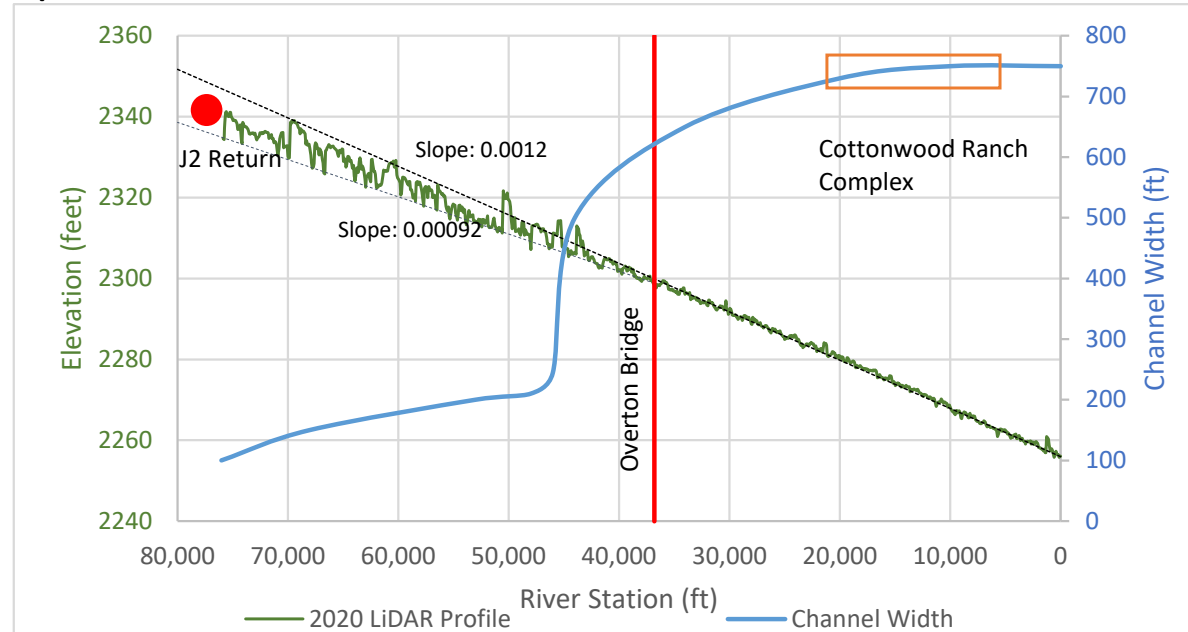


Extension Big Question #3: Is sediment augmentation necessary to create and/or maintain suitable whooping crane habitat?

*Channels with ≥ 650 ft maximum width unobstructed by dense vegetation (MUCW) are highly suitable for whooping crane roosting.

Management Hypothesis: Sediment augmentation is necessary to halt narrowing and incision in the south channel downstream of the J-2 Return.

X-Y Graph



Full scale sediment augmentation (60,000 – 80,000 tons annually in south channel below J-2 Return) is necessary to offset the sediment deficit and halt narrowing and incision that has caused the upper portion of the south channel to transition to a narrow meandering planform, which is much less suitable for WC roosting. If incision is not halted, the affected reach will continue to expand downstream past the Overton bridge, reducing habitat suitability at the Cottonwood Ranch complex.

Alternative Hypotheses:

- More or less sediment must be augmented to offset the south channel deficit.
- Augmentation at alternative locations will halt narrowing and incision.
- Full scale augmentation is not feasible over the long term – not enough supply.
- Incision and narrowing progresses downstream so slowly that augmentation is not necessary.
- Mechanical channel widening will halt narrowing and incision at habitat complexes.

Technical Assessment

1. There is a sediment deficit
2. The nature and rate of incision much slower than predicted due to planform transition
3. Full-scale augmentation reduced bed erosion (~50%) in J2 Return Channel. No change in lateral erosion
4. Observed episodic progression of thalweg incision (Station 70,000) with some recovery
5. No difference downstream of Overton
6. Highly uncertain if/when planform change may progress downstream of Overton bridge and affect WC habitat suitability
 - Lateral channel migration highly effective in recruiting sediment

Summary of Major Policy Comments/Issues:

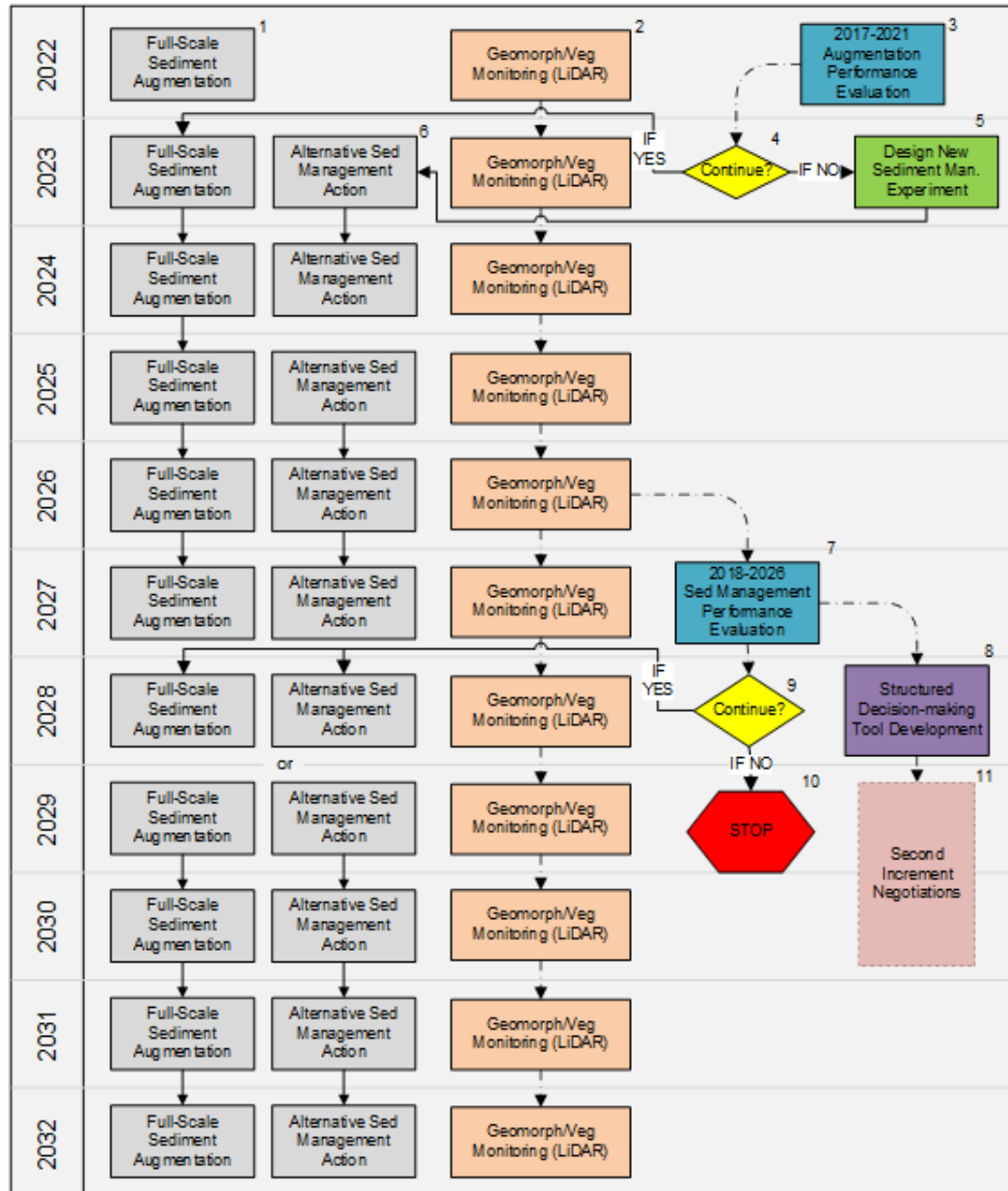
- Sediment deficit is real and augmentation is an offsetting action for target species regardless of detectability. *Why are you treating this like an experiment?*
- Focus of synthesis is too narrow – TAC needs to have a broader discussion about purpose, history and future of augmentation before sending to peer review. *Why are we peer reviewing this synthesis document and how will it help us decide what to do next?*
- Analysis and assessment should be limited to reach upstream of Overton. *Are results downstream of Overton meaningful?*

ED Thoughts – Peer Review & 2024 Budget

- Key finding: Deficit real but risk to WC habitat DS of Overton appears to be long-term and uncertain.
 - Primary benefit of peer review – does the data support this assessment?
- Low confidence that more research can meaningfully refine the assessment unless we stop augmenting for a period.
 - ISAC feedback?
- Is halting augmentation for five (\pm) years untenable? If so – need to reframe from learning to implementation.



Figure 6. Sediment Augmentation Activity Diagram



Sediment augmentation action diagram explanatory notes.

1. Implementation of full-scale sediment augmentation (60,000 – 80,000 tons) below the J-2 Return in the South Channel of the Platte upstream of Overton.
2. System-scale geomorphology and vegetation monitoring including collection of high-resolution imagery in June and November and bathymetric LiDAR in November.
3. Evaluation of channel morphology in the South Channel of the Platte downstream of the J-2 Return to assess the effectiveness of sediment augmentation in halting the downstream progression of channel degradation and narrowing.
4. Continue full-scale sediment augmentation because 1) it appears to be effective in offsetting degradation and narrowing or 2) addition data is needed to assess performance.
5. If evaluation indicates sediment augmentation is not effective, design new sediment management experiment.
6. Implementation of alternative sediment management experiment.
7. Evaluation to assess the effectiveness of alternative sediment management action in halting the downstream progression of channel degradation and narrowing.
8. Development of structured decision-making tools/models using results of augmentation evaluation. Tools/models will be used to quantify the costs/benefits of sediment augmentation in the Second Increment as part of a structured decision-making process (SDM).
9. Continue full-scale sediment augmentation or alternative sediment management action because 1) it appears to be effective in offsetting degradation and narrowing or 2) addition data is needed to assess performance.
10. Stop augmentation/sediment management actions. Decisions to continue, alter, or stop augmentation are made by the GC.
11. Negotiation of Second Increment utilizing a SDM framework.

June GC

- Out of time for 2023 augmentation implementation (year 7 of 5).
What should we do this year while TAC works on recommendation for future of augmentation?
- Options: continue, pause, or double augmentation

GC MOTION: Riley moved and Miller seconded to suspend sediment augmentation in 2023 and direct the EDO develop a process by which to examine the North Channel (Jeffrey Island) sand dam as a potential long-term solution to channel incision in the South Channel (Jeffrey Island).