

Big picture lessons Learned (Andreas Krause)

There is substantial evidence in support of the following:

- In moving forward, management of sediment should be considered as part of a comprehensive management paradigm, rather than as a stand-alone activity. We are approaching a turning point from which we will actively manage the full range of transportable sediments, both fine and coarse fractions, to achieve fundamental goals.
- coarse sediment transport is an order of magnitude less than anticipated by Trinity River Flow Evaluation Study
- active bars within the active channel provide fundamental ecological functions including: substrate for primary and secondary production; cycling of nutrients; diversification of water temperatures; filtering of fine particles¹;
- sediment storage in the form of active bars likely remains below levels sufficient to support ecological needs relating to fish production goals
- Sediment larger than X is not effectively transported by ROD flows; pre-dam legacy deposits will remain in place, or will require direct mechanical (heavy equipment) manipulation where desired.
- as viewed through lens of transport rates, historic coarse sediment deficit has been overcome historic coarse sediment deficit is largely overcome but local deficiencies may still exist.
- Fine sediment surplus has been substantially reduced or eliminated; fine sediment management goals have shifted toward optimization of fine/coarse size distributions
- current project-wide gravel augmentation recommendations are scaled to ROD flows; work is underway to identify reach-specific recommendations in consideration of the multitude of management actions taken by the program: rehabilitation

Comment [SRL1]: GAWG to develop a table of lessons learned and studies that support these lessons.

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Comment [SRL2]: More input will be provided by GAWG

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Comment [H3]: We will need citations for each of these declarations

Comment [H4]: Should we standardize our terms..."coarse sediment" vs "gravel"?

¹ Kondolf and Ock 2012

construction projects, flow management, wood budgets and related issues

- measureable impacts of gravel augmentation ~~affects~~ are localized; augmented gravels ~~don't transport far~~ are transported only gradually through downstream reaches
- there are many reasons for pool depths to change. ~~Most~~ Overall, pool depths have changed as follows (insert Gaeuman findings here)... Many of the observed changes are not directly associated with gravel augmentation.
- sediment supply yield to the mainstem from (tributaries and input directly via gravel augmentation) ~~has~~ increased bars / channel complexity above Indian Creek to measurable degrees
- Lewiston dam to Indian creek is still the appropriate reach to consider gravel augmentation
- Introduction of gravel during high flows augmentation has ~~many~~ may well result in greater ecological benefits ~~over as~~ compared to low flow gravel placements²
- the first stage of gravel augmentation has focused on balancing of computed sediment budgets, the next stage will focus on specific channel ~~changes-attributes~~ (e.g. active bars, healthy substrate conditions³).
- ROD flows ~~are reducing~~ have measurably reduced the amount of fine sediment stored in the channelbed. ~~The river is in much better condition than the first couple decades after dam closure.~~

Comment [H5]: Should we standardize our terms..."coarse sediment" vs "gravel"?

² Kondolf and Ock 2012

³ River Corridor Management Strategy, in progress