel that we put there will move about on that floodplain areas will deposit and scour, and you'll have a river valley that has those big flow fluvial processes right where you're scouring out sediment from one area and depositing in another, and that continual renewal of the valley bottom is what creates habitat for these disturbance adapted species Pacific salmon and all of the other ones that come along with it.

And I'd like to mention briefly the question before, the Yurok Tribe is seeking alternate funding and has put in for grants for several million dollars to support the action of moving the tailings. So we are not solely relying on the restoration program to do this. We are seeking state and other funding to help augment that.

Q5: Great, thank you. The next question reads: What is the total estimated length of the project?

Kyle DeJulio: I'm gonna have to just take a rough call. It's about 1/2 mile, I think from top to bottom. This down about right you so may be asking length in time and that is kind of contingent upon whether or not additional funding from outside of the channel rehabilitation funding that we have in the restoration program, right? So if you know if the state funding that the Yurok Tribe applied for it comes through that will shave approximately a year off the implementation of the project. In the absence of that, it'll probably be a three year project. Yeah, we're thinking about three years just to move all those tailings.

Q5: Right, thank you. Will there be a traffic study conducted due to the increased number of trucks?

Brandt Gutermuth – Environmental Scientist, TRRP: There will certainly be analysis of the greenhouse gas computations is such so it will be analyzed in the environmental document, the potential impact from this much trucking.

Mike Dixon: Brandt want to punt that to Department of Transportation since we have a representative from the Department of Transportation here. I mean, they may be able to speak to what they're going to require for us to be able to do work on that road.

Brandt Gutermuth: Sure, we can do that. Circle back to the county Department of Transportation.

David Colbeck – Trinity County Department of Transportation: I'm here essentially as a courtesy early in the process to help with the environmental compliance component of this project as it's moving forward. With respect to a traffic study, typically those would be associated with an encroachment permit through the county, which would not necessarily have to be required for this project given the parameters that I've seen so far. However, that should be a component of any environmental review that would be an environmental analysis or initial study. So my answer would be yes, that is something that the county would be interested in participating in and ensuring that during the environmental compliance process that I was looking into.

Brandt Gutermuth: The collaboration with our parameters that we're going to be working closely with the County on that.

Q6: Great, thank you. And the next question: If the tailings piles are moved what kind of flow or energy will be in the river in the project area?

Dave Gaeuman: Once those tailings are gone, the flow will be able to spread out and of course, the discharge isn't affected by this, and it's going to be the same discharge in cubic feet per second whether those are there or not, but when the during floods, when that spreads out over that area, it's going to decrease the shear stresses, is the quantity that we normally talk about when we're talking about moving sediment and so on. It's going to be pretty low throughout that whole floodplain. And so what we expect, and we've done some morphic dynamic modeling of this which means, modeling not just the flow hydraulics, but also the sediment movement through there, and what we expect to see is some of the material to get peeled off of the upstream part of U2, that the big plug that pushes the river to the right and then get redeposited out there on that on that valley grade and that's among the fluvial processes that were really interested in creating because when that happens, it'll take that thing that we built, which is going to be a pretty much a flat pancake kind of floodplain and start building complexity on that floodplain. Whether there's going to be higher spots, where there out of the water or more can start to develop riparian forest and things like that and then it'll be the places that aren't things don't deposit where the channel will kind of reoccupy itself or multiple channels perhaps over that floodplain. And that's what we'd really like to see.

So and then know once that deposition takes place, it can be re-eroded later and the riparian forest that grew on those high spots now can be recruited into the river and new places with new forest can grow. So that's kind of the vision we have for this and try to think of multiple channels across that big wide floodplain. And that would be a slam dunk win for this site.

Q7: OK, And then I think related to or tangential to that is: What level of flows will be required to create the desired floods that create beneficial at for salmon and steelhead?

Kyle DeJulio: Yeah, that's a great question on that slide that we had of the habitat gains show that they happen really almost immediately and so 300 CFS, which is the winter base flow coming out of Lewiston Dam or 450 which is the base flow throughout the summer, those flows aren't going to get on that floodplain. They will be confined to the channel at least right when we leave construction and it'll be a slow moving long, meandering channel 'cause we're making it a longer distance, but the same amount of drop in elevation. But you can see as soon as you get to 600, 700, or 800 cfs, you're going to flood that floodplain wet. And so that's when you have that really dramatic increase in habitat and that over that floodplain you really are just getting it wet. The water is not moving very quickly. It's great habitat for juvenile fish, especially if we start to get willows or other kinds of vegetation growing out on that surface.

The juvenile fish love to hide behind that kind of vegetation so that the water moving past it can carry food and they can get it while resting behind vegetation. And then you can see as that water level on the floodplain starts to get deeper, which is when you're moving to the right around 1500 hundred, 2000 CFS, that water across the floodplain will start moving faster, and now that's after we leave, right? Once you get willows and cottonwoods, and other types of vegetation out on that surface they will slow that water down, even at those higher flows. But it really won't take much of a flood. The average flow down in this reach during the time when the fish are present, which is really mid to late January through June, is almost always above that 600. It's very rare. It has to be a very protracted drought to be below 600 cfs in that rearing period and salmon have evolved that life history for a reason that the reliably consistent winter storms come in that late year when we're having both rain and snowmelt, and those flows are the ones that we're trying to exploit here so very low flows.

Q8: Great, thank you. The next question is: the property where the project will potentially occur private or public?

Kyle DeJulio: So it's a mix of public and private. There's a large area of BLM which is Bureau land Management. They own much of the Trinity River corridor and so that encompass a big area of the project, and you can see it's hard to see here, but the kind of opaque looking red area is BLM. And then there's a, there's a square to the right. Yes, right there. If you see the square there that's private land and actually was purchased by the Yurok tribe in late 2019 for the purpose of doing this restoration. The design was already made at that time and willing landowner, who had been participating with the Yurok Tribe and the TRRP for several years, decided that she wanted to sell the property that area encompasses, a large proportion of the tailings. And that is one of the reasons that this design has always been pursued in this way, because if it was BLM ground we would not be able to remove those tailings from BLM because there's laws protecting the minerals of the United States. And so you can't take valuable minerals off BLM land and put it somewhere else. But because this is privately owned, those minerals can be taken off of this piece of property and put on another piece of private property without violating the public trust of the United States for those mineral assets.

Q9: OK, thank you the next question: After the tailings are removed, how long will the restoration portion of the project take? That is, how many years?

Dave Gaeuman: So I assume the question refers to the restoration in terms of the adjustments and so on rather than doing the final touches of civil work. So the time span involved in the restoration or the maturation of this site; it kind of depends on what we're talking about. I mean, we do like we've talked about. We expect a lot of riparian regeneration things like cottonwood trees are going to take to get big cottonwood trees is going to take some years. Doesn't take probably 20 years before we have a lot of big trees out there so that would be the fully mature site or condition, but we expect to see changes occurring almost immediately in many of our other sites. Would that we've lowered to areas that are really close to the water where the riparian vegetation can really take hold. It comes in pretty fast; a couple, maybe three years things you can really see a lot of riparian development. As far as the geomorphic changes, that's all going to depend on what kind of hydrology we get: Do we get floods, or do we have a drought? But if we have a big year with a big big flow event, we could see substantial changes immediately. So and then there's not, there's not an ending point to

that. It would be a continuous process of this site continuing to change into the future, and that's what that's what restores or rejuvenates the habitat.

Kyle DeJulio: That last question, that the heavy equipment operations of in channel rehab will take one summer just like any other project. After the tailings are removed in the first phase so, but the actual restoration with the equipment will take a single summer.

Q10: And then I think, related to that the next question is: **Are you proposing an aggressive revegetation plan for the floodplain? Or are you looking for natural plant recolonization of the disturbed areas?**

Kyle DeJulio: So I'll let Brandt correct me if I'm wrong, but that RMNP has an obligation for mitigating any riparian that's impacted. So if we remove riparian vegetation, which will happen in this design but not a lot because a lot of the area that we're working in is open because mine tailings can't grow plants.

If we do remove anything, it will have to be mitigated for, but as part of the design absent those restrictions, we are going to rely on natural revegetation. This effort is an effort to restore process and we hope not to irrigate plants unless it's part of that mitigation factor and we hope to have plants grow where they would like in the specific destination. One of the issues of a revegetation plan here would be that highly unpredictable where aggregation and deposition will occur as Doctor Dave Gaeuman told you that we expect this to happen, but we also know that once things change that will have a domino effect and it may cause scour or aggregation in a different area than we expect, so we don't want to plant sedges in an area that's going to aggrade and be not be wet and we don't want to plant pine trees in an area that's going to scour, so we're going to let the river figure that out to the extent possible while adhering to laws and regulations.

Dave Gaeuman: I'd like to like to just add a little bit too and Kyle you can correct me if I'm wrong on this, but I believe the U2 plug, that high area, the upland area this design does, we do anticipate some planting up in those higher areas - upland areas that aren't going to just take off on their own.

And there's things that we can do, like during construction like where we do have to remove some willows or somewhere that we're working. We can just take those willows and just stick 'em right back in the ground somewhere else. And then also other plantings that are right. An ecologist who's with Yurok Tribe has been engaged with this to some extent, but not to a great deal at this point just simply because we're kind of early in the whole process.

Q11: OK, thank you guys. **The next question is there any chance that the dam will get removed down the road and just fix this problem on its own?**

Mike Dixon: I think I guess I'll chime in on that one. The dams have been in place for about 60 years. I don't know exactly what the anticipated useful life of the dams was in terms of sedimentation, but they are a key component to a really intricate system of plumbing that supplies the entire, and not the entire a substantial portion of the agricultural industry of Central California.

The hydropower that's associated with the Trinity River Division specifically is the single largest power producing facet of any of the Bureau of Reclamation's operations in the State of California so I suspect that the dams will be there for the foreseeable future. So while that would be a big win for fish, I think the impacts on California's economy probably are such that it wouldn't be considered as a serious alternative in the foreseeable future. How's that for a diplomatic answer from a restoration practitioner who works for a dam management agency?

Q12: Thank you Mike. So the next question: **If there are multiple channels within the floodplain, what will be the effect of the main channel for adult returning fish?**

Kyle DeJulio: OK, so I think one of our other employees, Aaron Martin, who's been a biologist on the Trinity for several couple decades now, would like to take this one. Let's see if he can speak up.

Aaron Martin – Fish Biologist, Yurok Tribe: Can you guys hear me?

Emily Thorn: Yeah.

Aaron Martin: OK, so the question is what is the effect of the adults returning to this section or ever?

Emily Thorn: Yes.

Aaron Martin: If there's multiple channels, one thing we're sure is there is always going to be a flow path for the fish to return. The objectives of this design. So yeah, I've been on that. You need for a long time and I've been one of the primary designers with this project. Dave and Kyle doing a great job and I've been listening 'cause I got in a little late and I'm in whole different county right now, but there are primary objectives are based on juvenile fish and spreading the river out and this is in one thing I wanted to say is this is a very very different flavor design than anything that's been done on the Trinity.

And yes, we have a channel that we can see right there that we designed, but we know that's going to change immediately when we start getting higher flows. But we also know that there's going to be no problem for adult fish to migrate through this channel. One thing we felt about this channel at the existing section of this river well past Sheridan Hole down to the Oregon Gulch, kind of that dealt so down at the bottom of this site that there's not a lot going on there, and there's not a lot of really prime adult holding habitat and places where people really love and the fish really love and we can all any of us have fish. There can say we've got a couple of fish in that section of river, but it's not something that's highly prized. And we're going to create something we're going to give the river back this value, and we're basically telling the river you figure it out. And overtime, depending on how much water we get, it's going to. It's going to figure it out and I would think that it will take a few years and a bunch of high water until maybe we start getting some nice pools or good holding water for adults to develop, but I would expect that to happen overtime.

Again, our priority for this site like others is for juvenile fish and we're not trying to create adult holding habitat, but I think overtime once we get a lot of flows and things start to develop, people will flow through here and realize this is this is going to be one of the healthiest sections of the Trinity we have in the upper 40 miles and the big part of it is the connection it has with its floodplain when the river rises. It's going to spread out and it's going to be able to grow vegetation everywhere. And it's going to move around, and you can see on that picture on the left there is a river can rise 15 feet and it doesn't go anywhere. And that's just a broken river, and these tailings are 35 feet high so we're giving it back. It's going to be really dynamic.

Overtime you'll start to feel how this is what the healthy river should look like, and the exciting part to me is we're letting it figure itself out and we're not really telling it what to do. We're just kind of pressing the reset button and giving it an opportunity and another little thing to envision that you can't see here is we're leaving as much of the beneficial riparian vegetation and trees that are existing. Where's there's a whole lot of mine tailings that it's 110 degrees on top of those in the summer, and there's no trees but around the water and those ponds there's a lot of good veg, and we're leaving whole vegetated islands on this project and we're leaving good willows and trees and pine trees and cottonwoods wherever possible, so it's not going to be this big bare floodplain. It's going to already have a lot of vegetation growing, and we expect more to grow and we're going to add wood. Then we'll let the river and the processes take over.

Q13: OK thank you, Aaron. The next question asks: **Is selling the tailings to fund the project, if that is at least partially an option?**

Brandt Gutermuth: Right, yeah. So one of the more difficult things at the restoration program has to do in many of their projects, is, as I said before, there are projects are similar we're excavating areas and moving the material that we

activate up high and in this area because the magnitude of the project is so big to create that 16 acres of area that Kyle talked about, we need to come up with innovative ways to move the material. And the only one that we can come up with is, or that we have been able to come up with is to move the material to the Eagle Rock spoils area and right now we're working with Eagle Rock to figure out how we will come up with a way to get some payment back. But they are also serving the project well, because we're not going to increase flood elevations with the placement of this material, which is always a concern, and our projects and they will be able to use the product or use the material and be able to come back and provide some level of road base or crushed rock, not only to our projects, to the community. Some sorting so it's not figured out yet but right now Eagle Rock is, they're excellent at processing rock and we're going to be using some material, but it's not well detailed around how that will be done at this time.

Kyle DeJulio: Can I add to that? Yes so yeah, that and when the Yurok Tribe purchased property there was part of the agreement was that any monetary value that comes from the tailings will go directly to restoration so whatever gets worked out between TRRP and Yurok Tribe and Eagle Rock that will be applied to restoration.

Q14: Alright, thank you guys and the next question will be: **I see one channel be the new main channel or will there still be a natural mainstem channel in addition to the new channel?**

Dave Gaeuman: That channel you I see there; it will be the only channel and when the equipment leaves the site. And it's intentionally undersized so it'll flood and we don't expect it to stay in its as built condition is Aaron was saying this is expected to be dynamic, but that is the only channel that is in the site when the equipment leaves.

Q15: Alright, the next question: **It appears all restoration projects are focused on juvenile habitat. What projects are scheduled to support adult holding areas as many traditional deep holding locations in the Upper River have filled in with TRRP Gravel Augmentation?**

Kyle DeJulio: I'll take it real quick. And if Aaron wants to jump in, he should feel free. It's the perspective of the restoration program and all of the science that underlies the restoration program, that juvenile fish habitat is limiting adult fish. Adult salmon returned to the river to spawn and it's not viewed that holding habitat is limiting the amount of fish, so the bottleneck in the system, at least the current science believes, that it's juvenile habitat.

There was an issue on the Trinity River prior to the implementation of the ROD with deep holes filling in completely with sand and a lack of adult and spawning. But since the implementation of the flow releases that sand has been effectively transported downstream and doesn't accumulate in the holes anymore. However, now with the flows coarse sediment is mobilizing and pools are retaining their depth there's a lot of our investigations have found they may be losing some of their volume, but there is, there is no evidence that adult holding habitat is limiting production.

We don't see salmon in the river without a hole to hold in, or really high densities in the holes that exist, so it's not believed to be a limiting factor.

Aaron Martin: This is Aaron. I'll just, if we're talking to, I think you might have said Upper River. If we're talking the Lewiston area, I don't think you're going to. You're not going to get an argument, and I would agree that the that from the Old Bridge to Rush Creek has changed and there's not as many deep holes in the very upper river as it used to be, and that could be directly attributed to program actions when you look at the whole 40 miles and we've done, we have a lot of great information in general, or there's pools there getting shallower and there's pools that are getting deeper.

In Kyle saying we're not over the whole 40 miles, things aren't filling in, but if you want to look at Old Bridge to Rush Creek, that I agree with. And thus far, it is never been a priority that this Program is made to let's go create adult holding habitat in those cases. But what we have done is recognized actions that we're doing and why these things are happening, we know. We figured out what happened at Sawmill Hole and we stopped putting rocks in there. And then we started getting riparian vegetation growing on the left side of Sawmill Hole and now Sawmill Hole is starting to form again and become a pool.

And so there's definitely been an evolution and understanding in the designs. And there's many cases where we have said this pool or this section when we're working on this: let's try to protect this pool and we learned that if we're going to, if we're going to widen the river and its section, and there's a pool there then the pool is going to fill in where there's been a lot of learning. But like Kyle said, the focus thus far for the program has been the juvenile fish. And clearly I understand and I speak for it a lot during the design process and with the team the concerns from the fishing community as they see changes that happen.

Emily Thorn: OK thank you. As it stands, we have no more questions unless any comment in the next couple minutes, I think this has been a great meeting. Thank you guys all for your participation again to remind everyone you can submit comments by email to Brandt at the email address on the screen here and also his contact information that looks like Mike might want to say something before we close here.

Mike Dixon: I was just going to basically echo what you were saying. I was going to thank people for bearing with us with the kind of the challenge of presenting in this format and then encourage people to provide any comments or questions to Brandt. So pretty much said that yeah, but I don't think we can say it too many times as public participation is an important part of the permitting process. So we thank you all for being here tonight and for your thoughtful questions and for participating in this discussion and learning about the project. Have anyone from TRRP anything to say? Or we can closeout?

Aaron Martin: Those were really great questions. And we always, we always appreciate that, and we want community involvement and we want people thinking. And yeah, I thought those were really great questions.

Brandt Gutermuth: I'd like to say thank you for attending and is it has been a little challenge with the virtual situation here, but this project is really unique and I'm excited about it because the change that we're trying to make up for, that ¼ of the watershed was blocked by the dam and 109 miles, in order to our objective is to restore fish populations to pre-dam levels. So we need to do projects that are large and then the magnitude of which can really benefit. This is the best that we've been able to think of at this site, and we're excited about it, so please send your questions or input and you can call us. And certainly we can talk to the designers and get you in contact with them.

And I wanted to mention we forgot to mention at the beginning of the presentation that the slides I believe will be on the TRRP website on the Oregon Gulch page. So you can download those and look at them as well, so. Alright, thank you all and have a fantastic evening.

If you have further questions or comments regarding the proposed Oregon Gulch Project, please contact Brandt Gutermuth at 530-623-1806 or fgutermuth@usbr.gov; or Kevin Held at 530-623-1809 or kheld@usbr.gov